

Study on potential new sources of climate finance, including taxation

Final Report

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ABSTRACT

This study investigates instruments that could generate revenue for international climate finance. Through a mixed-methods approach, including desk research and interviews with 23 experts from diverse professional backgrounds, the study evaluates four proposed levies: a Fossil Fuel Extraction Levy, a Levy on Windfall Fossil Fuel Profits, a Levy on Plastic Polymers, and a Levy on Jet Fuel. Each instrument is assessed in terms of its political and technical feasibility and revenue potential. Key findings suggest that while global implementation could yield significant revenue, plurilateral approaches led by coalitions of willing countries may be quicker to implement and more ambitious than near-global agreements. Legal and political challenges, particularly in securing relevant parties' participation, ensuring the earmarking of funds for (international) climate financing purposes, and fiscal stabilisation clauses that could hinder the implementation of new levies especially in developing and emerging economies are highlighted as major hurdles. The study recommends gradual implementation and the strategic use of revenues to garner broader acceptance. While the four assessed instruments all have the potential to generate significant revenue streams for climate finance, no instrument emerges as an obvious "best-choice".

RÉSUMÉ

Cette étude examine les instruments susceptibles de générer des recettes pour le financement international de la lutte contre le changement climatique. Grâce à une approche mixte, comprenant des recherches documentaires et des entretiens avec 23 experts de divers horizons professionnels, l'étude évalue quatre propositions de taxes : une taxe sur l'extraction des combustibles fossiles, une taxe sur les bénéfices exceptionnels tirés des combustibles fossiles, une taxe sur les polymères plastiques et une taxe sur le carburéacteur. Chaque instrument est évalué en termes de faisabilité politique et technique et de potentiel de recettes. Les résultats principaux suggèrent que si une mise en œuvre mondiale pourrait générer des recettes importantes, des approches plurilatérales menées par des coalitions de pays volontaires pourraient être plus rapides à mettre en œuvre et plus ambitieuses que des accords quasi-mondiaux. Les défis juridiques et politiques, notamment pour assurer la participation des parties concernées, garantir l'affectation des fonds à des fins de financement climatique (international) et les clauses de stabilisation fiscale qui pourraient entraver la mise en œuvre de nouveaux prélèvements, en particulier dans les économies en développement et émergentes, sont considérés comme des obstacles majeurs. L'étude recommande une mise en œuvre progressive et une utilisation stratégique des recettes afin d'obtenir un consentement plus large. Si les quatre instruments évalués ont tous le potentiel de générer des flux de recettes importants pour le financement de la lutte contre le changement climatique, aucun d'entre eux n'apparaît comme un « meilleur choix » évident.

EXECUTIVE SUMMARY

There is a growing global recognition of the urgent need to address climate finance, yet mobilised finance falls short of the amount required to achieve climate neutrality – estimated at up to \$125 trillion by 2050 (according to the UNFCCC Race to Zero campaign's Financing Roadmaps). This gap triggered intensified discussions on how to mobilise new and additional financial resources for an equitable sustainability transition. At recent international summits (e.g. the 2023 *Summit for a New Global Financial Pact* and *COP28*) the need for enhanced cooperation and potential innovative instruments, including taxation, to increase climate finance have been highlighted. This study identifies instruments to increase international climate finance and provides an in-depth assessment for four of them: 1) Fossil Fuel Extraction Levy, 2) Levy on Windfall Fossil Fuel Profits, 3) Levy on Plastic Polymers / Hydrocarbon, 3) Levy on Jet Fuel / Kerosene, offering recommendations how the EU could promote global progress on these.

The study first identified a longlist of 16 potential instruments and conducted an initial criteria-based assessment of them. On this basis, four instruments were chosen for further in-depth assessment. The study deployed a mixed-methods approach combining desk-research and semi-structured interviews with 23 experts including academics, government officials, international organisations and representatives of non-governmental organisations operating at national, regional, and international level. The shortlisted instruments were then evaluated in-depth to derive recommendations for the EU. Following is an overview over the outcomes of the in-depth assessment of the four analysed instruments.

Results of the Assessment

Several considerations are relevant to all assessed instruments. To begin with, any instrument agreed internationally – be it globally/multilaterally or plurilaterally – will then have to be implemented domestically by each participating jurisdiction. The distinction between "global" and "plurilateral" instruments is somewhat arbitrary, reflecting the degree of participation, with "global" implying near-universal involvement and "plurilateral" indicating substantial but less than global engagement by states. For all instruments, considerations regarding revenue channelling involve determining the feasibility and legality of directly channelling funds to international institutions versus routing them through national budgets and earmarking them for specific international purposes. Likewise, getting participating countries to agree to relinquish control over generated revenues to e.g. an international fund that manages the revenues will be a difficult task. The political challenges associated with imposing taxes or levies for international climate finance involve gauging domestic interest and finding appropriate international forums (like the UN, UNFCCC, OECD, or smaller groups such as the Global Solidarity Levies Task Force) to negotiate and promote these fiscal measures. While examples are few and far between, international revenue generation is not unprecedented: the International Oil Pollution Compensation Funds collect revenues based on the volume of oil received by entities from sea transport and manage the funds for oil pollution damage from tanker spills; Article 82 of the United Nations Convention on the Law of the Sea requires state contributions from offshore resources; and the Unitaid funds global health initiatives through aviation surcharges. Additional aspects relevant for all instruments include considerations regarding trade rule violation, trade distortion, legal risks related to fiscal stabilisation clauses¹, setting the tax rate as well as a shrinking tax base. In its meeting in April 2025, the Marine Environment Protection Committee (MEPC) of the IMO agreed to a Net-Zero Framework which comprises GHG pricing of part of the emissions of international shipping. Parties convened in October 2025 to consider the adoption of the framework and operational guidelines. No decision was adopted, as Parties decided to adjourn the meeting until October 2026.

Regarding the four specific instruments, a **Fossil Fuel Extraction Levy** aims to generate revenue for climate finance while internalising the external costs of fossil fuel use, applying the Polluter Pays

¹ Stabilisation clauses protect investors by limiting a host government's ability to change tax or fiscal laws after an investment is made. They are often found in contracts or domestic laws – especially in developing countries – and may lead to disputes if tax policies change, posing a potentially massive obstacle to the introduction of new levies.

Principle. The levy is imposed on producers, based on the carbon content of the fossil fuels extracted. Two approaches are considered: 1) near-global approach requiring deep and large-scale multilateral cooperation, where extracting companies pay into an international funding framework directly, and 2) plurilateral approach by a coalition of the willing, where participating countries impose the levy and collect revenues nationally and then channel a share of them to international climate finance.

A fossil fuel extraction levy is potentially easier to implement than other forms of carbon pricing insofar as it targets a relatively small number of large fossil fuel extractors, thereby simplifying enforcement and reducing administrative cost. While the scope has to be decided in negotiations on the concrete design, a possible reference point is the extraction measured in million barrels of oil equivalent. All countries involved – either in a multilateral agreement or in a smaller coalition of the willing – would need to agree on the parameters of the levy and then implement the levy in their respective national jurisdictions. That agreement does not necessarily have to be legally binding. The choice of legal form depends on a political assessment by participating countries of what provides sufficient mutual assurance that each will actually implement the tax. Precedents such as the International Oil Pollution Compensation Funds (1992) and the Unitaid solidarity levy (2006) demonstrate the feasibility of international revenue mechanisms, while existing financial structures for royalties and severance taxes can facilitate the collection of the levy. Legal issues could arise specifically regarding hypothecation of the revenue as well as with fiscal stabilisation clauses.

What could prove challenging, however, is the political feasibility. Securing support from major fossil fuel extracting countries will be critical for a credible implementation and effective collection of revenues. However, in many fossil-fuel producing countries, the extractive industries are either state-owned or extremely well-connected politically and will wield considerable influence to prevent national governments from taking measures that would go against their interest. Moreover, unless the levy is near-universal in coverage, it could be seen as distorting competition and “un-levelling” the playing field. Hence, many countries with domestic fossil fuel extraction might oppose the initiative. Additionally, countries might contend that their existing fiscal policies already maximize resource extraction taxation as far as economically feasible. However, alliances like the Beyond Oil and Gas Alliance and the Powering Past Coal Alliance can be useful to foster political support. To increase acceptance, it may be expedient to introduce the levy at a modest rate, with revenues used transparently for climate finance and to support low-income households. Ensuring equitable distribution of revenues based on national circumstances could further enhance acceptance.

Revenue mobilisation highly depends on the levy rate, participating countries, extracted fossil fuel volumes as well as the demand response to the levy. Estimations for a *global* levy starting at \$5 per tonne of embedded CO₂ arrive at potential revenues of \$215 billion in 2024, peaking at \$1,015 billion in 2035. With a domestic dividend model, where significant portions would return to or remain in the originating jurisdictions, \$28 billion could potentially be channelled towards international climate finance (calculations for 2024). A plurilateral implementation among willing countries (assuming a similar rate and a subset of countries for estimation purposes), could yield an estimated total of \$13.9 billion in 2022, of which a substantial share can be directed towards international funds. These estimates are contingent on numerous variables, including behavioural changes in extraction and consumption triggered by the levy itself.

A Levy on Windfall Fossil Fuel Profits is a (temporary) levy imposed on companies and permanent establishments in the fossil fuel sector that experience unexpectedly large profits due to unusually high fossil fuel prices. Two design options are considered: (1) near-global approach requiring international cooperation, consensus on the parameters of such a levy and implementation in respective national jurisdictions. (2) A plurilateral approach with countries forming a coalition of the willing, potentially through a climate club based on a levy on windfall fossil fuel profits, either integrated within the corporate income tax system as a corporate surtax, or as a levy on increased profits.

The technical feasibility of a levy on windfall fossil fuel profits faces significant challenges. Determining windfall profits is difficult as it requires judgement and agreement on what qualifies as a windfall, e.g. what are “excessive” or “unexpected” profits. Moreover, potential revenues of the instrument for climate finance are inherently difficult to predict as windfall profits are volatile by their nature. However, windfall profit taxation may increase fairness by taxing profitable projects more progressively.

Windfall profits from fossil fuels are generally concentrated in the countries where these resources are extracted. It has been argued, e.g. by Oxfam and IMF, to base taxation of windfall profits on *national* profits, rather than profits consolidated in the country where the extracting company may be headquartered. As for the taxation of windfall profits, profit shifting - including to jurisdictions that do not levy windfall profits - poses a risk of tax avoidance; to mitigate this risk and to ensure the collection of windfall profits, the application of GloBE rules may be considered.

The political feasibility is contingent on various factors. As with a fossil fuel extraction levy, gaining support from major fossil fuel extracting countries or fossil fuel-dependent developing countries will be challenging. While studies outline that fossil fuels are still not priced efficiently, which results in implicit subsidies, it might be difficult to argue that a levy on windfall profits internalises external costs in the way that an extraction levy does. However, a windfall profit could be regarded as generating revenue from the very activity that causes the need for climate finance and a transition in the first place. Many extracting countries already have an instrument in their upstream fiscal regime that targets economic rents, potentially increasing acceptance to adopt a levy on windfall fossil fuel profits with an international minimum rate. Furthermore, historic events and crises, like Russia's war of aggression against Ukraine, are a main cause of price and profit spikes and can foster the introduction of windfall taxes through increased political will.

Revenue mobilisation is contingent on the levy's design, in particular the tax base (determination of windfall profits), rate and number of entities affected as well as other factors such as behavioural changes, profit shifting, etc. In particular, the volatility of energy prices means that revenues from a windfall levy could be low in some years but very high in others. A global implementation with a levy rate of 33% on windfall profits in 2022 would have generated approximately \$716.1 billion. A plurilateral approach with a coalition of the willing (including Australia, Brazil, Colombia, Canada, EU member states, Norway, and the UK) could yield around \$56 billion for the fiscal year 2023.

A Levy on Plastic Polymers / Hydrocarbon targets the production of plastic polymers to raise funds for climate finance, reduce plastic production and consumption, and internalise environmental costs, applying the Polluter Pays Principle. Plastic production has increased exponentially, from 2 million tons in 1950 to 400 million tons in 2022. From 2019 to 2060, plastic use is expected to almost triple. We distinguish two general options for a levy on plastic polymers: It can be agreed near-globally or plurilaterally. A global approach requires extensive international cooperation, with resistance from major polymer-producing countries as a core challenge. However, the relatively limited number of global polymer producers makes the administrative implementation of a global instrument more feasible. Alternatively, a plurilateral approach involves a 'coalition of the willing' agreeing to impose the levy, potentially achieving a more ambitious design but risking a competitive disadvantage for coalition members vis-a-vis non-members.

Implementing a levy on polymer production has several strategic advantages, particularly when applied upstream in the production chain where the product is homogenous and involves fewer companies compared to a levy applied further downstream, e.g. at the level of consumer products. This simplifies administrative enforcement and collection processes. Globally, the Asia Pacific region holds a dominant position in polymer production, accounting for over half of the global capacity. Significant polymer production also occurs in North America, Europe, and the Middle East. South America, Africa, and Australia only account for a small share of the global output.

A levy on polymer production could induce switching to, for example, safe, environmentally sound and sustainable recycled plastic, alternative plastic products (of non-fossil origin), and reduce total demand for plastic products. How strong these effects will be, depends on the elasticity of demand for polymers, for which the existing literature unfortunately does not provide robust estimates on. Economic analysis does, however, suggest that demand for plastic (end)products is generally inelastic (at the end of the value chain). This characteristic of plastic demand indicates that producers may be able to pass on the levy to consumers by increasing product prices without significant reductions in demand. However, if designed to do so, the levy could narrow the price difference between virgin plastics and the currently more expensive recycled or biobased plastics, encouraging a shift toward more sustainable options. Challenges in implementing the levy include addressing tax avoidance strategies and leakage, i.e. shifts in production to jurisdictions without the levy. Addressing these

challenges requires global cooperation and robust payment and collection systems to ensure the levy's effectiveness and prevent production- and investment leakage.

While there are no national or multilateral upstream levies specifically targeting plastic polymers, in the EU, parts of the plastics value chain (and associated emissions) are covered by the EU Emissions Trading System (EU ETS): this applies to refineries (to produce naphtha from crude oil), and steam cracking to produce monomers from naphtha, covered under the production of bulk organic chemicals. Since operators need to purchase and surrender allowances for the emissions resulting from these processes, part of the upstream emissions from plastics production is thus covered with a carbon price in the EU. A more widespread form of pricing are downstream levies in the form of taxes on single-use plastics and packaging waste, which several countries have implemented. For instance, the EU's Plastics Own Resource (national contribution from Member States), effective since 2021, charges €0.80 per kilogram of non-recycled plastic packaging waste to fund the EU budget. The EU's approach could serve as a model for a global or plurilateral levy on plastic polymers, emphasizing economic incentives to reduce plastic waste and promote recycled materials.

Implementing a global levy would require consensus among major polymer-producing countries, such as China, the United States, India, and Saudi Arabia, countries which currently resist national-level levies. UN negotiations aim to establish a binding international agreement by 2024, potentially including provisions for plastic pollution fees paid by producers to mobilise resources to fight global plastic pollution. If negotiations are successful and the UN treaty includes a polymer levy, it will be less likely that significant climate finance can be mobilised through this mechanism.

This study has found that a global levy could mobilise an estimated €22-34 billion annually based on a rate of €55 to €85 per tonne of produced polymers (i.e. the upper end of the EU's Plastic Own Resource tax mentioned above), while a plurilateral levy could generate an estimated €2.8-8.5 billion. While one aim of a levy on polymers is to reduce virgin plastic production, currently a further growth of the global plastic production is anticipated. Accordingly, the levy is expected to generate a stable and predictable source of finance. Starting with lower rates and gradually increasing them is recommended to minimize regulatory shock and to allow time for market adjustments. Revenue estimates depend on several assumptions, including e.g. the levy rates and inclusion/exclusion of recyclables in the tax base.

A Levy on Jet Fuel / Kerosene aims to raise funds, promote sustainable aviation fuels, and apply the Polluter Pays Principle to the aviation sector, which has historically been undertaxed despite its significant and rapidly increasing contribution to global warming. Aviation's international nature requires multilateral action. The two main design options for the levy are: a global approach involving all countries agreeing on parameters, and a plurilateral approach driven forward by a coalition of the willing where the tax would only apply for journey between the willing countries, so that a level playing field on the air transport market is preserved, with no carbon leakage.

A jet fuel levy can be implemented at different points in this supply chain: based on fuel production at refineries, storage at airports, or delivery to airlines, or at the level of the passenger. Many countries already collect fuel taxes in other sectors, often through fuel suppliers who remit funds to tax authorities. For private aviation, countries like Portugal, Ireland, and Malta collect taxes from fuel suppliers during refuelling. In other countries such as the UK and the US, the tax on private flights is paid directly by the operator of the flight. In the EU, the instrument of choice to price carbon emissions has been the EU Emissions Trading System rather than a tax: since 2012, the emissions from intra-EU flights are covered by the EU ETS, meaning that airline operators must measure and report their CO₂ emissions annually and surrender an equivalent amount of (tradeable) emission allowances, establishing an effective carbon price.

In 2019, global air traffic reached 4.5 billion passengers, with Asia, Europe, and North America accounting for the majority. The United States, the EU, and China are major markets, with significant contributions also from Russia, Brazil, and the United Arab Emirates. Transitioning to Sustainable Aviation Fuels (SAF) is critical for reducing aviation's carbon footprint, yet due to their higher costs and limited availability SAF make up less than 0.1% of global fuel consumption in 2021. Exempting SAF from the jet fuel levy could help bridge the price gap between SAFs and fossil fuels and accelerate their adoption, supported by international standards like the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Studies show aviation demand is sensitive to price changes, with leisure travel more elastic than business travel. For example, a fuel levy in the European Economic Area (EEA) of €0.33 per litre could reduce total flights within the EEA by 9.1%, impacting passenger volumes. However, it is expected that air passenger demand continues to rise even if a levy is introduced (only at a slower rate than without the levy). Implementing a global jet fuel levy minimises competitive distortions and carbon leakage compared to plurilateral approaches, where differing fuel prices can alter route choices to avoid taxation. Competitive distortions can impact the effectiveness of a levy and may reduce political support for it.

Taxing jet fuels faces legal challenges primarily due to international agreements and EU legislation. The Chicago Convention of 1944 permits taxing jet fuel loaded onto aircraft within a country's territory, despite exemptions for fuel already onboard upon arrival in another country. Meanwhile, the Energy Taxation Directive (ETD) exempts commercial air transport within the EU from energy taxation on aircraft fuel but allows for taxation on private flights and domestic air traffic under certain bilateral agreements between EU states. Air Service Agreements (ASAs) may also pose obstacles as some agreements exempt jet fuel taxation, affecting carriers even within the EU. Intra-EU flights carried out by EU carriers could be taxed if the mandatory exemption under the ETD is lifted as proposed by the Commission. Relevant ASAs would have to be renegotiated to allow taxation of intra-EU flights carried out by non-EU carriers as well.

ICAO, established under the Chicago Convention, primarily supports environmental charges over taxes, expressing concerns about the risk of potential revenue misuse. The Convention's only mention of taxation is in Article 24, which addresses customs duties and does not explicitly prohibit the taxation of fossil kerosene. It only calls for the avoidance of taxing fuel already onboard of aircraft on arrival. However, ICAO advises states against taxing fossil kerosene and to incorporate such prohibitions in bilateral air service agreements.

ICAO has set an ambitious goal of achieving net-zero carbon emissions by 2050, relying heavily on the promotion of Sustainable Aviation Fuels, advancements in technology, operational improvements, and market-based measures. Adopted by ICAO in 2016, CORSIA is also designed to curb emissions growth. However, it does not impose specific targets on individual states.

While CORSIA represents a step forward, there is room for improvement in both ambition and enforcement. The International Aviation Climate Ambition Coalition, launched at COP26 in 2022 and now comprising nearly 60 member countries, recommends pursuing and strengthening decarbonisation efforts within the ICAO.

Projected revenues from a jet fuel levy could start at €5.8 billion annually with a €0.10 per litre rate and potentially reach €18.0 billion at €0.33 per litre. Ticket prices could rise by 2.7% with the lower rate and 9.2% with the higher rate, limiting air travel demand. Due to expected growth of the global aviation industry, the levy is expected to generate a stable and predictable source of finance.

Recommendations

A plurilateral implementation of each instrument is considered most feasible and promising, as it is more likely to be quickly agreed upon by a critical mass of countries and result in ambitious outcomes, which would apply to journey carried out between the willing countries, unlike a global agreement which tends to be a watered-down compromise insufficient for attaining goals and potentially blocking further negotiations but would ensure level playing field.

For a **fossil fuel extraction levy** a coalition of the willing could formalise their commitment via an international treaty or a political agreement, with the latter being quicker to establish and more flexible, but potentially less stable. Key barriers include political feasibility and legal challenges, e.g. around earmarking. Societal acceptance can be enhanced by implementing the levy gradually and using part of the revenue to support low-income households if hardships occur. At the international level, it is essential to identify or establish an appropriate forum for negotiations, considering inclusiveness, resources, and the capacity to formalise agreements. Potential platforms include the OECD and G20 as well as the more inclusive Platform for Collaboration on Taxation. The EU can support this process for instance by conducting internal assessments to evaluate the feasibility of

implementing such a levy within the EU, but also by broadening the knowledge base through commissioning studies and research and consolidating the data basis.

A **levy on windfall fossil fuel profits** could be introduced through a coalition of the willing, either as an additional (flat rate) tax or by adjusting the corporate income tax system. It seems essential for major fossil fuel producers to be members of such a coalition in order for it to be effective. The members will need to agree on how to determine windfall fossil fuel profits, tackle the challenge of profit shifting – an issue particularly relevant to windfall profit taxation, which can, for example, be mitigated by applying GloBE rules – and encourage Multinational Enterprises to agree to waive or revise stabilisation clauses in domestic laws. To increase political and societal acceptance, it is crucial to stress the contribution of such a levy to a just and equitable transition (as a way to recover excessive profits which are paid for by consumers worldwide). At the international level, a suitable forum to introduce a levy on windfall fossil fuel profits may be the G20/OECD Inclusive Framework on Base Erosion and Profit Shifting (BEPS) with a membership of over 140 jurisdictions. In addition to broadening the knowledge base, the European Commission could, following consultations with respective Member States, aim to introduce the concept of an international levy on windfall fossil fuel profits within the G20/OECD Inclusive Framework on BEPS.

Regarding the **levy on plastic polymers**, given the expected strong resistance from some major polymer-producing countries, recommendations focus on a plurilateral implementation by a coalition of willing participants. Using a credible international forum to work towards agreement on a polymer levy increases its potential and chance of success. Support might be found within the High Ambition Coalition to End Plastic Pollution (HAC), which brings together about a quarter of global polymer production; however, the coalition lacks a highly institutionalized structure and significant political influence. Other more institutionalized forums for proposing a polymer levy include the OECD, G20, and the PCT. At the EU level, proposing a polymer levy might face less resistance. To garner international support, the European Commission should opt for a polymer levy that starts at a low rate and gradually increases, with part of the revenue reinvested into the industry to support adaptation. This approach aligns economic incentives and enhances political feasibility.

Implementing a **jet fuel levy** through a coalition of willing countries shows promise but faces significant legal challenges. A coalition including major aviation hubs in Europe, North America, and the Asia-Pacific region would ensure substantial impact and revenue mobilisation. ICAO would be the obvious forum for a global agreement, yet the organisation's long-standing recommendations to exempt international aviation from taxation gives reason for scepticism. Whether ICAO's recently adopted, more ambitious reduction targets for a climate-neutral aviation sector could create new momentum that could be leveraged for a jet fuel levy remains to be seen. Initial backing from the International Aviation Climate Ambition Coalition could help propose the levy as part of broader climate neutrality efforts. At the EU level, revising the ETD to remove the jet fuel tax exemption and renegotiating air service agreements with third countries to lift fuel tax exemptions are prerequisites for successful implementation. Reinvesting part of the levy's revenue into the aviation sector aligns economic incentives with industry adaptation, enhancing political feasibility and promoting broader support.

Conclusions

The four assessed instruments have the potential to generate significant revenue streams for climate finance. However, no instrument emerges as an obvious "best-choice". All instruments but the windfall profits levy can reap predictable revenue. However, due to the foreseen phase down of fossil fuels, in the long-term revenues from an extraction or windfall profits tax would decrease and alternatives would be needed. To a limited degree this tax base erosion also applies to a polymer or jet fuel levy. Political feasibility is a challenge for all options as they will require the consent and cooperation of parties that have a history of blocking progress and obfuscating processes. However, the fossil fuel extraction levy would arrive in a time when the fossil-fuel phase-out is increasingly recognized as a necessity. A windfall levy on fossil fuel can be framed as promoting fairness and climate justice, targeting undue gains of fossil fuel companies at consumer and future generation expense. Polymer production and use, while a climate concern, primarily exacerbates lasting environmental pollution affecting water, soil, and the biosphere, providing a strong argument for polymer taxation. Taxing jet fuels could foster the climate transition in a sector showing little sign of trend change so far. The four measures have minor distributional impacts: the jet fuel levy is the least problematic,

being progressive as it burdens – usually higher-income – flyers. Similarly, the windfall profit levy corrects injustices by redistributing excess profits.

Although a fossil fuel extraction charge might initially seem regressive if it influences global fuel prices, adequate global coverage and lessons from carbon pricing offer solutions to mitigate any adverse distributional effects. In terms of competitive effects and (carbon) leakage, all four instruments require coordinated multilateral action to avoid imbalances, distortions and leakage – most so for fossil fuel extraction and polymers levy, least for a windfall profit levy.

SYNTHÈSE

Alors que les besoins de financement de la lutte contre le changement climatique sont urgents à travers le monde, le financement mobilisé est loin d'atteindre le montant nécessaire pour atteindre la neutralité climatique – estimé à 125 000 milliards de dollars d'ici 2050 (selon les feuilles de route pour le financement de la campagne « Race to Zero » de la CCNUCC). Cet écart a déclenché une intensification des discussions sur la manière de mobiliser de nouvelles ressources financières pour une transition équitable vers la durabilité. Lors de récents sommets internationaux (par exemple le 2023 Summit for a New Global Financial Pact et la COP28), la nécessité d'une coopération renforcée et d'instruments novateurs, y compris la fiscalité, pour accroître le financement de la lutte contre le changement climatique a été soulignée.

Ce rapport s'attelle à identifier les instruments permettant d'accroître le financement international de la lutte contre le changement climatique et fournit une évaluation approfondie de quatre d'entre eux : 1) la taxe sur l'extraction des combustibles fossiles, 2) la taxe sur les bénéfices exceptionnels tirés des combustibles fossiles, 3) la taxe sur les polymères plastiques/hydrocarbures, 4) la taxe sur le carburéacteur/kérosène, et propose des recommandations sur la manière dont l'UE pourrait promouvoir des progrès au niveau mondial dans ce domaine.

L'étude a d'abord identifié une longue liste de 16 instruments potentiels et a procédé à une première évaluation. Sur cette base, quatre instruments ont été retenus pour une évaluation plus approfondie. L'étude a déployé une approche mixte combinant des recherches documentaires et des entretiens semi-structurés avec 23 experts, dont des universitaires, des représentants gouvernementaux, des organisations internationales et des représentants d'organisations non gouvernementales opérant aux niveaux nationaux, régionaux et internationaux. Les quatre instruments sélectionnés ont ensuite fait l'objet d'une évaluation approfondie afin de formuler des recommandations à l'intention de l'UE.

Résultats de l'évaluation

Plusieurs considérations s'appliquent à tous les instruments évalués. Tout d'abord, tout instrument adopté au niveau international - qu'il soit mondial/multilatéral ou plurilatéral - devra être mis en œuvre au niveau national par chaque juridiction participante. La distinction entre les instruments « globaux » et « plurilatéraux » est quelque peu arbitraire et reflète le degré de participation, le terme « global » impliquant une participation quasi universelle et le terme « plurilatéral » indiquant un engagement substantiel de la part des États.

Pour tous les instruments, les considérations relatives à l'affectation des recettes impliquent de déterminer la faisabilité et la légalité de l'acheminement direct des fonds vers les institutions internationales par rapport à leur acheminement via les budgets nationaux et leur affectation à des objectifs internationaux spécifiques. De même, il sera difficile d'obtenir des pays participants qu'ils acceptent de renoncer au contrôle des recettes générées au profit, par exemple, d'un fonds international chargé de gérer ces recettes. Les défis politiques associés à l'imposition de taxes ou de prélèvements pour le financement international du climat impliquent d'évaluer l'intérêt national et de trouver des forums internationaux appropriés (comme l'ONU, la CCNUCC, l'OCDE, ou des groupes plus petits comme le Global Solidarity Levies Task Force) pour négocier et promouvoir ces mesures fiscales. Même si les exemples sont rares, la génération de revenus internationaux n'est pas sans précédent : les Fonds internationaux d'indemnisation pour la pollution par les hydrocarbures collectent des revenus basés sur le volume de pétrole reçu par les entités du transport maritime et gèrent les fonds pour les dommages dus à la pollution par les hydrocarbures dus aux déversements de pétroliers ; l'article 82 de la Convention des Nations Unies sur le droit de la mer exige que les États contribuent aux ressources offshore ; et Unitaïd finance des initiatives mondiales en matière de santé par le biais de surtaxes aériennes. D'autres aspects pertinents pour tous les instruments comprennent des considérations concernant la violation des règles commerciales, la distorsion des échanges, les risques

juridiques liés aux clauses de stabilisation budgétaire², la fixation du taux d'imposition ainsi que la diminution de l'assiette fiscale.

En ce qui concerne les quatre instruments spécifiques, la **taxe sur l'extraction des combustibles fossiles** vise à générer des recettes pour le financement de la lutte contre le changement climatique tout en internalisant les coûts externes de l'utilisation des combustibles fossiles, en appliquant le principe du pollueur-payeur. La taxe est imposée aux producteurs, sur la base de la teneur en carbone des combustibles fossiles extraits. Deux options de conception sont envisagées : 1) une approche quasi-mondiale nécessitant une coopération multilatérale approfondie et à grande échelle, dans le cadre de laquelle les entreprises d'extraction versent directement des fonds à un cadre de financement international, et 2) une approche plurilatérale par une coalition de volontaires, dans le cadre de laquelle les pays participants imposent la taxe et collectent les recettes au niveau national, puis en affectent une partie au financement international de la lutte contre le changement climatique.

Une taxe sur l'extraction des combustibles fossiles est potentiellement plus facile à mettre en œuvre que d'autres formes de tarification du carbone dans la mesure où elle vise un nombre relativement restreint de grands extracteurs de combustibles fossiles, ce qui simplifie la mise en œuvre et réduit les coûts administratifs. Bien que le champ d'application doive être décidé lors des négociations sur la conception concrète, un point de référence possible est l'extraction mesurée en millions de barils d'équivalent pétrole. Tous les pays concernés - soit dans le cadre d'un accord multilatéral, soit dans celui d'une coalition plus restreinte de pays volontaires - devraient se mettre d'accord sur les paramètres de la taxe, puis la mettre en œuvre dans leurs juridictions nationales respectives. Cet accord ne doit pas nécessairement être juridiquement contraignant. Le choix de la forme juridique dépend de l'évaluation politique, par les pays participants, de ce qui constitue une garantie mutuelle suffisante que chacun appliquera effectivement la taxe. Des précédents tels que le Fonds international d'indemnisation pour les dommages dus à la pollution par les hydrocarbures (1992) et la taxe de solidarité d'Unitaid (2006) démontrent la faisabilité des mécanismes de recettes internationaux, tandis que les structures financières existantes pour les redevances et les impôts sur la production peuvent faciliter la collecte de la taxe. Des questions juridiques pourraient se poser, notamment en ce qui concerne l'hypothèque des recettes et les clauses de stabilisation fiscale.

La faisabilité politique pourrait toutefois s'avérer difficile. Il sera essentiel d'obtenir le soutien des principaux pays extracteurs de combustibles fossiles pour que la mise en œuvre soit crédible et que les recettes soient perçues de manière efficace. Cependant, dans de nombreux pays producteurs de combustibles fossiles, les industries extractives appartiennent à l'État ou ont d'excellentes relations politiques, et exerceront une influence considérable pour empêcher les gouvernements nationaux de prendre des mesures qui iraient à l'encontre de leurs intérêts. En outre, à moins que la taxe ne soit presque universelle, elle pourrait être considérée comme une distorsion de la concurrence et comme un « déséquilibre » des règles du jeu. Par conséquent, de nombreux pays où l'on extrait des combustibles fossiles pourraient s'opposer à l'initiative. En outre, les pays pourraient soutenir que leurs politiques fiscales actuelles maximisent déjà la taxation de l'extraction des ressources dans la mesure où cela est économiquement possible. Toutefois, des alliances telles que l'Alliance Beyond Oil and Gas et l'Alliance Powering Past Coal peuvent s'avérer utiles pour favoriser le soutien politique. Pour que la taxe soit mieux acceptée, il peut être judicieux de l'introduire à un taux modeste, les recettes étant utilisées de manière transparente pour le financement de la lutte contre le changement climatique et pour soutenir les ménages à faibles revenus. Une répartition équitable des recettes en fonction de la situation nationale pourrait renforcer l'acceptation de la taxe.

La mobilisation des recettes dépend fortement du taux de prélèvement, des pays participants, des volumes de combustibles fossiles extraits ainsi que de la réponse de la demande au prélèvement. Les estimations d'une taxe mondiale commençant à 5 dollars par tonne de CO₂ incorporé aboutissent à des recettes potentielles de 215 milliards de dollars en 2024, culminant à 1 015 milliards de dollars

2 Les clauses de stabilisation protègent les investisseurs en limitant la capacité d'un gouvernement hôte à modifier les lois fiscales après la réalisation d'un investissement. Elles figurent souvent dans les contrats ou les lois nationales - en particulier dans les pays en développement - et peuvent donner lieu à des litiges en cas de changement de politique fiscale, ce qui constitue un obstacle potentiellement considérable à l'introduction de nouveaux prélèvements.

en 2035. Avec un modèle de dividendes nationaux, où une part importante reviendrait ou resterait dans les juridictions d'origine, 28 milliards de dollars pourraient potentiellement être canalisés vers le financement international de la lutte contre le changement climatique (calculs pour 2024). Une mise en œuvre plurilatérale entre pays volontaires (en supposant un taux similaire et un sous-ensemble de pays à des fins d'estimation), pourrait produire un total estimé à 13,9 milliards de dollars en 2022, dont une part substantielle pourrait être dirigée vers des fonds internationaux. Ces estimations dépendent de nombreuses variables, notamment des changements de comportement en matière d'extraction et de consommation déclenchés par la taxe elle-même.

Un prélèvement sur les bénéfices exceptionnels tirés des combustibles fossiles est un prélèvement (temporaire) imposé aux entreprises et aux établissements permanents du secteur des combustibles fossiles qui enregistrent des bénéfices importants et inattendus en raison des prix anormalement élevés des combustibles fossiles. Deux options sont envisagées : (1) une approche quasi-mondiale nécessitant une coopération internationale, un consensus sur les paramètres d'un tel prélèvement et une mise en œuvre dans les juridictions nationales respectives ; (2) une approche plurilatérale nécessitant une coopération internationale et un consensus sur les paramètres d'un tel prélèvement. (2) une approche plurilatérale avec des pays formant une coalition de volontaires, éventuellement par le biais d'un Climate Club basé sur un prélèvement sur les bénéfices exceptionnels tirés des combustibles fossiles, soit intégré dans le système de l'impôt sur le revenu des sociétés sous la forme d'une surtaxe sur les sociétés, soit sous la forme d'un prélèvement sur l'augmentation des bénéfices.

Les bénéfices exceptionnels tirés des combustibles fossiles sont généralement concentrés dans les pays où ces ressources sont extraites. Certains, comme par exemple Oxfam et le FMI, préconisent de baser l'imposition des bénéfices exceptionnels sur les bénéfices nationaux, plutôt que sur les bénéfices consolidés dans le pays où l'entreprise extractrice a son siège social. Le transfert des bénéfices afin d'échapper à l'impôt sur les bénéfices exceptionnels, y compris vers des juridictions qui ne prélèvent pas d'impôts sur les bénéfices exceptionnels, constitue un risque d'évasion fiscale ; pour atténuer ce risque et garantir le prélèvement des impôts sur les bénéfices exceptionnels, l'application des règles GloBE peut être envisagée.

La faisabilité politique dépend de plusieurs facteurs. Comme pour une taxe sur l'extraction des combustibles fossiles, il sera difficile d'obtenir le soutien des principaux pays extracteurs de combustibles fossiles ou des pays en développement dépendant des combustibles fossiles. Alors que des études soulignent que les combustibles fossiles ne sont toujours pas tarifés de manière efficace, ce qui entraîne des subventions implicites, il pourrait être difficile d'affirmer qu'un prélèvement sur les bénéfices exceptionnels internalise les coûts externes de la même manière qu'un prélèvement sur l'extraction. Cependant, on pourrait considérer qu'un profit exceptionnel génère des revenus à partir de l'activité même qui est à l'origine de la nécessité d'un financement climatique et d'une transition. De nombreux pays d'extraction disposent déjà d'un instrument dans leur régime fiscal en amont qui cible les rentes économiques, ce qui pourrait renforcer l'acceptation de l'adoption d'une taxe sur les bénéfices exceptionnels tirés des combustibles fossiles avec un taux minimum international. En outre, des événements et des crises historiques, comme la guerre d'agression de la Russie contre l'Ukraine, sont l'une des principales causes de la flambée des prix et des bénéfices et peuvent favoriser l'introduction de taxes sur les bénéfices exceptionnels grâce à une volonté politique accrue.

La mobilisation des recettes dépend de la conception du prélèvement, en particulier de l'assiette fiscale (détermination des bénéfices exceptionnels), du taux et du nombre d'entités concernées, ainsi que d'autres facteurs tels que les changements de comportement, les transferts de bénéfices, etc. En particulier, la volatilité des prix de l'énergie signifie que les recettes d'un prélèvement sur les bénéfices exceptionnels pourraient être faibles certaines années et très élevées d'autres années. Une mise en œuvre globale avec un taux de prélèvement de 33 % sur les bénéfices exceptionnels en 2022 aurait généré environ 716,1 milliards de dollars. Une approche plurilatérale avec une coalition de volontaires (comprenant l'Australie, le Brésil, la Colombie, le Canada, les États membres de l'UE, la Norvège et le Royaume-Uni) pourrait rapporter environ 56 milliards de dollars pour l'année fiscale 2023.

Une taxe sur les polymères plastiques / hydrocarbures vise la production de polymères plastiques afin de lever des fonds pour le financement de la lutte contre le changement climatique, de réduire la production et la consommation de plastique et d'internaliser les coûts environnementaux,

en appliquant le principe du pollueur-payeur. La production de plastique a augmenté de manière exponentielle, passant de 2 millions de tonnes en 1950 à 400 millions de tonnes en 2022. Entre 2019 et 2060, la consommation de plastique devrait presque tripler. Nous distinguons deux options générales pour une taxe sur les polymères plastiques. Elle peut être décidée au niveau quasi mondial ou au niveau plurilatéral. Une approche mondiale nécessite une coopération internationale étendue, la résistance des principaux pays producteurs de polymères constituant un défi majeur. Toutefois, le nombre relativement limité de producteurs mondiaux de polymères rend la mise en œuvre administrative d'un instrument mondial plus réalisable. Une autre approche, plurilatérale, implique une « coalition de volontaires » acceptant d'imposer la taxe, ce qui permet d'atteindre un objectif plus ambitieux, mais risque de désavantager les membres de la coalition par rapport aux non-membres.

La mise en œuvre d'une taxe sur la production de polymères présente plusieurs avantages stratégiques, en particulier lorsqu'elle est appliquée en amont de la chaîne de production, où le produit est homogène et implique moins d'entreprises, par rapport à une taxe appliquée plus en aval, par exemple au niveau des produits de consommation. Cela simplifie les processus administratifs de mise en œuvre et de collecte. Au niveau mondial, la région Asie-Pacifique occupe une position dominante dans la production de polymères, représentant plus de la moitié de la capacité mondiale. L'Amérique du Nord, l'Europe et le Moyen-Orient produisent également beaucoup de polymères. L'Amérique du Sud, l'Afrique et l'Australie ne représentent qu'une petite partie de la production mondiale.

Une taxe sur la production de polymères pourrait inciter à passer, par exemple, à des plastiques recyclés sûrs, respectueux de l'environnement et durables, à des produits plastiques alternatifs (d'origine non fossile), et à réduire la demande totale de produits en plastique. L'ampleur de ces effets dépend de l'élasticité de la demande de polymères, pour laquelle la littérature existante ne fournit malheureusement pas d'estimations solides. L'analyse économique suggère toutefois que la demande de produits (finaux) en plastique est généralement inélastique (à la fin de la chaîne de valeur). Cette caractéristique de la demande de plastique indique que les producteurs pourraient être en mesure de répercuter la taxe sur les consommateurs en augmentant les prix des produits sans réduction significative de la demande. Toutefois, si elle est conçue à cet effet, la taxe pourrait réduire la différence de prix entre les plastiques vierges et les plastiques recyclés ou biosourcés, actuellement plus chers, ce qui encouragerait le passage à des options plus durables. Les défis liés à la mise en œuvre de la taxe comprennent la lutte contre les stratégies d'évasion fiscale et les fuites, c'est-à-dire les déplacements de la production vers des juridictions où la taxe n'est pas appliquée. Pour relever ces défis, il faut une coopération mondiale et des systèmes de paiement et de collecte solides afin de garantir l'efficacité de la taxe et d'empêcher les fuites de production et d'investissement.

Bien qu'il n'existe pas de taxes nationales ou multilatérales en amont ciblant spécifiquement les polymères plastiques, dans l'UE, certaines parties de la chaîne de valeur des plastiques (et les émissions associées) sont couvertes par le système d'échange de quotas d'émission de l'Union européenne (SEQUE): cela s'applique aux raffineries (pour produire du naphta à partir du pétrole brut) et au vapocraquage pour produire des monomères à partir du naphta, couvert par la production de produits chimiques organiques en vrac. Étant donné que les exploitants doivent acheter et restituer des quotas pour les émissions résultant de ces processus, une partie des émissions en amont de la production de matières plastiques est donc couverte par un prix du carbone dans l'UE. Une forme de tarification plus répandue est celle des prélèvements en aval sous la forme de taxes sur les plastiques à usage unique et les déchets d'emballage, que plusieurs pays ont mis en œuvre. Par exemple, la ressource propre fondée sur les déchets d'emballages en plastique (contribution nationale des États membres), en vigueur depuis 2021, prélève 0,80 EUR par kilogramme de déchets d'emballages plastiques non recyclés pour financer le budget de l'UE. L'approche de l'UE pourrait servir de modèle pour une taxe mondiale ou plurilatérale sur les polymères plastiques, en mettant l'accent sur les incitations économiques pour réduire les déchets plastiques et promouvoir les matériaux recyclés.

La mise en œuvre d'une redevance mondiale nécessiterait un consensus entre les principaux pays producteurs de polymères, tels que la Chine, les États-Unis, l'Inde et l'Arabie Saoudite, des pays qui s'opposent actuellement aux redevances nationales. Les négociations des Nations unies visent à établir un accord international contraignant d'ici 2024, qui pourrait inclure des dispositions relatives à des redevances sur la pollution plastique payées par les producteurs afin de mobiliser des ressources pour lutter contre la pollution plastique à l'échelle mondiale. Si les négociations aboutissent

et que le traité des Nations unies inclut une redevance sur les polymères, il sera moins probable qu'un financement important pour le climat puisse être mobilisé par le biais de ce mécanisme.

Cette étude a révélé qu'une taxe mondiale pourrait mobiliser entre 22 et 34 milliards d'euros par an sur la base d'un taux de 55 à 85 euros par tonne de polymères produits (c'est-à-dire la limite supérieure de la taxe sur les ressources propres en plastique de l'UE mentionnée ci-dessus), tandis qu'une taxe plurilatérale pourrait générer un montant estimé entre 2,8 et 8,5 milliards d'euros. Alors que l'un des objectifs d'une taxe sur les polymères est de réduire la production de plastique vierge, on s'attend actuellement à une nouvelle croissance de la production mondiale de plastique. Par conséquent, la taxe devrait générer une source de financement stable et prévisible. Il est recommandé de commencer par des taux plus bas et de les augmenter progressivement afin de minimiser le choc réglementaire et de laisser le temps au marché de s'adapter. Les estimations de recettes dépendent de plusieurs hypothèses, notamment les taux de la taxe et l'inclusion/l'exclusion des matières recyclables dans l'assiette fiscale.

Une taxe sur le kérosène vise à collecter des fonds, à promouvoir les carburants aéronautiques durables et à appliquer le principe du pollueur-payeur au secteur de l'aviation, qui a toujours été sous-imposé en dépit de sa contribution significative et en augmentation rapide au réchauffement de la planète. La nature internationale de l'aviation exige une action multilatérale. Les deux principales options de conception de la taxe sont les suivantes : une approche globale impliquant tous les pays qui s'accordent sur les paramètres, et une approche plurilatérale menée par une coalition de volontaires.

Une taxe sur le kérosène peut être appliquée à différents points de la chaîne d'approvisionnement : sur la base de la production de carburant dans les raffineries, du stockage dans les aéroports ou de la livraison aux compagnies aériennes. De nombreux pays perçoivent déjà des taxes sur les carburants dans d'autres secteurs, souvent par l'intermédiaire des fournisseurs de carburants qui remettent les fonds aux autorités fiscales. Pour l'aviation privée, des pays comme le Portugal, l'Irlande et Malte perçoivent des taxes auprès des fournisseurs de carburant lors de l'avitaillement. Dans d'autres pays comme le Royaume-Uni et les États-Unis, la taxe sur les vols privés est payée directement par l'opérateur du vol. Dans l'UE, l'instrument privilégié pour fixer le prix des émissions de carbone a été le système communautaire d'échange de quotas d'émission plutôt qu'une taxe : depuis 2012, les émissions des vols intra-UE sont couvertes par le système communautaire d'échange de quotas d'émission, ce qui signifie que les opérateurs aériens doivent mesurer et déclarer leurs émissions de CO₂ chaque année et restituer une quantité équivalente de quotas d'émission (échangeables), établissant ainsi un prix effectif du carbone.

En 2019, le trafic aérien mondial a atteint 4,5 milliards de passagers, l'Asie, l'Europe et l'Amérique du Nord représentant la majorité. Les États-Unis, l'Union européenne et la Chine sont les principaux marchés, mais la Russie, le Brésil et les Émirats arabes unis y contribuent également de manière significative. La transition vers des carburants durables d'aviation (CDA) est essentielle pour réduire l'empreinte carbone de l'aviation, mais en raison de leur coût élevé et de leur disponibilité limitée, les CDA représentent actuellement moins de 0,1 % de la consommation mondiale de carburant. L'exonération des CDA de la taxe sur le kérosène pourrait contribuer à combler l'écart de prix entre les CDA et les carburants fossiles et à accélérer leur adoption, avec l'appui de normes internationales telles que le Régime de compensation et de réduction de carbone pour l'aviation internationale (CORSIA).

Les études montrent que la demande en matière d'aviation est sensible aux variations de prix, les voyages d'agrément étant plus élastiques que les voyages d'affaires. Par exemple, une taxe sur le carburant de 0,33 € par litre dans l'Espace économique européen (EEE) pourrait réduire le nombre total de vols dans l'EEE de 9,1 %, ce qui aurait un impact sur le nombre de passagers. Toutefois, on s'attend à ce que la demande de transport aérien de passagers continue d'augmenter même si une taxe est introduite (mais à un rythme plus lent qu'en l'absence de taxe). La mise en œuvre d'une taxe mondiale sur le kérosène minimise les distorsions de concurrence et les fuites de carbone par rapport aux approches plurilatérales, où les différences de prix du carburant peuvent modifier les choix d'itinéraires afin d'éviter la taxation. Les distorsions de concurrence peuvent avoir un impact sur l'efficacité d'une taxe et réduire le soutien politique dont elle bénéficie.

La taxation des carburéacteurs se heurte à des difficultés juridiques dues principalement aux accords internationaux et à la législation de l'UE. La convention de Chicago de 1944 permet de taxer le kérosène chargé à bord des avions sur le territoire d'un pays, malgré des exonérations pour le carburant déjà à bord à l'arrivée dans un autre pays. Par ailleurs, la directive sur la taxation de l'énergie (DTE) exonère le transport aérien commercial au sein de l'UE de la taxation de l'énergie sur le carburant des avions, mais autorise la taxation des vols privés et du trafic aérien intérieur dans le cadre de certains accords bilatéraux entre les États membres de l'UE. Cependant, comme aucun accord bilatéral de ce type n'a été conclu jusqu'à présent, cette option reste théorique. Les accords relatifs aux services aériens (ASA) peuvent également constituer des obstacles, car certains d'entre eux exonèrent la taxation du kérosène, ce qui affecte les transporteurs même à l'intérieur de l'UE. Les vols intracommunautaires effectués par des transporteurs de l'UE pourraient être taxés si l'exonération obligatoire prévue par la directive sur les services aériens est supprimée, comme le propose la Commission. Les ASA concernés devraient être renégociés pour permettre la taxation des vols intracommunautaires effectués par des transporteurs non européens.

L'opposition politique à la taxation des carburéacteurs est redoutable, notamment au sein de l'Organisation de l'aviation civile internationale (OACI), où les représentants de l'industrie s'opposent aux mesures fiscales. L'OACI, créée dans le cadre de la convention de Chicago, soutient principalement les redevances environnementales plutôt que les taxes, en invoquant le risque d'une mauvaise utilisation des recettes. Bien qu'elle ait fixé un objectif d'émissions nettes de carbone nulles d'ici à 2050 et encouragé l'utilisation de carburants aéronautiques durables, l'OACI n'a pas fixé d'objectifs nationaux individuels ni d'objectifs intermédiaires en matière d'émissions, à l'exclusion des émissions autres que le CO₂. Le système de compensation et de réduction des émissions de carbone pour l'aviation internationale (CORSIA) adopté par l'OACI en 2016 vise à freiner la croissance des émissions, mais il est critiqué pour son manque d'ambition et d'applicabilité. La International Aviation Climate Ambition Coalition, lancée lors de la COP26 en 2022 et qui compte désormais près de 60 pays membres, soutient des efforts de décarbonisation plus ambitieux au sein de l'OACI.

Les recettes escomptées d'une taxe sur le kérosène pourraient commencer à 5,8 milliards d'euros par an avec un taux de 0,10 euro par litre et atteindre 18 milliards d'euros avec un taux de 0,33 euro par litre. Le prix des billets pourrait augmenter de 2,7 % avec le taux le plus bas et de 9,2 % avec le taux le plus élevé, ce qui limiterait la demande de transport aérien. En raison de la croissance attendue de l'industrie aéronautique mondiale, la taxe devrait générer une source de financement stable et prévisible.

Recommandations

Une mise en œuvre plurilatérale de chaque instrument est considérée comme la plus faisable et la plus prometteuse, car elle est plus susceptible d'être rapidement acceptée par une masse critique de pays et d'aboutir à des résultats ambitieux, contrairement à un accord global qui tend à être un compromis insuffisant pour atteindre les objectifs et bloquer la poursuite des négociations.

Une mise en œuvre plurilatérale de chaque instrument est considérée comme la plus faisable et la plus prometteuse, car elle est plus susceptible d'être rapidement acceptée par une masse critique de pays et d'aboutir à des résultats ambitieux, contrairement à un accord global qui tend à être un compromis insuffisant pour atteindre les objectifs et bloquer la poursuite des négociations.

Pour une taxe sur l'extraction des combustibles fossiles, une coalition de volontaires pourrait formaliser son engagement par le biais d'un traité international ou d'un accord politique, ce dernier étant plus rapide à mettre en place et plus flexible, mais potentiellement moins stable. Les principaux obstacles sont la faisabilité politique et les défis juridiques, par exemple en ce qui concerne l'affectation des fonds. L'acceptation par la société peut être renforcée par la mise en œuvre progressive du prélèvement et l'utilisation d'une partie des recettes pour soutenir les ménages à faibles revenus en cas de difficultés. Au niveau international, il est essentiel d'identifier ou d'établir un forum approprié pour les négociations, en tenant compte de l'inclusivité, des ressources et de la capacité à formaliser les accords. Parmi les plateformes potentielles figurent l'OCDE et le G20, ainsi que la *Platform for Collaboration in Tax* plus inclusive. L'UE peut soutenir ce processus, par exemple en menant des évaluations internes pour déterminer la faisabilité de la mise en œuvre d'un tel prélèvement au sein de l'UE, mais aussi en élargissant la base de connaissances en commandant des études et des recherches et en consolidant la base de données.

Un prélèvement sur les bénéfices exceptionnels tirés des combustibles fossiles pourrait être mis en place par une coalition de volontaires, soit sous la forme d'un impôt supplémentaire (à taux unique), soit en adaptant le régime de l'impôt sur le revenu des sociétés. Il semble essentiel que les principaux producteurs de combustibles fossiles soient membres d'une telle coalition pour qu'elle soit efficace. Les membres devront se mettre d'accord sur la manière de déterminer les bénéfices exceptionnels tirés des combustibles fossiles, relever le défi du transfert de bénéfices - un problème particulièrement pertinent pour l'imposition des bénéfices exceptionnels, qui peut, par exemple, être atténué par l'application des règles GloBE - et encourager les entreprises multinationales à renoncer aux clauses de stabilisation dans les législations nationales ou à accepter de les réviser. Pour renforcer l'acceptation politique et sociétale, il est essentiel de souligner la contribution d'un tel prélèvement à une transition juste et équitable. Au niveau international, le cadre inclusif G20/OCDE sur l'érosion de la base d'imposition et le transfert de bénéfices (BEPS), qui regroupe plus de 140 juridictions, pourrait constituer un forum approprié pour l'introduction d'une taxe sur les bénéfices exceptionnels tirés des combustibles fossiles. Outre l'élargissement de la base de connaissances, la Commission européenne pourrait, après consultation des États membres respectifs, chercher à introduire le concept d'un prélèvement international sur les bénéfices exceptionnels tirés des combustibles fossiles dans le cadre inclusif du G20/OCDE sur le BEPS.

En ce qui concerne **la taxe sur les polymères plastiques**, compte tenu de la forte résistance attendue de la part de certains grands pays producteurs de polymères, les recommandations se concentrent sur une mise en œuvre plurilatérale par une coalition de participants volontaires. L'utilisation d'un forum international crédible pour parvenir à un accord sur une taxe sur les polymères augmente son potentiel et ses chances de succès. Un soutien pourrait être trouvé au sein de la High Ambition Coalition to End Plastic Pollution (HAC), qui rassemble environ un quart de la production mondiale de polymères ; toutefois, la coalition ne dispose pas d'une structure hautement institutionnalisée ni d'une influence politique significative. D'autres forums plus institutionnalisés pour proposer une taxe sur les polymères sont l'OCDE, le G20 et le *Platform for Collaboration on Tax*. Au niveau de l'UE, la proposition d'une taxe sur les polymères pourrait rencontrer moins de résistance. Pour obtenir un soutien international, la Commission européenne devrait opter pour une taxe sur les polymères qui commencerait à un taux bas et augmenterait progressivement, une partie des recettes étant réinvestie dans l'industrie pour soutenir l'adaptation. Cette approche permet d'aligner les incitations économiques et d'améliorer la faisabilité politique.

La mise en œuvre **d'une taxe sur le kérosène** par le biais d'une coalition de pays volontaires est prometteuse, mais elle se heurte à d'importants problèmes juridiques. Une coalition comprenant les principaux centres aéronautiques d'Europe, d'Amérique du Nord et de la région Asie-Pacifique garantirait un impact substantiel et la mobilisation des recettes. L'OACI serait le forum évident pour un accord mondial, mais l'opposition de longue date de l'organisation à la taxation donne des raisons d'être sceptique. Il reste à voir si les objectifs de réduction plus ambitieux récemment adoptés par l'OACI pour un secteur de l'aviation climatiquement neutre pourraient créer un nouvel élan susceptible d'être mis à profit pour instaurer une taxe sur le kérosène. Le soutien initial de l'*International Aviation Climate Ambition Coalition* pourrait aider à proposer la taxe dans le cadre d'efforts plus larges en faveur de la neutralité climatique. Au niveau de l'UE, la révision de la DTE pour supprimer l'exonération de la taxe sur le kérosène et la renégociation des accords sur les ASA les pays tiers pour supprimer les exonérations de la taxe sur le kérosène sont des conditions préalables à une mise en œuvre réussie. Le réinvestissement d'une partie des recettes de la taxe dans le secteur de l'aviation permet d'aligner les incitations économiques sur l'adaptation de l'industrie, ce qui renforce la faisabilité politique et favorise un soutien plus large.

Conclusions

Les quatre instruments évalués ont le potentiel de générer des flux de revenus importants pour le financement de la lutte contre le changement climatique. Toutefois, aucun instrument n'apparaît comme un « meilleur choix » évident. Tous les instruments, à l'exception de la taxe sur les bénéfices exceptionnels, peuvent générer des recettes prévisibles. Toutefois, en raison de l'abandon progressif prévu des combustibles fossiles, les recettes provenant d'une taxe sur l'extraction ou les bénéfices exceptionnels diminueraient à long terme et d'autres solutions seraient nécessaires. Dans une certaine mesure, cette érosion de la base d'imposition s'applique également à une taxe sur les polymères ou le kérosène. La faisabilité politique est un défi pour toutes les options, car elles

nécessiteront le consentement et la coopération de parties qui favoriseront le status-quo. Toutefois, la taxe sur l'extraction des combustibles fossiles arriverait à un moment où l'élimination progressive des combustibles fossiles est de plus en plus reconnue comme une nécessité. Une taxe sur les bénéfices exceptionnels des combustibles fossiles peut être présentée comme un moyen de promouvoir l'équité et la justice climatique, en ciblant les gains indus des entreprises de combustibles fossiles aux dépens des consommateurs et des générations futures. La production et l'utilisation de polymères, bien que préoccupantes sur le plan climatique, exacerbent principalement la pollution environnementale durable qui affecte l'eau, le sol et la biosphère, ce qui constitue un argument de poids en faveur de la taxation des polymères. La taxation des carburéacteurs pourrait favoriser la transition climatique dans un secteur qui montre peu de signes de changement de tendance jusqu'à présent.

Les quatre mesures ont des effets mineurs sur l'impact distributif: la taxe sur le kérosène est la moins problématique, car elle est progressive dans la mesure où elle pèse sur les voyageurs - généralement à revenu élevé. De même, la taxe sur les bénéfices exceptionnels corrige les injustices en redistribuant les bénéfices excédentaires. Bien qu'une taxe sur l'extraction des combustibles fossiles puisse initialement sembler régressive si elle influence les prix mondiaux des combustibles, une couverture mondiale adéquate et les enseignements tirés de la tarification du carbone offrent des solutions pour atténuer tout effet distributif négatif. En ce qui concerne les effets concurrentiels et les fuites (de carbone), les quatre instruments nécessitent une action multilatérale coordonnée pour éviter les déséquilibres, les distorsions et les fuites - surtout pour la taxe sur l'extraction des combustibles fossiles et les polymères, moins pour la taxe sur les bénéfices exceptionnels.

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ABBREVIATIONS

ASAs	Air Service Agreements
BEPS	Base Erosion and Profit Shifting
BIT	Bilateral Investment Treaty
BOGA	Beyond Oil and Gas Alliance
CBAM	Carbon Border Adjustment Mechanism
CBDR-RC	Common But Differentiated Responsibilities and Respective Capabilities
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DST	Digital Services Tax
ECF	European Climate Foundation
EEA	European Economic Area
ETD	Energy Tax Directive
ETS	Emissions Trading System
FET	Fair and Equitable Treatment
GDP	Gross Domestic Product
GEP	Global Excess Profits
GloBE	Global Anti-Base Erosion
HAC	High Ambition Coalition to End Plastic Pollution
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICCT	International Council on Clean Transportation
IIR	Income Inclusion Rule
IMF	International Monetary Fund
INC	Intergovernmental Negotiating Committee
LCA	Life Cycle Assessment
MCF	Metric Cubic Feet
MMboe	Million Barrels of Oil Equivalent
MNE	Multinational Enterprise
MS	Member State
PCT	Platform for Collaboration on Tax
SAF	Sustainable Aviation Fuel
UNCLOS	United Nations Convention on the Law of the Sea
UNEA-5	United Nations Environment Assembly 5
UNFCCC	United Nations Framework Convention on Climate Change
UTPR	Undertaxed Payments Rule
WTO	World Trade Organization

1. INTRODUCTION

Globally, there is an increasing recognition of the urgency to address climate change and its far-reaching impacts. Mobilised finance flows, however, fall significantly short of the requirements for a sustainable and equitable shift towards a low-carbon, climate-resilient future. There are varying estimates on the global need for climate finance, ranging from \$2.8 trillion annually by 2030 to \$125 trillion by 2050 to achieve global net-zero objectives.³ In addition to this, adaptation costs have to be considered where the financial need for developing countries alone is estimated to be around \$390 billion annually.⁴ This situation has intensified discussions on mobilising new financial resources to support equitable and just sustainability transitions, especially in climate-vulnerable and low- and middle-income countries.

In this context, calls have increased to modernise the international financial system to better address current nature, climate, and development challenges through enhanced international cooperation. For example, in July 2021, 130 countries and jurisdictions joined a plan to reform international taxation rules and ensure that multinational enterprises pay a fair share of tax wherever they operate.⁵ The June 2023 *Summit for a New Global Financial Pact* in Paris called for further work to explore “new avenues for international taxation in order to fulfil our climate commitments”.⁶ At the *Africa Climate Summit* in September 2023 African leaders adopted the Nairobi Declaration on Climate Change, appealing for global support for a comprehensive carbon tax regime covering fossil fuels, shipping and aviation, potentially enhanced by a financial transaction tax to finance climate initiatives, protected from geopolitical and national biases.⁷ These notions also surfaced at *The First Latin American and Caribbean Tax Summit for Inclusive, Sustainable and Equitable Global Taxation* in September 2023 and found resonance in the 78th Session of the UN General Assembly where the representative from Côte d’Ivoire highlighted that the nation is investigating innovative financing methods to combat climate change, including the initiation of a carbon tax.⁸

These examples illustrate the growing recognition that coordinated multilateral efforts will be needed to mobilise financial resources for climate action. As part of the UN climate negotiations, the *first Global Stocktake at COP28 in 2023* recognised the importance of “reforming the multilateral financial architecture” and of “accelerating the ongoing establishment of new and innovative sources of finance, including taxation, for implementing climate action”.⁹ Parties currently negotiate a New Collective Quantified Goal on Climate Finance to be adopted at COP29 in 2024.¹⁰ To contribute to identifying new sources of funding, a new taskforce on ‘international taxation to scale up development, climate, and nature action’ was launched during COP28 in 2023.¹¹ This group, initially called “International Tax Task Force” and now renamed “Global Solidarity Levies Task Force”, has been tasked with identifying and assessing innovative revenue streams to adequately finance the climate transition, considering “all options available in a spirit of international solidarity and equity”.¹² The

³ UNFCCC Race to Zero, ‘Financing Roadmaps’; World Bank Group, ‘CCDR Explainer’.

⁴ Watkiss et al., ‘Chapter 4: Adaptation Finance Gap in Adaptation Gap Report 2023: Underfinanced. Underprepared.’, 30.

⁵ Modern Diplomacy, ‘130 Countries and Jurisdictions Join Bold New Framework for International Tax Reform’.

⁶ ‘The Paris Pact for People and the Planet’.

⁷ African Union, ‘The African Leaders Nairobi Declaration on Climate Change And Call To Action’.

⁸ United Nations, ‘Speakers Call for New Innovative Methods of International Tax Cooperation, Reform of Inequitable Global Financial System, as Second Committee Takes Up Reports’.

⁹ United Nations Framework Convention on Climate Change, First global stocktake.

¹⁰ United Nations Framework Convention on Climate Change, ‘New Collective Quantified Goal on Climate Finance’.

¹¹ Global Solidarity Levies Task Force, ‘Global Solidarity Levies Task Force’; Service de Presse - Élysée, Présidence de la République, ‘Launch of the Taskforce on International Taxation to Scale up Development, Climate and Nature Action’.

¹² Ibid.

European Commission participates as an observer to the taskforce.¹³ The taskforce has been welcomed in particular by developing countries that see their interests underrepresented in other international fora with more limited participation, such as the OECD or G20.¹⁴

The European Union (EU) and its Member States (MS) have so far been at the forefront of international climate finance to help support developing countries with adaptation and mitigation as part of the United Nations Framework Convention on Climate Change (UNFCCC) negotiations, contributing significantly as the world's largest provider.¹⁵ However, given the enormous financial requirements to support the transition to a climate-neutral future, new sources for climate finance must be explored. The EU can play a key role in this regard, not only through its own financial contribution but also by initiating multilateral and global efforts to increase the volume of financing.

The overall aim of the study is to identify and assess instruments that facilitate increased mobilisation of financial resources for international climate finance and provide actionable recommendations to the European Commission on how to make progress on selected international instruments.

The remainder of this report is structured as follows. Chapter 2 outlines the methodology. Chapter 3 provides an overview over the longlist of considered instruments as well as an overview of the initial criteria-based assessment for the four instruments chosen for a more in-depth assessment. Chapter 4 presents findings from the in-depth assessment and expert interviews on the four selected instruments along with overarching considerations relevant to all analysed instruments. Finally, Chapter 5 summarises key barriers, suggests solution approaches and outlines actionable recommendations for the EU on how to progress on the respective instrument while Chapter 6 concludes.

¹³ Ibid.

¹⁴ Pötter, 'Auf Der Suche Nach Neuen Geldquellen: Taskforce Bereitet Konzepte Für Globale Klimasteuern Vor'.

¹⁵ Council of the EU and European Council, 'Europe's Contribution to Climate Finance (€bn)'.

2. METHODOLOGY

This section describes the methods used to identify and assess potential new sources, especially international taxation or levy instruments, of climate finance. The study focuses on how regulators can mobilise climate finance at the international level through taxation, levies, and similar fiscal instruments, including mechanisms that impact private entities. It specifically evaluates instruments capable of generating significant revenue. The scope is international, extending beyond the EU to include non-EU jurisdictions. The study does not cover instruments that function via government lending and borrowing, (e.g. green bonds, debt for nature swaps or similar), nor does it address the administration, allocation and spending of raised funds.

The research employed a mixed-methods approach, designed to evaluate potential financial instruments that could be harnessed to increase global climate finance. This study was segmented into six distinct tasks:

- Task 1: Proposal for Selected Instruments—Identification and initial assessment of potential instruments.
- Task 2: Desk Research and Interviews—In-depth research and expert interviews with 20 key stakeholders.
- Task 3: Critical Assessment of Selected Instruments—Detailed evaluation against established criteria.
- Task 4: Recommendations—Development of actionable recommendations based on findings.
- Task 5: Interim and Final Report—Compilation and presentation of research outcomes.
- Task 6: Presentation of Findings and Discussions—Dissemination and feedback integration.

In a first task, we conducted a brief desk-research on potential international instruments best suited to mobilise climate finance at a global level. Based on our findings we provide a longlist of 16 international instruments. From this, the four most relevant international instruments were selected with a criteria-based shortlisting framework and in coordination with the European Commission. Task 2 consists of in-depth desk-research as well as semi-structured online interviews with 23 international experts. These experts include academics, government officials, and representatives from international and non-governmental organisations.¹⁶ These stakeholders were selected for their expertise in fields such as international tax law, environmental policy, and climate finance, and they represent various levels of governance from national to international, including entities like the International Monetary Fund (IMF), universities, and national ministries related to environment and foreign affairs. In the report, information from the interviews is anonymized and cited in footnotes as “IV [allocated number of interview]”.

Building on the outcomes of Tasks 1 and 2, the critical assessment (Task 3) includes assessing (1) overview of key options/scenarios (2) the technical and political feasibility, including socio-political aspects and (3) the estimation of the potential of mobilised climate finance by each international instrument. Each selected international instrument is analysed individually using the same assessment criteria, taking into account the different design modalities of each instrument. Based on the outcomes of Task 2 and 3 and with a special focus on the elicited enabling factors and challenges, Task 4 outlines concrete suggestions for actions and next steps towards implementation of the selected instruments.

The study serves as scoping assessment of selected international instruments – as such, it is an exploratory study to identify possible options and conduct a rapid initial assessment of their feasibility and potential barriers. To progress towards concrete implementation, further in-depth research will be required.

¹⁶ Notably, representatives from developing and emerging economies were underrepresented in the expert interviews, partially due to unavailability of requested individuals.

3. LONGLIST AND SHORTLIST OF INSTRUMENTS

Based on a structured review and preliminary evaluation of international instruments that can contribute to mobilising additional climate finance are identified. This review involves examining key studies and outcomes from discussions at relevant climate (and) finance events.¹⁷ From this analysis, a long list of 16 potential international instruments is compiled:

- | | |
|---|---|
| 1. Fossil Fuel Extraction Levy / Tax | 9. Global Raw Materials Extraction Levy |
| 2. Jet Fuel Levy / Tax, Kerosene Duty | 10. Meat / Livestock Levy |
| 3. Levy on Plastic Polymers / Hydrocarbon Plastics | 11. Agreement on Removal / Reduction of Harmful Subsidies |
| 4. Levy on Windfall Fossil Fuel Profits | 12. Financial Transaction Tax |
| 5. Global Carbon Tax / Levy | 13. Stock Buyback Tax |
| 6. Air Passenger / Ticket Levy | 14. Wealth Tax |
| 7. International Maritime Organization Global shipping carbon price | 15. General Minimum Corporate Tax |
| 8. Bunker Fuel Levy | 16. Solidarity Levy |

An initial assessment based on a criteria set is then conducted for each instrument on the long list, evaluating the following criteria:

1. Fiscal volume/dimension of climate finance that could be mobilized,
2. Opportunity to build on existing (international/multilateral) institutions, efforts, and agreements,
3. Precedents of existing instruments applied at national/supranational level (EU),
4. The approximate number of entities subject to the instrument, indicating the administrative complexity,
5. Jurisdiction and EU competence—whether the EU or Member States have the authority in this field, and:
6. The instrument's potential to contribute to and the goals of the Paris Agreement (climate change mitigation, adaptation/resilience)

Following the criteria-based assessment and in coordination with the European Commission, four instruments have been selected for further analysis. An overview of the initial assessment and detailed outcomes can be found in Annex 1 (Excel). The overview of outcomes for the shortlisted instruments are displayed in Table 1, please note that these are the results of the initial assessment and the full assessment in Chapter 4 provides more granular and robust results.

¹⁷ Hirsch, 'Climate Finance for Addressing Loss and Damage: How to Mobilize Support for Developing Countries to Tackle Loss and Damage'; Hirsch et al., 'New Sources for Public Climate Finance and for the Loss and Damage Fund'; de Luis Iglesias et al., 'Scoping Study of Innovative Sources of International Climate Finance'; Greno et al., 'International Finance for Loss and Damage Associated with Climate Change Impact - Final Report'; Baatz, 'Climate Adaptation Finance and Justice. A Criteria-Based Assessment of Policy Instruments'; Robinson et al., 'Financing Loss and Damage from Slow Onset Events in Developing Countries'; UNFCCC, 'Synthesis Report on Existing Funding Arrangements and Innovative Sources Relevant to Addressing Loss and Damage Associated with the Adverse Effects of Climate Change'; Warnecke et al., 'Innovative Financing for the Adaptation Fund: Pathways and Potentials'; Schmidt et al., 'Loss and Damage Finance: An Assessment of the Most Promising Instruments'; Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion'; Service de Presse - Élysée, Présidence de la République, 'Launch of the Taskforce on International Taxation to Scale up Development, Climate and Nature Action'.

Table 1. Overview of initial assessment outcomes for shortlisted instruments. Source: compilation by the authors, details in Annex 1.

Instrument	Type and sector	Description	Fiscal volume potentially mobilised per year	Existing initiatives international institutions, efforts and agreements	Precedents: existing instruments applied at national / supranational level	Administrative complexity: appr. number of entities subject to instrument	Does the competence in this field lie with the EU or Member States (MS) institutions? (contingent on design)	Potential to contribute to Paris Agreement goals (mitigation/adaptation/resilience)
Global Fossil Fuel Extraction Levy/ Tax	Extraction levy	Levied on every ton of coal, barrel of oil, or cubic meter of gas extracted, with the charge proportional to the amount of embedded carbon in each ton of fossil fuel extracted.	US\$ 50 billion / €46 billion (medium) - US\$ 210 billion / €194 billion (high)	Initiatives and NGOs discuss this instrument but no major institutions working on a multilateral/global proposals.	Several examples at national level (e.g. Norway, Saudi Arabia, USA, Indonesia, Canada, Russia)	~ 100 - 200 (low)	For all: EU external competence mirrors internal competence. // MS: competence for direct taxation; potential EU competence only via art 115 TFEU; same goes for art 192 and 194.	yes / mitigation / high
Jet Fuel Levy / Tax, Kerosene Duty	Transport sector levy	Levy on the use of jet fuels e.g. in proportion to carbon content. Aims to incentivize the industry to transition to alternative, low, and zero-carbon fuels	US\$ 24 billion / €22 billion (medium)	No major initiatives or institutions working on multilateral/global proposals.	Few examples at national level (e.g. South Africa), considerations of slashing tax exemptions on (intra) EU level (with revised ETD).	~ 100 - 200 (low)	MS: competence for indirect taxation; potential EU competence via art 113 TFEU or potentially Art. 192; Art. 194 unlikely.	yes / mitigation / low
Levy on Plastic Polymers / Hydrocarbon Plastics	Industry sector levy	Levied on plastic producers from fossil feedstocks (can be seen as a specific subvariant of the levy on embodied carbon)	US\$ 40 billion / €37 billion (medium)	No major initiatives or institutions working on multilateral/global proposals.	Only examples at national level of plastic packaging levies/taxes (e.g. EU MS: Italy & Spain, Non-EU: UK) or the EU's "Plastics own resource" national contribution	numerous entities involved (high)	MS: competence for indirect taxation; potential EU competence only via art 113 TFEU; same goes for art 192 and 194.	yes / mitigation / low
Levy on Windfall Fossil Fuel Profits	Levy on profits	Levied on profit gained as a result of unique economic circumstances (e.g. exceptionally high fossil fuel prices), which may be considered excessive or unfairly acquired.	US\$ 40 billion / €37 billion (medium)	No global/multilateral initiative but in 2022 UN Secretary General called upon developed countries to impose windfall taxes on fossil fuel companies that made worldwide profits due to the energy crisis	Several examples at national level (e.g. EU MS: Spain, Greece, Italy, Hungary, Romania, Bulgaria, Czech Republic; Non-EU: UK, USA)	~ 100 - 200 (low)	MS: competence for direct taxation; potential EU competence via art 115 TFEU or potentially Art. 192; Art. 194 unlikely.	yes / mitigation / low

Note: Color-coding contingent on values/outcomes/estimates for the instrument in the respective categories relative to the outcomes of all 16 longlisted values; green = upper bound (in spectrum of 16 longlisted instruments), yellow = medium, red = lower bound.

4. CRITICAL ASSESSMENT

This chapter presents the findings from the in-depth assessment based on desk research and expert interviews. For each instrument, key design options are presented and their technical and political feasibility as well as potential revenues are assessed. As several aspects are relevant for all assessed instruments some overarching considerations are laid out first.

4.1. Overarching Considerations Applying to All Instruments

Several issues apply to all four instruments. They are included in the assessment of each measure, so that each assessment can be read on its own, although this inevitably creates some redundancy. For the understanding of the reader, the overarching considerations are listed below.

For all four instruments, an agreement at **international level** would be just the first step: Any number of countries¹⁸ involved agree in some form at the international level on the parameters that the levy should have. The levy then needs to be implemented by each participating state in its own jurisdiction at **national level**.

The distinction between a **“global”** and a **“plurilateral”** instrument is to some extent arbitrary. Hardly any instrument that is labelled “global” is endorsed or – in the case of treaties – has been ratified by all states. The term “global” denotes notion of a large number of states amounting to “almost all”, yet it has not been clearly defined where the threshold of a near-universal participation could be. For instance, the Biodiversity Convention has 196 parties – more than the UN has member states – and may be considered a global treaty, even though the USA is not a party. In contrast, the term “plurilateral” denotes the similarly undefined notion of “many” participating states, in any event less than “global”. Ultimately, the difference lies in how many states are involved in developing the instrument and how many participating states the instrument aims at.

Climate Clubs are one example of plurilateral implementation of instruments. Proposals for climate clubs are not a recent concept; they have been explored in the realms of economics, law, and political science for many years.¹⁹ The concept for a Climate Club was first developed by Nordhaus in 2015, describing the club “as an agreement by participating countries to undertake harmonized emissions reductions”²⁰. A minimum carbon price should be implemented by all members of the club through carbon pricing policies. The club aims to overcome free riding in international climate agreements by imposing “uniform percentage tariffs” on imports from non-participating countries into the “club region”, thereby penalizing nonparticipants and encouraging a large stable coalition.²¹ Policy proposals for climate clubs have already been discussed, including an IMF staff note, a proposal by German ministries and the G7 climate club which was established in 2022. However, the G7 climate club appears to be rather a forum for cooperation and discussion than an institutional agreement compared to the Nordhaus’ proposal.²²

For all levies assessed, countries interested in implementing the respective levy could form a coalition of the willing and participate in a similar institutional arrangement to the Nordhaus’ concept of a Climate Club. Countries inside the coalition should have the incentive to remain part of it, and countries outside have the economic incentives to join the club. A climate club may face legal obstacles contingent on its design, in the case of tariffs in particular compliance with WTO law.

¹⁸ For ease of reading, we use the terms “country” and „state“ throughout the text as including the EU – if and when it acts at the international stage within its competences – unless stated otherwise.

¹⁹ Falkner, ‘A Minilateral Solution for Global Climate Change?’; Sabel and Victor, ‘Governing Global Problems under Uncertainty’; Sandler, *Global Collective Action*.

²⁰ Nordhaus, ‘Climate Clubs’, 1341.

²¹ Ibid at 1341ff.

²² G7, ‘Statement on Climate Club’; Pirlot, ‘Climate Clubs: An International Tax Law Perspective’, 3ff.

For all instruments, there are two questions with regard to the **channelling of revenue**: First, whether it would be possible and desirable to direct the revenue (or parts of it) directly to an international institution. This is not just a technical question: In some countries it is a legal and even constitutional issue whether a levy or tax may be paid directly to an international institution without going through the national budget first. Second, if the revenue goes to the national budget first, is it possible to earmark the use of (all or part of) this revenue, e.g. for international climate finance generally or for a specific institution such as a fund.

For all instruments, the **political challenges** are similar: What is the political interest of the envisaged participating states (i) to impose a tax or levy at their domestic level and (ii) to direct all or part of the revenue to international climate finance. Of course, the political interests will vary depending on what is being taxed, which entails different sets of relevant countries. However, presumably imposing taxes and levies is a measure that is generally not easy to “sell” domestically.

An appropriate **forum** and process for negotiating the agreement on the parameters of the levy at international level would be needed, which could also mean a smaller group of countries in one forum coming up with proposals which they then promote in wider fora. Examples are multilateral fora such as the UN or the UNFCCC, or fora experienced in taxation such as the OECD. The initial impulse could also come from smaller fora such as the Global Solidarity Levies Task Force.

Precedents in International Revenue Generation

There are examples of international measures where the revenue either does not go into the national budget or is earmarked for international disbursement, e.g. climate finance. In the first case, the levy is paid *directly* to an international fund. In the second case, the levy is collected at domestic level, but the revenue is earmarked and has to be channelled to international disbursement.

The International Oil Pollution Compensation Funds, first established under the International Maritime Organisation in 1971,²³ manage funds for oil pollution damage from tanker spills and thus show resemblance to insurance schemes. This fund collects revenues based on the volume of oil received by entities from sea transport, emphasising a high compliance rate of 99.8% among corporate contributors.²⁴ The scheme is based on two international treaties, the core of which is ratified by 121 states, and according to the International Maritime Organization has handled over 150 cases involving pollution damage, showcasing international legal and financial cooperation.²⁵

Article 82 of the United Nations Convention on the Law of the Sea (UNCLOS) provides an example of an international revenue mechanism that could be interesting even though the obligation to pay is based on contributions by states rather than private actors.²⁶ It stipulates that states must make payments or contributions related to the exploitation of non-living resources from the continental shelf beyond 200 nautical miles. Payments begin after the first five years of production, starting at 1% of the production value or volume, and increase annually until a rate of 7% is reached from the twelfth year onwards.²⁷ These contributions are managed through the International Seabed Authority, which distributes them among States Parties to the convention, with special consideration for the needs of developing countries, including the least developed and land-locked countries. UNCLOS is ratified by 168 parties.²⁸

Moreover, Unitaid has effectively utilised an **international voluntary solidarity levy**, funded primarily through **aviation ticket surcharges**, to finance health initiatives across multiple countries.

²³ The Convention of 1971 establishing the Fund superseded by a new Fund Convention of 1992, and supplemented by a Supplementary Fund Convention of 2003.

²⁴ Ibid.

²⁵ International Maritime Organization, ‘International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND)’; Richards, Hillman, and Boughey, ‘The Climate Damages Tax - A Guide to What It Is and How It Works’, 9f.

²⁶ ‘United Nations Convention on the Law of the Sea of 10 December 1982’.

²⁷ Ibid., Art. 82

²⁸ United Nations, ‘United Nations Treaty Collection - Law of the Sea’.

Initiated by France and joined by several other countries, revenues are collected nationally and channelled towards Unitaïd.²⁹ In technical terms, Article 22 of the French Amending Finance Act of 2005 (Loi de finances rectificative) established a development solidarity fund aimed at supporting developing countries and achieving the Millennium Development Goals, particularly in health. The law introduces a surcharge on airfares, the revenue from which is directed towards the fund and finally channelled to Unitaïd.³⁰ This precedent underscores the feasibility and success of cross-border financial cooperation with a solidarity tax model where states voluntarily establish and collect a tax at national level (similar to design option two of a potential fossil fuel extraction tax). However, as addressed above, the issue that earmarking is not possible in some jurisdictions remains.

Lastly, cases of mandatory contributions are the **EU Value Added Tax-based** own resource and the plastics own resource which exemplify how tax revenues and contributions can be directed to the supra-national level and pooled there.³¹ However, these examples should be regarded with reservation, since they are part of the EU's particular legal order, which differs from the international level.

Trade Considerations

International Trade Rules. An internationally agreed and domestically implemented tax or levy might violate international trade rules, in particular WTO rules. Whether this is the case depends on to what extent the levy would affect trade in goods and services that fall under the WTO regime. The main principles are non-discrimination and perhaps also the most favoured nation clauses. Compliance with WTO law may be particularly relevant if the tax or levy is linked or combined with environmental border tax adjustments.³²

International Trade Distortions. Experts outline that implementing respective levies may provoke retaliatory actions, for example if they target or affect US companies.³³ Under Section 301 (a) of the US Trade Act of 1974 the US can start investigations and take all appropriate actions, including imposing (non)-tariff-based retaliation to eliminate any foreign government act, policy, or practice, that violates international trade agreements or is deemed unjustified, unreasonable, or discriminatory and burdens or restricts US commerce without the approval of the WTO.

For example, in 2019, the United States Trade Representative began Section 301 investigations into digital services taxes (DSTs). These were introduced by several European countries (Austria, France, Italy, Spain and the UK) targeting large US tech giants, including Amazon, Facebook or Google and seen as discriminatory against these US corporations. Therefore, the US had threatened with punitive tariffs on imports from these countries after their introduction.³⁴ Tariffs were designed to cover wide range of goods, totalling approximately \$3 billion in trade, costing the US \$739.5 million annually.³⁵ However, these were never actually implemented and suspended to allow time for negotiations: In October 2021, an agreement was reached whereby respective European countries agreed to withdraw their DSTs once a deal on a global minimum corporate tax took effect. According to the agreements, any DST payments made in the interim would be credited against future tax liabilities and the US agreed to drop its threatened tariffs.³⁶ This agreement eased trade tensions, set a precedent for digital taxation issues, and prevented punitive tariffs.

²⁹ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 9.

³⁰ Loi n° 2005-1720 du 30 décembre 2005 de finances rectificative pour 2005". Article 22, Law No. 2005-1720 of December 30, 2005

³¹ Council of the European Union, Council Decision (EU, Euratom) 2020/2053 of 14 December 2020 on the system of own resources of the European Union and repealing Decision 2014/335/EU, Euratom; Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 9f.

³² Pirlot, 'Environmental Taxes'.

³³ Interview Number E9 [from now on interviews are cited as "IV [Number]"]

³⁴ Deutsche Welle, 'US Reaches Agreement to End European Digital Taxes'.

³⁵ Lee, 'Terminated U.S. Retaliatory Tariffs to Digital Services Taxes'.

³⁶ Scott, 'US Seals Agreement to End European Digital Taxes'.

It established a path toward a global corporate (minimum) tax system, thus avoiding significant trade distortions and potential retaliatory measures.

Further Aspects

Legal Risk related to Fiscal Stabilisation. Legal risks that might arise in the context of introducing new levies or taxes could stem from so called “**fiscal stabilisation**” clauses.³⁷ These provisions may restrict the government’s host jurisdiction’s ability to alter the fiscal laws that apply to an investor or investment within its territory. Stabilisation clauses can be part of domestic laws or investment contracts³⁸. The stabilisation issue is mainly a concern for developing and emerging economies as only few developed economies include these provisions in domestic law or investment contracts.³⁹ Investors may use fiscal stabilisation clauses to claim exemption from changes in tax policy and potentially initiate investment arbitration. Special investment contracts⁴⁰ with foreign investors are especially prevalent in the extractive industries in several developing and emerging economies.^{41 42}

Bilateral Investment Treaties (BIT) with investor to state dispute settlement provisions may create legal risks for countries aiming to change tax policy in response to an introduction of plurilateral/international levy. The arbitration risk for each country needs to be assessed on a case-by-case basis and is contingent on the protection afforded to investors, covering provisions on expropriation, non-discrimination, and fair and equitable treatment (FET).⁴³ The FET standard is commonly used by investors to challenge state actions, including withdrawal of tax incentives and refusal to reimburse taxes. FET can interact with stabilisation clauses, placing countries enacting reforms at risk of arbitral claims for breaching the FET standard under a BIT.⁴⁴

Payment and Collection Process. Generally, the way the levy is collected is a matter for each respective country and its national administration, processes etc. It would be unusual for the international level to prescribe how each country should administer the collection of the levy. However, there might be reasons for states to agree some of such aspects at the international level: One aspect is of course the case in which the revenue is supposed to be paid directly into an international institution without going through national budgets. In this case, states would need to agree on which institution should receive the revenue. Other aspects of the domestic payment and collection process could relate to preventing tax avoidance and distorting the envisaged level playing field.

Setting the tax rate for any instrument depends on several considerations. The first aspect is whether and how specifically the tax rate is agreed and set at the international level. The states may agree on a specific tax rate, but they might also merely set a minimum, which means that individual states might set a higher rate in their jurisdiction. The international agreement might also set a tax rate that is a range between e.g. 10% and 15%, which would also mean that the actual tax rate could differ between the participating countries.

³⁷ IV E9

³⁸ The Extractive Industries Transparency Initiative (EITI) publishes contracts governing the exploitation of oil, gas and mineral resources (EITI, ‘Contract transparency’, <https://eiti.org/contract-transparency>, accessed 11 July 2024).

³⁹ Christians et al., ‘A Guide for Developing Countries on How to Understand and Adapt to the Global Minimum Tax’, 32.

⁴⁰ They govern the entire legal framework of the investment; some may include tax issues and incentives covered by fiscal stabilisation clauses. Typically, these provisions freeze the fiscal terms at the project's start, preventing subsequent tax law changes from applying or requiring compensation, at least for a specified duration. (Christians et al., ‘A Guide for Developing Countries on How to Understand and Adapt to the Global Minimum Tax’, 33).

⁴¹ Ibid at 33.

⁴² See Resource Contracts, ‘An Online Repository of Petroleum and Mining Contracts’, <https://resourcecontracts.org/>, accessed 5 July 2024.

⁴³ Christians et al., ‘A Guide for Developing Countries on How to Understand and Adapt to the Global Minimum Tax’, 34f.

⁴⁴ Ibid at 37f.

With regard to the actual rate, some authors have made calculations and proposals for the different instruments assessed in this report. There are also actual precedents in particular for a windfall profit tax. A relatively low rate – e.g. one that leads to minimal price increases for consumers only, or, depending on elasticity of demand, reduced profits for producers to a very limited degree – may enhance political support due to limited economic effects and reduced stakeholder pushback. Hence overall participation – and hence revenue – may increase, though the total revenue collected could be modest due to the lower rate. Conversely, a higher rate – one with significant economic impact – has the potential to generate higher revenues theoretically. Yet, through economic incentives it can drive behavioural changes, eventually shrinking the tax base and hence overall revenue. A relatively high rate may additionally reduce political support and participation and induce regressive effects and hardships for low-income households. Notably, overall revenue generation largely depends on the set tax base and decided scope as well as enforcement, evasion and avoidance. The challenge lies in determining which rate optimally balances these dynamics to maximize both acceptance and participation without overly compromising on revenue generation.

Shrinking Tax Base. Transitioning away from fossil fuels will require countries heavily reliant on the tax revenue from these industries to identify alternative revenue streams in the coming decades. The 2023 Report by the Coalition of Finance Ministers outlines ideas how to diversify these tax revenue streams.⁴⁵ These considerations are equally relevant for international climate finance, as one aim of implementing any of the assessed levies is to contribute to climate finance. To gain more support, proposals for these analysed levies, where the tax base may shrink in the long run, should also address these long-term implications. It will be essential to provide guidance and assistance building on the work of e.g. the Coalition of Finance Ministers or other relevant groupings, international organizations etc.

4.2. Fossil Fuel Extraction Levy

The Fossil Fuel Extraction Levy, also referred to as a Climate Damages Tax, is a financial mechanism designed to internalise the external costs of fossil fuel extraction and combustion.⁴⁶ As elaborated in the research reports⁴⁷ that developed this idea, this levy would be imposed directly on producers, the tax rate being based on the carbon dioxide emissions embedded in each unit of coal, oil, or gas extracted.⁴⁸ Hence, it is a carbon pricing mechanism at the upstream level. This approach not only aims to generate significant funds for climate finance but also intends to implement the polluter-pays principle, rooted in major environmental declarations (including the United Nations Conference on the Human Environment, 1972 and the United Nations Conference on Environment and Development, 1992), and to shift economic burdens onto those responsible for pollution.⁴⁹

4.2.1. Key Design Options

The levy can be introduced at varying levels of international cooperation and agreement. The first design option, a near-**global implementation** (multilateral) of such a levy, would necessitate deep and large-scale cooperation. All parties involved would need to agree at the international level on the parameters of the levy, and then enact laws and procedures in their respective national jurisdictions to establish and enforce the levy. The levy would oblige extracting companies under their respective jurisdiction to **directly pay (a share of) the revenues into an internationally managed fund**, circumventing national treasuries.⁵⁰

⁴⁵ Coalition of Finance Ministers for Climate Action, 'Strengthening the Role of Ministries of Finance in Driving Climate Action: A Framework and Guide for Ministers and Ministries of Finance', 100f.

⁴⁶ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 2; Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 5.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 9.

⁵⁰ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 15.

Aside from a near-global, multilateral implementation, a second option for introducing the levy could be implementation at **plurilateral level through a coalition of the willing**.⁵¹ As outlined by Hillman and Sharma, collected nationally but directed to an international fund, this model mirrors the Airline Solidarity Levy mechanism.⁵² Under a plurilateral scheme, each participating nation would impose a fossil fuel extraction levy, over and above existing royalties or severance taxes from fossil fuel extraction. High- and middle- income countries with sufficient administrative capabilities allocate the additional funds to an internationally managed fund as well as local initiatives, e.g. supporting transitions to renewable energy and transport systems. In contrast, lower income countries that lack the necessary administrative capacity dedicate all revenues to green infrastructure projects *within* their own jurisdiction.⁵³ This is a model where a coalition of the willing agrees voluntarily to implement the levy, setting a precedent that can be expanded to a broader scope over time.^{54 55}

4.2.2. Technical Feasibility

Complexity of National and Global Implementation

Tax Base. The potential base of a fossil fuel extraction levy would be the carbon content per unit of extracted fossil fuels. The actual tax base will depend on which countries implement the levy and on the specific scope that is set.

Legal Incidence. The levy would be targeted at larger fossil fuel extractors, such as ExxonMobil in the U.S., BHP Billiton in Australia, and BP in Europe.⁵⁶ One potential way to set the scope of extractors obliged to pay the levy could be to include companies that extract fossil fuels above a certain threshold per year, measured in Million Barrels of Oil Equivalent (MMboe). The exact threshold could be determined in negotiations on a fossil fuel extraction levy. Alternatively, annual profits could be deployed as a scoping measure.

The levy is strategically imposed on the extraction rather than the combustion of fossil fuels, which concentrates the compliance obligation on a smaller number of large, often multinational corporations.⁵⁷ This strategic focus at the upstream level, directly at the point of extraction, helps to reduce complexity by limiting the number of entities obliged to pay the levy, thereby simplifying enforcement, facilitating easier monitoring, and reducing administrative costs.

Economic Incidence. While fossil fuel extracting companies are initial bearers of the levy, they may shift the financial burden to consumers by increasing fossil fuel prices. Whether they are able to do so depends on several factors: (i) whether the share of production effectively covered by the levy is sufficient to affect world market prices: the smaller the share of total production covered, the less likely it is that the affected producers will be able to factor in the additional cost, and (ii) on the price elasticity of demand: if consumers are unable or unwilling to reduce their demand in response to the price increase, they will bear a higher share of the tax burden. However, if renewable energy sources

⁵¹ Note that option one could – under the current global political and governance structures – also only be implemented on a voluntary basis as no sovereign nation could be forced to partake in a global taxation initiative.

⁵² Initiated by France in 2006, the Airline Solidarity Levy funded Unitaids efforts in combating HIV/AIDS, TB, and malaria, raising significant sums from multiple countries. See Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 15.

⁵³ Ibid.

⁵⁴ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works'; Hirsch et al., 'New Sources for Public Climate Finance and for the Loss and Damage Fund'.

⁵⁵ IV E1

⁵⁶ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 10; Greno et al., 'International Finance for Loss and Damage Associated with Climate Change Impact - Final Report', 110.

⁵⁷ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 24.

are more easily available at competitive rates, or if demand for fossil fuels is more elastic for other reasons, producers will absorb a higher share of the tax burden, reducing their profitability.⁵⁸

Levy Rate. For both design options, the suggestion is that the levy should start at a modest **rate**, which progressively increases in order to strengthen the economic incentive for reducing global fossil fuel dependency. This would also need to balance decreasing returns which are bound to occur if the volume of fossil fuel extraction declines. The initial rate could, for instance, be set at a modest \$5 per tonne of CO₂ embedded, escalating annually until a review after some years of introduction to potentially adjust the rate further based on effectiveness and economic impacts.⁵⁹

A potential escalating structure of the levy rate can gradually strengthen the financial disincentive to fossil fuel use, to align it over time with global carbon reduction goals aimed at limiting warming to 1.5°C and to keep the revenues stable while extraction activities go down due to the managed transition towards the fossil fuel phase down.⁶⁰

Tax Evasion and Avoidance. Richards et al. highlight the legal obligations of extractors to report accurately on the volumes they extract under existing agreements, which can be extended to include an extraction levy, with non-compliance potentially leading to regulatory sanctions, serious brand damage and risk for reputation.⁶¹ Avoidance could vary based on how the extraction levy is designed in terms of where the levy is applied. If the levy is applied based on the location of a company's headquarters irrespective of the extraction sites, there might be a risk that companies relocate their headquarters or establish subsidiaries in countries not participating in the tax scheme. Conversely, if the levy is applied based on the location of extraction this can reduce this risk. Additionally, over time, multinational extraction companies may find it less appealing to operate in jurisdictions that impose this levy and avoid the levy by reducing their operations there to the possible extent.⁶² However, the potential for companies to reduce their operations in jurisdictions introducing this levy may be limited by the finite availability of extraction sites, reducing this avoidance risk.

Legal Considerations. As noted above, all countries involved – either in a multilateral agreement or in a smaller coalition of the willing – would need to agree at the international level on the parameters of the levy and then establish the levy in their respective national jurisdictions.

According to the proposals in literature,⁶³ the levy would oblige extracting companies under the respective jurisdiction to directly pay all or part of the levy into an international fund. However, there are concerns about the compatibility of a global levy with the national tax legislations of various countries, which may need significant adjustments.⁶⁴ For instance, circumventing national treasuries by making the extractors pay the levy directly into an international fund might be problematic for legal and political reasons. Some jurisdictions might regard this as prohibited earmarking of tax-derived revenues. For instance, within the European Union, the principle of universality⁶⁵ is applied by some Member States,⁶⁶ this principle mandates that all revenues, irrespective of their sources,

⁵⁸ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 17.

⁵⁹ Hillman and Sharma, 22, 29.

⁶⁰ Ibid.; If the levy was introduced in 2024 and the rate ratcheted up \$5 per year with an inflation adjustment, in 2035 the rate would reach nearly \$70 per tonne CO₂e and \$100 in 2040 (Ibid., 28).

⁶¹ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 11.

⁶² Brown, Maniloff, and Manning, 'Spatially Variable Taxation and Resource Extraction'.

⁶³ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works'; Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works'.

⁶⁴ Hirsch, 'Climate Finance for Addressing Loss and Damage: How to Mobilize Support for Developing Countries to Tackle Loss and Damage', 38.

⁶⁵ International Monetary Fund, 'Guidelines for Public Expenditure Management--Section 3--Budget Preparation'.

⁶⁶ For example, in Germany (albeit only in principle, § 7 Haushaltsgrundsätzegesetz) and Sweden (Budgetlag (2011:203), 3 kap. §6)

be pooled into a general budget without allowing for allocation to specific uses. Exceptions may be possible, but that depends on the individual state's constitutional and legal framework.

Legal issues that might arise in the context of introducing new levies or taxes could also stem from so called **stabilisation clauses**.⁶⁷ As these can pose a relevant risk for all assessed instruments, more details are elaborated in Section 4.1.

Interaction with Existing Instruments and Legislation. A potential fossil fuel extraction levy would need to coexist with existing severance payments, royalties, carbon pricing and regulatory frameworks worldwide. Richards et al., argue that such a levy should complement, not replace, existing (carbon) pricing mechanisms, which only cover a share of the global emissions and are regarded as being too low on average to lead to phasing out of fossil fuels by themselves.⁶⁸ It has to be noted, however, that regulatory overlap is considered contentious in general.⁶⁹ A more comprehensive assessment is essential to evaluate potential legislative conflicts – including financial stabilisation clauses – of a fossil fuel extraction levy. This evaluation could inform necessary legislative amendments.

Payment and Collection Process. General considerations on the payment and collection process can be found under 4.1. However, for a fossil fuel extraction levy, Richards et al. and Hillman and Sharma outline specifics for a possible payment and collection process.⁷⁰ Fossil fuel extractors initially report the volume and emissions profile of their extracted resources to their local tax authorities as part of existing regulatory practices. In a scenario where design option one is implemented, these authorities then inform the relevant international fund of the reported volumes, triggering the calculation of the levy owed based on these figures and the set rate. Extractors are notified of their dues and make payments directly to the fund. The fund then allocates a portion of these revenues back to the originating states as a domestic dividend to aid in local climate initiatives, while the remainder supports global climate finance.⁷¹ While this is the suggested procedure in existent literature,⁷² it could cause disproportionate bureaucratic efforts. Hence, collection and distribution where local tax authorities collect the revenues, retain the domestic dividend and channel the rest towards global climate financing (as suggested for design option two) might be more feasible.⁷³

Precedents at National and Subnational Level

Several jurisdictions impose extraction fees in the form of royalties and severance taxes on the exploitation of natural resources, including fossil fuels such as oil, gas, and coal. However, in many instances profit or revenue serve as the tax base while extracted volume is a rather uncommon tax base, and even less so the carbon content in the extracted volume.⁷⁴

In the **USA** several states levy severance taxes which are based on the value or volume – sometimes both – of the extracted fossil fuels and other natural resources.⁷⁵ In these models, the taxes are mostly based on the value extracted – calculated based on operators' profit – however, several states deploy extraction volume-based taxes.⁷⁶ These taxes are levied per unit of production, such as per

⁶⁷ IV E9

⁶⁸ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 4; United Nations Environment Programme, *Emissions Gap Report 2023*, chap. 4.

⁶⁹ Robb, Candy, and Deane, 'Regulatory Overlap'.

⁷⁰ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 10; Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 16.

⁷¹ Ibid.

⁷² Ibid.

⁷³ Note here the issues outlined above on earmarking tax revenues.

⁷⁴ The Law Library of Congress, Global Legal Research Center, 'Crude Oil Royalty Rates in Selected Countries'; Alexeev and Conrad, 'The Russian Oil Tax Regime'.

⁷⁵ Kolesnikoff and Brown, 'State Oil and Gas Severance Taxes'.

⁷⁶ Ibid.

barrel of oil or per thousand cubic feet (MCF) of gas. Kolesnikoff and Brown⁷⁷ provide an overview: Ohio, for instance, imposes a severance tax of \$0.10 per barrel of oil and \$0.025 per MCF of natural gas. This method provides a consistent revenue stream regardless of oil and gas price fluctuations. Similarly, Arkansas has a multifaceted approach that includes a volume tax as part of its broader severance tax framework, charging \$0.03 per barrel of oil and \$0.01 per MCF of gas. This rate applies alongside value-based taxes that adjust based on the market value of the resources extracted. Georgia also utilizes a volume-based model, setting its tax rate at \$0.03 per barrel of oil and \$0.01 per 1,000 cubic feet of gas, with additional provisions allowing local governments to levy their own taxes up to certain limits.⁷⁸

Royalties on Crude Oil Extraction are imposed worldwide, spanning major producers like Saudi Arabia, Russia, and Canada, as well as smaller extractors such as Romania and Ecuador. This practice crosses continents—from Australia over Brazil, China and India to Nigeria—and includes nations at varying income levels, exemplified by the United Arab Emirates, Malaysia and Uzbekistan.⁷⁹

While taxation on extraction is prevalent, these instances demonstrate that it is uncommon for the tax base to be determined by the carbon content per volume unit of extracted fossil fuels. Instead, taxation is typically levied on the profits or revenues generated from the extraction activities. When considering alternative designs of a potential extraction tax, a merely volume-based or value-based levy could be taken into consideration.

Implementation within Existing Financial Structures. In terms of deploying existing financial structures to levy a new fossil fuel extraction levy, Richards et al. note that fossil fuel producers are accustomed to making payments such as above-described royalties or severance taxes to the states in which they operate.⁸⁰ These systems could be deployed and adapted to collect an additional levy based on the volume of extracted resources and respectively embedded carbon and earmarked for climate finance.⁸¹ However, given the divergence of the tax base (embedded carbon per extracted volume unit) from traditional ones used for royalties and severance taxes (most commonly value/profit), the compatibility of such a new tax with existing administrative systems remains uncertain.

4.2.3. Political Feasibility

Existing Efforts at the Multilateral Level

Proposal for a Climate Damages Tax. So far, there is one existing initiative suggesting a global fossil fuel extraction tax: “Stamp Out Poverty” is an advocacy group that develops and promotes strategies aimed at ending extreme poverty and addressing climate change.⁸² They support initiatives like the Robin Hood Tax, which proposes a levy on financial sector transactions to fund social and environmental causes. Additionally, they advocate for a Climate Damages Tax – essentially a global fossil fuel extraction tax – to compensate for environmental damage and support global climate finance.⁸³

Global Solidarity Levies Task Force. A levy on fossil fuel extraction is one of the options under consideration by the Global Solidarity Levies Task Force,⁸⁴ which is co-chaired by France, Barbados and Kenya, and was joined by Antigua and Barbuda, Ireland, Colombia, the Marshall Islands,

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ The Law Library of Congress, Global Legal Research Center, ‘Crude Oil Royalty Rates in Selected Countries’.

⁸⁰ Richards, Hillman, and Boughey, ‘The Climate Damages Tax - A Guide to What It Is and How It Works’, 10.

⁸¹ Ibid.

⁸² Stamp Out Poverty, ‘What We Do - Stamp Out Poverty’.

⁸³ Ibid.

⁸⁴ IV E10

Senegal, and Spain (status August 2024). The taskforce is supported and managed through a Secretariat by the European Climate Foundation (ECF).⁸⁵ The taskforce taking up the idea of an extraction levy is an indication of the idea gaining traction on a more international level. However, work under the taskforce is still in progress and results from impact studies launched under it will be discussed at the UN General Assembly in September 2024.⁸⁶

Political Support

Obstacles in Mobilising Support. For the successful implementation of a fossil fuel extraction levy, mobilising wide political support will be the crucial factor. Adopting a uniform levy – multilaterally or plurilaterally – would necessitate consensus among countries with highly diverse patterns of fossil fuel production and consumption in a suitable forum and require countries to enforce this levy through national measures targeting fossil fuel companies.⁸⁷

Generally, there are aversions against new (environmental or carbon) levies and taxes,⁸⁸ “[e]nvironmental taxes are unpopular because all **taxes are unpopular**”.⁸⁹ The facts that a fossil fuel extraction levy, pursued on the international stage, could be perceived as imposed from the “outside”, and with the purpose to generate revenue for international climate financing rather than national use,⁹⁰ are likely to increase the difficulty of introduction. Furthermore, the fossil fuel industry is known for privately **lobbying** against climate regulations and legislations while publicly claiming to support it,⁹¹ and hampering the introduction of new climate legislation.⁹²

Countries like Saudi Arabia, Russia, and the United States are very unlikely to agree levy that – once introduced – could be portrayed as undermining not only national sovereignty over fiscal decisions, but also the business model of a large part of their economy.⁹³ This scepticism extends to the broader question of why countries would **consent to relinquish control over new levy revenues** and accept an escalating levy on their fossil fuel sectors while the revenues are channelled into a funding framework not fully under their control.⁹⁴

While being key to successful implementation and substantial revenue flows, significant fossil fuel extracting states including the USA, Russia, China, Canada, and Australia as well as members of the Organization of the Petroleum Exporting Countries may oppose, wanting to **maintain competitiveness through a level playing field**.⁹⁵ This also applies to extractors in developing regions and

⁸⁵ Ibid.

⁸⁶ Global Solidarity Levies Task Force, ‘Global Solidarity Levies Task Force’.

⁸⁷ Hillman and Sharma, ‘The Climate Damages Tax - A Guide to What It Is and How It Works’, 15.

⁸⁸ Umit and Schaffer, ‘Attitudes towards Carbon Taxes across Europe’, 5f.

⁸⁹ Fairbrother, ‘When Will People Pay to Pollute?’, 3.

⁹⁰ Even without the introduction of new levies to generate revenue to finance international endeavours, one example of calls for *reduced* financial flows towards international purposes can be found in Germany where liberal and conservative party representatives call to decrease contributions and much stronger alignment of development cooperation (which also includes finance for climate mitigation and adaptation projects) with national interests. (zdf Heute, ‘Haushalt 2024: Kubicki will Kürzungen bei Entwicklungshilfe’ (2024)). Introducing a new levy of which large parts shall be channeled towards an international funding framework will hence likely be contentious.

⁹¹ U.S. House Committee on Oversight and Accountability - Democrats, ‘Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change. Joint Staff Report.’, i–ii.

⁹² Kaufman, ‘Unmasking Dark Money’.

⁹³ Hirsch, ‘Climate Finance for Addressing Loss and Damage: How to Mobilize Support for Developing Countries to Tackle Loss and Damage’, 39.

⁹⁴ Hirsch, 38.

⁹⁵ In theory, an uneven playing field could be countered by carbon border adjustment measures (see under Sections 4.1, Climate Clubs). However, it is doubtful whether the ensuing increase in the price for imported oil would be politically feasible in the countries taking such measures.

some Small Island Developing States like Trinidad and Tobago and Papua New Guinea,⁹⁶ but also countries like Brunei and Malaysia. Further countries with major extraction of and heavy reliance on fossil fuels include for example Kazakhstan and Uzbekistan in the Central Asian region, Argentina and Ecuador in Latin America and Nigeria in Africa.⁹⁷

Such fossil fuel-dependent developing countries are likely to resist as their economies heavily depend on fossil fuel production and consumption.⁹⁸ Fossil fuel dependent developing countries might bring the argument forward that the Global North, historically responsible for higher emissions, should bear a larger burden and contend that their **existing fiscal policies already maximize resource taxation** without harming their economies too much.⁹⁹ Additionally, increased taxation could result in significant local economic hardship should levy prices reach a level that has substantial impacts on consumers. As touched upon above and described in more detail in Section 4.1, financial stabilisation clauses might hinder effective implementation in these countries in first place.

If the above listed countries choose to not participate in a fossil fuel extraction levy and only a coalition of willing countries that are no major extractors begins with the implementation, the revenue generated from such a tax will likely be insignificant.¹⁰⁰ Hence, securing support from some major fossil fuel extracting countries will be crucial for ensuring the effectiveness and credibility of the levy.¹⁰¹

State-owned Fossil Fuel Extraction Companies. Additionally, countries with large state-owned fossil fuel extraction companies may oppose a fossil fuel extraction levy due to the direct financial impact on their national revenues.¹⁰² Since these enterprises contribute significantly to the national budget through profits and taxes, imposing a levy would reduce their profitability and, consequently, the fiscal intake of the government.¹⁰³

Preference for Bilateral Climate Finance. Countries might prefer using revenue from an extraction levy for bilateral aid rather than contributing to internationally managed climate funds.¹⁰⁴ Bilateral aid can be more strategically directed and is often seen as a tool to strengthen diplomatic ties, allowing donor countries to foster closer relationships and influence in recipient countries, which might not be as directly achievable through multilateral channels.¹⁰⁵ Additionally, such a pathway might also be easier to communicate to the domestic electorate than a tax which does not go into domestic budgets.¹⁰⁶

Existing Alliances to Gather Support. Despite these obstacles, political support could be gathered in existing alliances like the Beyond Oil and Gas Alliance and the Powering Past Coal Alliance. These represent natural groupings where the concept of an extraction tax might be supported and gain traction.¹⁰⁷ The Beyond Oil and Gas Alliance (BOGA) includes full members such as Denmark, Costa Rica, France, Greenland, Ireland, the Marshall Islands, Portugal, Quebec, Samoa, Spain, Sweden, Tuvalu, Vanuatu, Wales, and Washington State. Additionally, associated members include California and New Zealand, with friends of BOGA encompassing Chile, Colombia, Fiji, Finland, Italy, Kenya,

⁹⁶ Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 2; Greno et al., 'International Finance for Loss and Damage Associated with Climate Change Impact - Final Report', 115.

⁹⁷ Ritchie, Rosado, and Roser, 'Fossil Fuels'; U.S. Energy Information Administration, 'International Rankings - Total Energy Production'.

⁹⁸ IV E6

⁹⁹ Ibid.

¹⁰⁰ Assuming that the levy is applied in the country of extraction.

¹⁰¹ IV E1

¹⁰² IV E5

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

and Luxembourg.¹⁰⁸ Noticeably, none of the above listed significant fossil fuel extracting states are members of the BOGA, with the exception of Quebec as a sub-national government member. The Powering Past Coal Alliance lists 42 national governments as members and 54 subnational governments, including coal-producing regions like Alberta, along with major coal producers like Canada and the UK and non-coal producers like the Balearic Islands.¹⁰⁹ These alliances, committed to transitioning away from (particular) fossil fuels, could potentially support initiatives like a fossil fuel extraction tax, aligning with their broader environmental and climate goals.¹¹⁰

Pressure at the International Stage. The pressure that is building on the international stage to drastically increase climate finance¹¹¹ might enable and increase in countries' openness for new ways of generating revenue where an extraction tax can be presented as one option to do so.

Socio-Political Aspects

Keeping Rate Low to Increase Acceptance. One way to increase acceptance of a fossil fuel extraction levy would be to suggest a low levy rate, e.g. of \$5 and a first increase only after testing phase of e.g. three to five years. While a lower rate and slower escalation might not lead to an internalisation of external costs of fossil fuel extraction, it would still generate meaningful revenue, especially if due to the softer implementation more countries are willing to adopt such a levy.¹¹²

Despite the geopolitical tensions and varying national interests that challenge the implementation of a fossil fuel extraction levy, the mechanism presents a potential avenue to bridge the climate financing gap while also promoting the global transition toward a fossil-free economy. To bolster support for this instrument, designing the levy to embody the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC), in the light of national circumstances, as outlined in the following, may enhance political support by incorporating socio-political considerations and fairness aspects into its framework.

Addressing Common but Differentiated Responsibilities and Respective Capabilities to Increase Political Support at National Level. A fossil fuel extraction levy could be implemented with an emphasis on equity, accounting for the varying capabilities and responsibilities of different countries. While a globally consistent rate is recommended to prevent market distortion, the distribution and allocation of revenues can be designed on a sliding scale to reflect different capabilities and responsibilities through a domestic dividend.¹¹³ High-income countries, responsible for more historical emissions, could contribute a greater share (e.g. 50%-80%) to an international fund, upper-middle income countries a smaller share (e.g. 20%-50%). In contrast, lower-middle- and low-income countries retain the whole revenue generated for domestic environmental and social programs.¹¹⁴ One suggestion from the expert interviews is that a portion of the revenues retained within a country could be utilised to address national debt-financing, making the proposal more attractive to financial administrators and enhance political appeal.¹¹⁵ Generally, agreeing on a flexible allocation of the domestic dividend – i.e. not only earmarking revenues for climate finance but also for other purposes like education, health or fossil-free infrastructure – could accommodate the diverse financial needs of lower-income countries, increasing the likelihood of their adoption of such a levy.¹¹⁶

¹⁰⁸ Beyond Oil & Gas Alliance, 'BOGA - Who We Are'.

¹⁰⁹ Powering Past Coal Alliance, 'Powering Past Coal Alliance - Our Members'.

¹¹⁰ IV E1

¹¹¹ Simavi, 'Money on the Table'; Babayev, 'COP29 Azerbaijan - Letter to Parties and Constituencies'.

¹¹² IV E8

¹¹³ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 17; Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 2.

¹¹⁴ Ibid.

¹¹⁵ IV E8

¹¹⁶ IV E5

Addressing Regressive Distributional Impacts at Citizen Level. As touched upon above (see Section 4.2.2., Economic Incidence) carbon pricing can increase fossil fuel energy prices, which is an intended effect of internalising the external costs connected with fossil fuel combustion.¹¹⁷ However, the assumption that price increases due to an extraction levy will necessarily be passed to consumers is debated.¹¹⁸ Where consumer prices do increase, carbon pricing instruments usually show regressive effects and have a deeper economic impact on low-income households.¹¹⁹

There are approaches to avoid or mitigate cost shifting and distributional impacts. However, the suitability of such approaches would seem to depend on national circumstances. Therefore, it would need to be considered to what extent the agreement at the international level on the levy can and should address such approaches: introducing the levy at a low rate and then increasing it slowly and gradually can help avoid or mitigate abrupt price increases and ensuing economic hardship.¹²⁰ This approach is supported by calculations showing that an initial carbon price of \$5 per tonne of CO₂ would have a modest impact on fuel prices, adding just over one cent to the global average petrol price of \$1.17 per litre (as of 2018).¹²¹ This represents a minimal increase of 1.1%, which is negligible compared to the typical annual fluctuations in fuel prices.¹²² There are other ways to prevent or mitigate cost shifting. Instead of passing the full costs of the levy on to consumers, companies might absorb some of the costs themselves in order to maintain competitive market shares (see also Section 4.2.2, Economic Incidence).¹²³ Additionally, there are mechanisms in place where governments can intervene to regulate prices, thereby preventing suppliers from offloading the full cost onto consumers. For example, administrations at national level can set a cap on profit margins, ensuring that any increase in costs due to the levy does not result in disproportionately higher prices for consumers.¹²⁴

Where consumer prices do increase, carbon pricing instruments usually show regressive effects and have a deeper economic impact on low-income households. To mitigate this, mechanisms tailored to local conditions should be introduced e.g. when transposing the international agreement on the extraction levy into national law, ensuring that policies effectively address the levy's impact on vulnerable populations. Hirsch et al. advocate targeted support measures to protect lower-income and underrepresented groups from potential adverse impacts, reinforcing the levy's alignment with broader social and environmental objectives.¹²⁵

Civil Society Acceptance of Carbon Pricing. While there are no concrete polls on the acceptance for imposing a levy on fossil fuel extraction, carbon pricing in general has been the subject of several polls. Public acceptance of carbon pricing mechanisms hinges significantly on the perceived use and fairness of the revenue generated. Opinion polls and research across various regions illustrate varied levels of support and suspicion regarding the motivation behind such taxes. In Canada, a 2018 poll revealed that 42% of respondents believed carbon taxes were mainly imposed to raise tax revenue, with individuals of this view being twice as likely to oppose the concept.¹²⁶ Conversely, a 2023 survey in the USA found that 66% of registered voters support imposing taxes on carbon emissions *if* the revenue is used to offset other taxes,¹²⁷ highlighting the importance of (domestic) revenue utilisation

¹¹⁷ Ohlendorf et al., 'Distributional Impacts of Carbon Pricing', 2.

¹¹⁸ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 17.

¹¹⁹ Ibid.

¹²⁰ Richards, Hillman, and Boughey, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 16.

¹²¹ Richards, Hillman, and Boughey, 23.

¹²² Ibid.

¹²³ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 17.

¹²⁴ IV E5

¹²⁵ Hirsch et al., 'New Sources for Public Climate Finance and for the Loss and Damage Fund', 14.

¹²⁶ Anderson, 'Polling Results'.

¹²⁷ Leiserowitz et al., 'Climate Change in the American Mind: Politics & Policy, Fall 2023'.

in gaining public support and careful and transparent communication on the share channelled towards international climate finance.

Globally, a 2021 poll across 31 countries showed that an average of 62% support carbon taxes on high-emission energy sources to encourage reduced use and mitigate climate change, with the majority favouring the use of tax revenues for climate-related projects and compensations for low-income households.¹²⁸ This suggests that clear communication about the allocation of funds to directly address climate issues can enhance the acceptance and perceived equity of carbon taxes. To build broader public support for the fossil fuel extraction levy, it is crucial to ensure transparent and effective use of the revenues, aiming for visible public benefits and potential compensations for low-income households as well as a distribution that is perceived to be fair.¹²⁹ In line with this, a study suggests that trial periods, a slow increase of the rate (tax escalators), earmarking for environmental purposes, tax rebates as well as lump-sum transfers and well developed communication strategies helps to overcome public resistance on carbon pricing.¹³⁰

4.2.4. Revenue Mobilisation

The potential revenue generation of a fossil fuel extraction tax is highly dependent on the rate of the levy, the amount of countries joining the endeavour, and the share each country will contribute to international climate finance. Over time, revenues also change with changing amounts of extracted fossil fuels. Any revenue estimations are based on assumptions of these factors. Additionally, for long-term revenue estimations, it is relevant to consider behavioural changes in consumption and eventually extraction triggered by the levy due to increasing market prices (an effect Pigouvian taxes specifically aim to achieve) and how the levy interacts with further policies. Hillman and Sharma have conducted detailed revenue calculations on which the elaborations below are based.¹³¹

For design option one it is assumed that the levy would be introduced globally with a rate starting (in 2024) at \$5 per tonne calculated based on the embedded CO₂ and a progressive increase of the rate of \$5 per year – adjusting for 2% inflation each year.¹³² The modelling of extraction amounts is assumed to change over time along with projections of the Intergovernmental Panel on Climate Change for 1.5°C compatible pathways.¹³³ Based on these assumptions, Hillman and Sharma arrive at an initial global revenue stream for the first calculation year (2024) of roughly \$215 billion.¹³⁴ In 2030 revenues would be at \$890 billion, peaking 2035 at \$1,015 billion and going back to \$865 billion in 2040. It has to be noted that large parts of these revenues would go back to the jurisdictions they have been levied at under a model where low-income and lower-middle-income countries keep 100% of the revenues and high-income and upper-middle-income countries keep 50% and 70% respectively. To receive an estimate for revenues that could potentially be channelled towards international climate finance, Hillman and Sharma calculate the revenues from OECD countries when a domestic dividend of 50% is applied. In 2024, roughly \$28 billion could be collected with potential sums peaking in 2035 at \$131 and receding to \$111 billion in 2040.¹³⁵

An alternative scenario without a ratcheting mechanism, where the rate is held constant at \$5 per tonne CO₂, could enhance the political and social acceptability of the levy (see above). Without increasing the tax rate over time, the instrument's predictability and steadiness may encourage broader buy-in and compliance from participating countries, especially from those with more sensitive economic circumstances. Under this scenario, as detailed in Hillman and Sharma's calculations, by 2030, the revenue collected would reach approximately \$276.3 billion globally, with the OECD

¹²⁸ GlobeScan & BBC World Service, 'New Global Poll Shows Growing Public Support for a Carbon Tax'.

¹²⁹ Raymond, 'Policy Perspective'; Maestre-Andrés et al., 'Carbon Tax Acceptability with Information Provision and Mixed Revenue Uses'.

¹³⁰ Carattini, Carvalho, and Fankhauser, 'Overcoming Public Resistance to Carbon Taxes', 8ff.

¹³¹ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 24f, 27ff.

¹³² Ibid.

¹³³ Ibid.

¹³⁴ Ibid.

¹³⁵ Ibid.

countries collecting about \$96 billion and non-OECD countries \$273 billion.¹³⁶ Notably, much of the revenue levied in non-OECD countries would remain in the respective jurisdictions due to the domestic dividend. If OECD countries keep a domestic dividend of 50%, an estimate of \$48 billion are channelled towards international funds in 2030 alone. Due to the planned transition away from fossil fuels, a levy without a ratcheting mechanism would only reap \$2,7 billion from OECD countries in 2050, leaving less than \$1,5 billion for international funds with a 50% domestic dividend. Non-OECD countries would still levy \$8 billion in 2050.¹³⁷

Alternatively, based on 2022/2023 data from GOGLE,¹³⁸ we derive revenue estimations for a voluntary plurilateral fossil fuel extraction levy among a coalition of willing countries. We assume a rate of \$5 per ton of CO₂ embedded. The extraction data is available for an aggregate of oil, gas, condensate and Natural Gas Liquids extracted in 2022 in MMboe. It is relevant to note that coal is not included in the data. For calculation purposes a coalition of the willing is assumed to comprise extracting countries of the global solidarity levy taskforce (Brazil, Colombia, France, Ireland, Spain) and some more major fossil fuel extracting countries (Canada, UK, Norway). The total extraction volume of companies with their headquarters based in these countries was around 7600 MMboe in 2022.¹³⁹ With an average assumed 365000 tons CO₂ emissions stemming from one MMboe,¹⁴⁰ and a rate of \$5 per ton of CO₂, revenues would accumulate to roughly \$13,9 billion for 2022. Considering the domestic dividend – assuming it to be at 50% for high-income countries (France, Ireland, Spain, Canada, UK, Norway)¹⁴¹ and 80% for upper-middle-income countries (Brazil and Colombia),¹⁴² roughly \$6,3 billion could have been channelled towards international climate finance whereas the rest would have remained in the respective jurisdictions. These calculations only present a snapshot in time and can vary greatly depending on the composition of the coalition of the willing, the decided rate and scope of the levy. The calculations do not consider future extraction volumes, potential impacts of the levy on extraction volumes, potential tax avoidance (e.g. if the levy was indeed calculated at headquarter country level rather than place of extraction, if possible, companies might try to move their headquarter to countries not partaking in the voluntary endeavour) and as noted, do not include coal. Hence, all estimations are based on a broad set of assumptions and can only be seen as a rough indication for potential revenue generation.

4.3. Levy on Windfall Fossil Fuel Profits

A fossil fuel windfall¹⁴³ profits levy is imposed on companies and permanent establishments in the fossil fuel sector that experience unexpectedly large profits due to unusually high fossil fuel prices. These can be triggered by external shocks or major events that lead to abrupt imbalances between supply and demand, such as a (trade) war or supply disruptions. This tax is targeted at profits deemed excessive or unfairly gained, often applied retroactively, and typically ceases once normal

¹³⁶ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works', 31.

¹³⁷ Ibid.

¹³⁸ Global Oil & Gas Exit List, 'Global Oil & Gas Exit List 2023'.

¹³⁹ While it would also be an option tax the extraction taking place in that country rather than the headquarter seat, data availability on a county level is only given for headquarter country, hence this is deployed here.

¹⁴⁰ Various oil products, when combusted, lead to differing emissions levels; however, the current global average for oil products derived from a barrel of oil equivalent (boe) is 405 kg of CO₂ upon combustion boe (International Energy Agency, 'Emissions from Oil and Gas Operations in Net Zero Transitions - A World Energy Outlook Special Report on the Oil and Gas Industry and COP28' (2023), 9). The burning of natural gas generates 320 kg of CO₂ per boe (Ibid.). For calculations based on the GOGLE data we assume an average of 365 kg CO₂ per boe extracted (note that in the GOGLE data, NGL and condensate is included, for simplicity we here assume the average of 365 kg per boe is sufficient to arrive at rough estimations). One MMboe would hence results in approximately 365000 tons of CO₂ emissions.

¹⁴¹ The World Bank, 'World Bank Country and Lending Groups – World Bank Data Help Desk'.

¹⁴² Ibid.

¹⁴³ Windfall defined as "an unexpected or sudden acquisition or advantage, often in the form of unforeseen financial gain." (Merriam-Webster, 'Dropping Some Truth on 'Windfall'', <https://www.merriam-webster.com/words-at-play/windfall-word-history-use>, accessed 4 June 2024).

conditions resume.¹⁴⁴ Extensive literature exists on windfall profits taxes, covering technical and national implementation aspects.¹⁴⁵

As countries navigate fiscal pressures following COVID recovery spending and high energy prices, political interest in introducing windfall taxes on excessive profits has been increasing. Specifically, by targeting the energy sector, these taxes aim to redistribute extraordinary profits made from fossil fuel production. Several countries have already adopted such fiscal measures in response to economic pressures.¹⁴⁶

4.3.1. Key Design Options

There is no precedent of a levy on windfall fossil fuel profits at near-global or plurilateral level. However, several national and regional examples exist.¹⁴⁷ Revenues from a levy on windfall fossil fuel profits must be collected at national level. Although there can be international coordination to manage tax impacts (e.g., to circumvent cross border tax spillovers) and transparency, the responsibility to allocate these revenues, including to international funds, rests with national governments.¹⁴⁸

Two design options might be considered for a levy on windfall fossil fuel profits at international level.

A near-**global implementation** of such a levy – design **option 1** – would necessitate serious and large-scale global cooperation and would be a highly complex endeavour. All parties involved would need to agree on the parameters of the levy (some form of an international agreement), and then enact laws and procedures in their respective jurisdictions to establish and enforce the levy. As windfall profits from fossil fuels are generally concentrated in the countries where these resources are extracted, the country of extraction should collect the levy on windfall fossil fuel profits at national level. Similarly to the global corporate minimum tax, the Global Anti-Base Erosion Model (GloBE) rules could be introduced for and applied to an international levy on windfall fossil fuel profits¹⁴⁹: If the country of extraction does not collect the levy or profits are shifted, it can be collected from the parent company or another constituent entity within the multinational enterprise's (MNE) structure.

Aside from a global implementation, a second option (split into '**option 2a**' and '**option 2b**') for introducing such a levy could be as a **plurilateral effort** through a **coalition of the willing**. The agreement would allow parties some discretion in the design of a levy on windfall fossil fuel profits to ensure compliance with their fiscal regime. International coordination should be provided to manage tax impacts (e.g., avoid double taxation or prevent cross-border enforcement issues).¹⁵⁰ Under **option 2a** the levy on windfall fossil fuel profits would be introduced within the corporate income tax system (less feasible due to high complexity/lower direct impact on consumer prices).¹⁵¹ Under

¹⁴⁴ Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 4; Hirsch et al., 'New Sources for Public Climate Finance and for the Loss and Damage Fund', 22; Oxfam, 'Oxfam Media Brief: The Case for Windfall Taxes', 1.

¹⁴⁵ Bolch and Damon, 'The Windfall Profit Tax and Vertical Integration in the Petroleum Industry'; Alvarado, 'Windfall Profit Taxes Across Europe'; Dourado and Mosquera, 'Editorial Note on the Windfall Profit Tax'; Amorello and Ronco, 'Law & Economics in the Italian Constitutional Jurisprudence'; Rao, 'Taxes and US Oil Production'.

¹⁴⁶ Nicolay et al., 'The Effectiveness and Distributional Consequences of Excess Profit Taxes or Windfall Taxes in Light of the Commission's Recommendation to Member States', 12; Gregg and Miotto, 'Windfall Profit Taxation in Europe (and Beyond)', 1f.

¹⁴⁷ Precedents are also outlined under Section 4.3.3, Significant Precedents.

¹⁴⁸ Hirsch et al., 'New Sources for Public Climate Finance and for the Loss and Damage Fund', 22; Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 4f.

¹⁴⁹ This includes the Income Inclusion Rule (IIR), the Undertaxed Payments Rule (UTPR) and the Qualified Domestic Minimum Top-up Tax (QDMTT). More information on the GloBE rules and Pillar Two are provided under Section 4.3.2, Global Anti-Base Erosion (GloBE) rules and Pillar Two.

¹⁵⁰ Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 4f.

¹⁵¹ IV E9

option 2b the levy on windfall fossil fuel profits would be introduced as a flat rate levy on the part of the profits that is considered excessive. National collection by tax authorities with subsequent transfer to international climate finance may be favourable over a direct remittance of the revenues to an international fund due to potential national legal constraints. Similarly to the fossil fuel extraction levy above, in terms of revenue allocation to international climate finance, using part of the revenue for a domestic dividend may increase acceptability.¹⁵²

4.3.2. Technical Feasibility

Complexity of National and Global Implementation

Windfall Profits and Tax Base. Revenues from a levy on windfall fossil fuel profits are volatile by design and hence difficult to predict. A particularly intricate challenge is how to distinguish between “normal” and “excessive” profit levels.¹⁵³ In line with existing literature, total profits are calculated as a normal return (this includes safe return and risk premium) plus economic rent. Economic rent, i.e. excess profit, results from unique firm characteristics, for example monopolistic power or location-specific advantages such as natural resources. Windfall profits are a type of economic rent. They occur due to unforeseen market changes and unexpected, exceptional events that significantly affect cost structures and/or the balance between supply and demand (such as wars, supply disruptions etc.). As such, they are not the result of an economic choice or a risk, but rather a matter of luck, where one economic actor receives a surplus rent. Theoretically, the difficulty of determining windfall profits stems from drawing the line between “normal” profits, e.g. due to location-specific advantages or entrepreneurial action / risk-taking by the investor, and the part that is “excessive”, i.e. attributed to external developments beyond the control and expectation of the investor.¹⁵⁴ Windfall profits thus arise when commodity prices exceed the levels that were expected at the time of the investment decision.

Windfall fossil fuel profits may thus be determined by assessing which part of an observed profit increase can be attributed to a rise in commodity prices compared to a base period before the shock / external event.¹⁵⁵ However, designing policies to recover such profits is difficult since each investor will form their own expectations about future prices and profits.¹⁵⁶ Christians argues that drawing the line between normal and excessive profit levels is in the end a political choice: Lacking a definitive objective method, policymakers must combine economic analyses, estimates, and political compromises to define and levy windfall profits.¹⁵⁷ For the case of the COVID-19 crisis, the scholar concludes that profits above 22% of the average pre-COVID profits could qualify as windfall profits.¹⁵⁸ At EU level, Council Regulation (EU) 2022/1854 defined for its temporary solidarity contribution that profits made in 2022 and/or 2023 above a 20 % increase of the average taxable profits generated in the four fiscal years starting on or after 1 January 2018 should be subject to the [temporary] solidarity contribution (see recital 53). Determining – and agreeing on – windfall profits becomes even more difficult to administer at the international level.¹⁵⁹ Examples of national (or regional) windfall profits taxes shed some light on this complexity (see Section 4.3.2., Precedents at National and Regional Level).

Legal Incidence. In general, an international levy on windfall fossil fuel profits could target companies and permanent establishments operating in the fossil fuel sector, including coal, natural gas,

¹⁵² See Section 4.2.1. on Key Design Options for a Fossil Fuel Extraction Levy.

¹⁵³ de Luis Iglesias et al., ‘Scoping Study of Innovative Sources of International Climate Finance’, 29f.

¹⁵⁴ Nicolay et al., ‘The Effectiveness and Distributional Consequences of Excess Profit Taxes or Windfall Taxes in Light of the Commission’s Recommendation to Member States’, 13.

¹⁵⁵ IV E6

¹⁵⁶ Oxfam, ‘Oxfam Media Brief: The Case for Windfall Taxes’, 1; Baunsgaard and Vernon, ‘Taxing Windfall Profits in the Energy Sector’, 2.

¹⁵⁷ Tax Notes, ‘Pillar 3 for the OECD: A Global Excess Profits Tax. Interview with Allison Christians’.

¹⁵⁸ Ibid.

¹⁵⁹ IV E6 and IV E5

gasoline and diesel.¹⁶⁰ To set a scope, the levy could target companies with annual revenues of consolidated accounts above a certain threshold. Note that while this scope could be based on revenue of consolidated accounts, profits would then be levied at national level. Economic rents usually originate from upstream activities such as extraction, rather than from the processing, distribution, and retailing of fossil fuels and electricity generation (i.e. mid- and downstream). But also mid- and downstream companies, such as refineries or fuel distributors, occasionally experience temporary windfall profits, in particular if their contracts allow them to procure inputs at fixed prices but sell outputs at market prices.¹⁶¹

Windfall profits from fossil fuels are generally concentrated in the countries where these resources are extracted, not in countries that import fossil fuels (or derived products). However, also countries that are net importers of fossil fuels may try to capture economic rents from the fossil fuel value chain, particularly if they are home to multinational energy companies.¹⁶² Some European countries¹⁶³ that introduced windfall taxes in response to the energy crisis did so by targeting the electricity sector, the UK for example, applied it to fossil fuel extraction.¹⁶⁴ Oxfam advises to base a windfall tax on national profits, and not profits consolidated in the country where the extracting company may be headquartered.¹⁶⁵ This is supported by an interviewee who argues that profits would have to be collected where they arise as companies have legal entities worldwide, or would easily be able to set up further entities in order to escape taxation.¹⁶⁶ An IMF study from 2022 on excess profit taxes supports this approach as it outlines that windfall profits in the extractive sectors are normally administered at the level of projects, not entities.¹⁶⁷ For example, the international oil and gas company ExxonMobil with its headquarters in the US, engages in mining activities around the world, including in Africa (e.g., Angola, Namibia or Mozambique), Latin America (e.g., Colombia, Peru or Brazil) or South-Asia (e.g., Kazakhstan, Pakistan or Vietnam).¹⁶⁸ The China National Petroleum Corporation, a Chinese producer of oil and natural gas, has mining operations in Kazakhstan, Tunisia, Turkmenistan, Ecuador, Venezuela, Indonesia or Myanmar among others.¹⁶⁹

Levy Rate. The rate of existing windfall profits taxes differs from country to country. Setting the rate is a policy choice. Historically, the highest recorded rate of a levy on windfall profits was at 95% in the United States during World War II. Currently, international tax pressures such as profit shifting or tax competition may place a factual limit on the feasible levy rate of windfall profits.¹⁷⁰

In a proposal for windfall taxation, Oxfam outline a windfall tax of 90% on 1,000 of the world's biggest companies (this also includes other sectors and is not limited to fossil fuels). The study defines excess profit as any profit between 2020 and 2021 that exceeds the average profit between 2017 and 2018 but includes only companies whose profit increased by at least 10% of their pre-pandemic average.¹⁷¹ Examples of national (or regional) windfall taxes provide an insight into different approaches to determine the tax/levy rate (see Section 4.3.2, Precedents at National and Regional Level).

¹⁶⁰ In addition, A specific threshold, such as requiring that at least 80% of a company's operations be in the fossil fuel sector, could be established to determine eligibility. The levy would only apply to fuels that are traded, and for which a market price exists – for this reason, it would not apply to lignite.

¹⁶¹ Greno et al., 'International Finance for Loss and Damage Associated with Climate Change Impact - Final Report', 167; Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 3.

¹⁶² Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 6.

¹⁶³ Examples are Greece, Hungary, Italy, Spain, Romania, or the UK.

¹⁶⁴ Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 9.

¹⁶⁵ Oxfam, 'Oxfam Media Brief: The Case for Windfall Taxes', 4f.

¹⁶⁶ IV E2

¹⁶⁷ Hebous, Prihardini, and Vernon, 'Excess Profit Taxes: Historical Perspective and Contemporary Relevance', 10.

¹⁶⁸ ExxonMobil, '2018 Financial & Operating Overview', 26.

¹⁶⁹ Wu, 'China's Overseas Oil and Gas Investment: Motivations, Strategies, and Global Impact', 2.

¹⁷⁰ Ibid at 15.

¹⁷¹ Oxfam, 'Oxfam Media Brief: The Case for Windfall Taxes', 3.

Permanent vs Temporary. Some experts are in favour of a permanent¹⁷² over a temporary levy on windfall profits.^{173 174} There are two main reasons for this: (1) a permanent tax is necessary for a more efficient tax system to eliminate debt bias and distortions in investment decisions (2) to avoid distortionary effects and misincentives from temporary levies, e.g. affecting investment timing to avoid the tax.¹⁷⁵ However, experts agree that a temporary levy on windfall fossil fuel profits can generate more revenue.^{176 177} While concrete reasons are not indicated, one reason might be that a temporary levy, imposed during periods of high profits from price spikes, captures more revenue as its modalities can be tailored to the specific situation; whereas a permanent “one fits all” levy may not effectively capture windfall profits in periods of high profitability as it might not be tailored to the specific situation. A temporary levy (if well designed) targets unforeseen financial gains without affecting long-term profitability ensuring maximum revenue from exceptional circumstances. Its introduction may be more politically feasible during crises, with a greater willingness to be implemented at more ambitious rates since a temporary levy is agreed and adopted under the impression of recent price spikes. Hence it might yield a higher rate and therefore even - counterintuitively - higher revenue than a levy that is permanent but applied at a lower rate. A further consideration is that a permanent levy is more foreseeable, and therefore may give the covered entity more opportunities to shift profits in time or space, in order to lower dues.

Risk for Investment. Baunsgaard and Vernon argue in favour of taxes on economic rents: unlike corporate income taxes, they only target returns exceeding the necessary investment, preserving investment incentives and potentially increasing fairness by taxing more profitable projects progressively.¹⁷⁸ However, historical evidence, such as the impact of the 1980s U.S. excess profits tax on oil production (‘Crude Oil Windfall Profit Tax Act of 1980’), shows that windfall taxes can in fact reduce investment. This reduction occurs as firms anticipate similar taxes in other sectors, increasing uncertainty and discouraging investment.

Legal Considerations. Levies on windfall profits need to be tailored to each jurisdiction. A potential international arrangement on such a levy therefore must leave sufficient discretion to its members, in order to obtain agreement in the first place and to ensure the measure aligns with the national fiscal framework¹⁷⁹ The implementation of an international levy on windfall fossil fuel profits may face obstacles due to constitutional barriers at national level or state aid issues.¹⁸⁰ Typically, a temporary windfall profits tax is retroactive because it aims to capture excess profits that have already been realized during a specific period. Retroactivity does not have to be inconsistent with constitutional principles, contingent on the national jurisdiction. In tax law, retroactivity is not universally prohibited and its legality is determined on a case-by-case basis.¹⁸¹ The EU, for example, has (partly) accepted the retroactivity of its temporary solidarity contribution (see Council Regulation 2022/1854). However, to avoid issues with a retroactive, temporary levy, some experts favour a permanent solution that covers past as well as future windfall profits.¹⁸²

¹⁷² While windfall profits might not be a permanent occurrence, a levy on windfall profits could be established permanently and levy windfall profits when they occur.

¹⁷³ Hebous, Prihardini, and Vernon, ‘Excess Profit Taxes: Historical Perspective and Contemporary Relevance’, 4; Hebous, ‘Has the Time Come for Excess Profit Taxes?’, 1; Baunsgaard and Vernon, ‘Taxing Windfall Profits in the Energy Sector’, 1.

¹⁷⁴ IV E2

¹⁷⁵ Hebous, Prihardini, and Vernon, ‘Excess Profit Taxes: Historical Perspective and Contemporary Relevance’, 15.

¹⁷⁶ Hebous, ‘Has the Time Come for Excess Profit Taxes?’, 1.

¹⁷⁷ IV E6

¹⁷⁸ Baunsgaard and Vernon, ‘Taxing Windfall Profits in the Energy Sector’, 1ff.

¹⁷⁹ Oxfam, ‘Oxfam Media Brief: The Case for Windfall Taxes’, 4.

¹⁸⁰ IV E6

¹⁸¹ Gregg and Miotto, ‘Windfall Profit Taxation in Europe (and Beyond)’, 3ff.

¹⁸² IV E2

Legal constraints may also arise from double taxation or from lacking consistency with international tax treaties.¹⁸³ Concerns regarding double taxation could be raised if the levy on windfall fossil fuel profits is seen to come tax profits that were already taxed as “normal” profits.¹⁸⁴ Changes to domestic tax policy may also put countries at exposure to risks of litigation or arbitration, due to legal provisions on fiscal stabilisation outlined in domestic law, Bilateral Investment Treaties or investment contracts. As these can pose a relevant risk for all assessed instruments, more details are elaborated in Section 4.1., Legal Risk Associated with Fiscal Stabilisation. As addressed in 4.1., earmarking levy revenue for specific purposes can pose a legal issue in some jurisdictions.¹⁸⁵

Global Anti-Base Erosion rules and Pillar Two. In 2021, members of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting agreed to the Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalization of the Economy.¹⁸⁶ GloBE rules are part of Pillar Two (Global Minimum Taxation). They address the issue of profit shifting by MNEs to low-tax jurisdictions and ensure that these entities pay a minimum level of tax on their profits (currently 15 %). It aims to reallocate the profits of the largest and most profitable MNEs to countries globally, ensuring a level playing field in international taxation.¹⁸⁷

Key components of the Pillar Two are the **Income Inclusion Rule (IIR)**, the **Undertaxed Payments Rule (UTPR)** and the **Qualified Domestic Minimum Top-up Tax (QDMTT)**. IIR requires the parent company of an MNE to pay tax on the income of its foreign lower-tier entity if that income is taxed at a rate below the minimum effective tax rate of 15%.¹⁸⁸ The QDMTT is a measure that ensures the minimum tax rate is met locally, thus potentially precluding the need for the IIR.¹⁸⁹ The UTPR only applies if no other relevant jurisdictions collect the amount first through the IIR or the QDMTT. The UTPR acts as a backstop to the IIR. If neither the IIR nor the QDMTT applies, the UTPR allows other jurisdictions to impose tax on the undertaxed profits of an MNE.¹⁹⁰ Any country within the MNE's structure can collect the top-up tax equivalent (of another country's constituent entity) if the home country of the parent company does not enforce the IIR. The rule shifts the taxing right to countries willing to collect the tax, ensuring that the minimum tax rate is achieved globally. The interconnected nature of these rules is designed to prevent tax competition among countries and ensure that MNEs pay a minimum tax rate on their global income. Each rule can effectively switch off the need for the others, promoting a cohesive approach to tackling profit shifting.¹⁹¹

Critics argue that the UTPR allows countries to impose taxes without a legitimate basis. Nevertheless, scholars contend that the principle is supported both theoretically and practically, as evidenced by decades of historical precedent, for example by the United States and the first enacted controlled foreign corporation regime. The UTPR represents the evolution of these principles to fit modern economic realities according to Christians and Diniz Magalhaes. It supports the same underlying rationale as for controlled foreign corporation regimes.¹⁹² Disputes arising from the UTPR are likely to be settled within bilateral tax treaty mutual agreement procedures which are less transparent than

¹⁸³ Gregg and Miotto, 'Windfall Profit Taxation in Europe (and Beyond)', 12.

¹⁸⁴ Ibid.

¹⁸⁵ European Commission, 'Report on Chapter III of Council Regulation (EU) No 2022/1854 of 6 October 2022 on an Emergency Intervention to Address High Energy Prices: Solidarity Contribution and Enacted Equivalent Measures: Stocktaking', 10.

¹⁸⁶ The BEPS project was established by the OECD and G20 in 2013. The membership of the Inclusive Framework on BEPS has expanded to include over 145 countries and jurisdictions, along with 14 observer organizations. (OECD, 'Base erosion and profit shifting (BEPS)', <https://www.oecd.org/en/topics/policy-issues/base-erosion-and-profit-shifting-beps.html>, accessed 4 July 2024).

¹⁸⁷ OECD, 'OECD/G20 Base Erosion and Profit Shifting Project: Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy', 3ff.

¹⁸⁸ Ibid at 8.

¹⁸⁹ Englisch, 'Pillar 2: QDMTT or Safe Harbour Domestic Minimum Top-Up Tax (SHDMTT)?'

¹⁹⁰ Christians and Diniz Magalhaes, 'Undertaxed Profits and the Use-It-or-Lose-It Principle', 705.

¹⁹¹ Ibid at 705ff.

¹⁹² Ibid at 705 and 708f.

domestic appeal processes. They might be impacted by decades of development in nonbinding models or peer review etc.¹⁹³

The OECD/G20 Inclusive Framework on BEPS could serve as a starting point to introduce under another Pillar a levy on windfall (fossil fuel) profits and build on the work of Pillar One and Pillar Two.¹⁹⁴ GloBE rules should be applied to an international levy on windfall fossil fuel profits to ensure that they levy could be collected by any relevant jurisdiction within the company's structure. However, it is important to note that GloBE rules provide a list of excluded entities (Article 1.5 of the Model Rules) which include government entities. As many companies in the extractive industry are state-owned (e.g., Saudi Aramco, China National Petroleum Corporation, Gazprom, Kuwait Petroleum Corporation etc.), these are likely not to be affected by the global minimum corporate tax under Pillar Two. This exclusion list would need to be revised and adapted for an international levy on windfall fossil fuel profits, in particular if countries with state-owned companies agree to the introduction of such a levy.

Tax Avoidance. Tax avoidance, i.e. using legal means to minimise tax liability, poses a significant challenge for governments aiming to ensure a fair and effective tax collection. Generally, potential tax avoidance activities may include splitting a company into multiple entities, relocating headquarters (inversion), merging with companies that are losing money or the change of business' legal structure, switching to non-corporate forms.¹⁹⁵ An international levy on windfall fossil fuel profits requires international coordination to provide guidance, enhance cooperation of tax authorities (where profits have been taxed) and harmonize the calculation of taxable profits across jurisdictions.

Interaction with the Existing Corporate Income Tax. A (temporary) windfall tax would coexist with the corporate income tax. Only the portion of profits exceeding a certain threshold would be levied under the windfall profit tax. For instance, with pre-tax profits of \$55,000, of which \$30,000 are regarded as windfall profits, the levy on windfall profits would apply to the \$30,000 (contingent that windfall profits encompass the full economic rent, i.e. excess profits), and the corporate income tax would apply to the remaining \$25,000.¹⁹⁶ Christians and Diniz Magalhaes also stress that levying windfall profits may be most effective when integrated into current regulatory frameworks, ideally incorporated into existing income tax rules and upcoming reforms.¹⁹⁷

Payment and Collection Process. Existing literature does not address the payment and collection process for an international levy on windfall fossil fuel profits. As payment and collection processes are relevant for all assessed instruments, more details on a general approach are elaborated in Section 4.1., Payment and Collection Process.

Precedents at National and Regional Level

Windfall profit taxes are not new. After World War I and World War II windfall taxes have been used to fund post-war recovery and helped to raise substantial revenue. More recently, due to on-going crises such as the pandemic and now inflation crisis, the idea of taxing excess profits has again gained traction. Across the globe, countries have taken steps to introduce windfall taxes in certain

¹⁹³ Ibid at 706f.

¹⁹⁴ More information is provided under Section 4.3.3 Political Support, Call for Pillar 3 for the OECD.

¹⁹⁵ Hebous, Prihardini, and Vernon, 'Excess Profit Taxes: Historical Perspective and Contemporary Relevance', 16; de Luis Iglesias et al., 'Scoping Study of Innovative Sources of International Climate Finance', 29f.

¹⁹⁶ Christians and Diniz Magalhaes, 'The Case for a Sustainable Excess Profits Tax'.; Alternatively, the corporate income tax could also be applied to all profits, this is contingent on what is negotiated and concrete implementation.

¹⁹⁷ Christians and Diniz Magalhaes, 'The Case for a Sustainable Excess Profits Tax', 753.

sectors, including India, Chile or Pakistan. In Europe, several countries have also taken action, including Spain, Greece, Italy, Hungary, Romania, Bulgaria, Czech Republic or the UK.¹⁹⁸

At EU level. On 6 October 2022, the Council of the European Union adopted Council Regulation 2022/1854 with two instruments: **(1) Revenue cap** on electricity generators at minimum of €180 per Megawatt-hour of electricity produced (Art. 6); intermediaries participating in electricity wholesale markets on behalf of producers are also within the scope of the regulation, this also includes renewables or nuclear (Art. 6 (2) and Art. 7 (1)). Any revenue exceeding the cap will be paid to the national governments without altering wholesale energy prices (Art. 9 and 10). However, Member States (MS) can decide to only collect 90% of market revenues exceeding the cap (Art. 7 (5)). **(2)** A windfall profit-like **Mandatory temporary solidarity contribution** on Union companies and permanent establishments with activities in the crude petroleum, natural gas, coal and refinery sectors. The rate shall be at least 33% of the taxable profits, as determined under national tax rules, in fiscal year 2022 and/or 2023, which are above a 20% increase of the average of the taxable profits, in the four fiscal years starting on or after 1 January 2018 (Art. 14ff). While the regulation is directly applicable, MS have some leeway to implement these two types of levies (e.g. they can choose to apply a national measure or the solidarity levy for the 2022 or 2023 fiscal year or both years (see Art. 15)). According to recital 56, the solidarity contribution should be used to financially support final energy customers to mitigate the impacts of high energy prices.¹⁹⁹

Italy. Implemented a special contribution on extra profits on energy companies (electricity, natural gas, and petroleum producers and sellers) in 2022. The tax applies to the difference in added value (according to Italian Value Added Tax rules) for 1 October 2021 to 30 April 2022 and the added value for the same period a year earlier (the incremental added value). Initially set at 25% for 2022, it increased to 35% in 2023 and is non-deductible for corporate income tax.²⁰⁰ Concerns for the tax include its structure by not solely targeting windfall profits due to the incremental added value used for tax base calculations and the impact on companies operating on a hedging basis, which potentially passes financial benefits to other parties not subject to the tax. Some targeted companies have already appealed, hoping the Italian Constitutional Court will annul the tax.²⁰¹ Additionally, a 50% windfall tax applies to companies operating in the extraction, production, importation and distribution of electricity, natural gas or oil products if at least 75% of their 2022 revenue comes from these activities. This tax is on profits that exceed the average profits of 2018-2021 by at least 10%, and it is capped at 25% of the company's net equity at the end of 2021.²⁰²

United Kingdom. Introduced a levy on energy profits in July 2022 that is expected to expire at the end of 2025.²⁰³ It imposes an extra 25% on oil and gas profits, adding to existing taxes (40%, same tax base), raising the total tax rate to 65%. To foster new investments, an 80% investment allowance into the UK oil and gas sector is available as a partial relief from the tax. The levy excludes electricity generation.²⁰⁴

Spain. Introduced a temporary windfall profits tax targeting extraordinary earnings of electricity utility companies in 2022 and 2023. It will now also apply for 2024 and 2025. The tax also extends

¹⁹⁸ Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 9; Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 8; Oxfam, 'Oxfam Media Brief: The Case for Windfall Taxes', 2.

¹⁹⁹ This does not constitute an obligation for MS. More information on national constraints regarding allocation of revenue is provided under Section 4.3.2., Legal Considerations.

²⁰⁰ Alvarado, 'Windfall Profit Taxes Across Europe', 417.

²⁰¹ Ibid at 417f.

²⁰² Ibid at 418.

²⁰³ With the update on the Spring Budget 2024, it was announced that the energy profits levy could be extended until March 2029 (His Majesty's Treasury, 'Spring Budget 2024', accessed 15 July 2024, https://assets.publishing.service.gov.uk/media/65e8578eb559930011ade2cb/E03057752_HMT_Spring_Budget_Mar_24_Web_Accessible__2_.pdf).

²⁰⁴ Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 9; Alvarado, 'Windfall Profit Taxes Across Europe', 421; Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector'.

to the banking sector. The government has adapted the tax, allowing energy companies to deduct certain green investments from their taxable income, though no concessions were made for banks. Despite the launch of appeals by most affected firms against the tax at Spain's National High Court, the government remains confident in the tax's legality.²⁰⁵

Australia. Australia's Petroleum Resources Rent Tax has been in place since 1987. This tax applies to the gas industry and is charged on the extractive activity. The tax is justified by the principle that companies exploiting commonwealth assets, such as gas, should pay a fair share to the government. The levy rate is at 40% and applied to the revenue after accounting for investments in resource extraction. Generally, it has yielded low state revenue and has been difficult to adjust. The Petroleum Resources Rent Tax is not considered a windfall tax as understood by academia, as it does not target unexpected revenue increases but acts as a surcharge on a tax base similar to the corporate tax.²⁰⁶

4.3.3. Political Feasibility

Existing Efforts on a Multilateral Level

Proposal of a Global Levy on Windfall Fossil Fuel Profits. So far, there have been calls for a "Global Windfall Levy", but no concrete initiatives. At the General Assembly in September 2022, the UN Secretary-General António Guterres stressed in his opening remarks that developed countries should tax the windfall profits of fossil fuel companies. The revenue should be directed to countries suffering loss and damages due to climate crisis; and people facing increasing costs of food and energy.²⁰⁷ In 2023, Global Leaders, including more than 50 former Presidents and Prime Ministers and a former UN Secretary-General called on world's leading petrostates to pay a "Global Windfall Levy" to help poorer countries in the combat against the climate crisis in a joint letter sent to the president-elect of COP28. They argue that these states earned \$4 trillion in revenues in 2023 due to high oil prices.²⁰⁸ The already mentioned Global Solidarity Levies Task Force is currently developing and analysing potential new sources of climate finance. A levy on windfall fossil fuel profits may also be considered as a potential source of climate finance (revenue of \$300 billion with a 10% on profits).²⁰⁹

Political Support

This section explores various aspects of political support, this includes (1) to what extent political support already exists, (2) arguments in favour of a levy for windfall fossil fuel profits that could be used to increase political support and (3) issues that may hinder reaching political support and should be mitigated when proposing a levy on windfall fossil fuel profits.

Multilateral Support. Gaining political support for a levy on windfall fossil fuel profits will likely prove a complex endeavour, influenced by various geopolitical and economic considerations.²¹⁰ Adopting a globally uniform levy (option one) would necessitate consensus of all parties involved negotiated in a suitable forum, e.g. under UN auspices under an existing agreement, such as the UNFCCC. However, the feasibility of gathering such large-scale support poses the key challenge to the introduction of such a levy.

In the current environment of very high fossil fuel prices due to Russia's war of aggression against the invasion of Ukraine and the conflict in the Middle East, a levy on windfall fossil fuel profits may

²⁰⁵ Jopson, 'Spain Extends Windfall Tax on Banks and Energy Companies'; Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 9.

²⁰⁶ Greggi and Miotto, 'Windfall Profit Taxation in Europe (and Beyond)', 4f.

²⁰⁷ United Nations, "'Our World Is in Big Trouble", Secretary-General Warns General Assembly, Urging Member States to Work as One United Nations'.

²⁰⁸ The Office of Gordon and Sarah Brown, 'Press Release: Global Leaders Call for \$1 Trillion to Plan to Ease Damage in Global South'.

²⁰⁹ Pötter, 'Auf Der Suche Nach Neuen Geldquellen: Taskforce Bereitet Konzepte Für Globale Klimasteuern Vor'.

²¹⁰ IV E6

seem more justifiable than before.^{211 212} These large amounts of profits occur due to unusual favourable circumstances for the industry.²¹³ Many extracting countries such as Angola, Canada or Nigeria already have an instrument in their upstream fiscal regime targeting economic rents.²¹⁴ Some extracting countries may argue that they already tax resources as much as they can, and a further increase could lead to local economic damage.²¹⁵ However, the key to a successful adoption and potential high revenue flows from a levy on windfall fossil fuel profits is the support of significant fossil fuel extracting states as economic rent usually originates from upstream activities such as extraction. This includes Canada, the US, the UK, Russia, the Gulf States or China, but also Norway.²¹⁶ Countries like Iran, Russia, and the United States might find little incentive to adopt a levy on windfall fossil fuel profits, some may have a less adaptive fiscal regime or face constitutional constraints to implement such a levy. It will be essential to have the support of extracting countries in the Northern Hemisphere such as the UK, Norway, or potentially Canada and Australia at an early stage to underline the legitimacy of the initiative.²¹⁷

An additional layer of complexity and administrative burden is determining windfall profits in different countries. It will be difficult to reach consensus on the methodology of calculating windfall profits at international level. As discussed, there are different options to determine windfall profits, for example compare the change of global commodity price or refer to and analyse excess profits made in each country at national level.²¹⁸

Fiscal Instruments related to economic rents. As outlined above, many countries already have fiscal instruments targeting economic rents in their upstream fiscal regimes. For instance, Norway implements a special petroleum tax, while some developing countries use progressive R-factor-based production sharing.²¹⁹ Others, like Angola and Australia employ rate-of-return-based fiscal measures. Additionally, countries including Canada, Nigeria, and Trinidad and Tobago adjust tax rates or royalties based on commodity prices. However, some countries, like the United States, have less adaptive fiscal regimes to profit surges in place.²²⁰

Call for Pillar 3 for the OECD. Christians introduces the concept of a third pillar in the OECD's framework on taxing a digitalized economy. The scholar proposes a global excess profits tax (GEP tax) as a corporate surtax applied in addition to the existing corporate income tax (similar to option 2a).²²¹ The proposal builds on the existing two-pillar approach of the OECD and introduces a stabilizing element that addresses excess profits. To calculate the tax base, scholars outline to rely on already existing resources, in particular the country-by-country (CbC) reporting²²² which enables the

²¹¹ Cooban, 'Here's How the Israel-Iran Conflict Affects the Oil Market'.

²¹² IV E6

²¹³ Wemaere, Vallejo, and Colombier, 'Financing Loss and Damage: Overview of Tax/Levy Instruments under Discussion', 4.

²¹⁴ Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 8.

²¹⁵ IV E6

²¹⁶ Ritchie, Rosado, and Roser, 'Fossil Fuels'; U.S. Energy Information Administration, 'International Rankings - Total Energy Production'.

²¹⁷ IV E1

²¹⁸ IV E6

²¹⁹ Production sharing contracts are agreements between a government and a resource extraction company, where profits from the production of resources like oil or gas are divided between the parties, typically after the company has recovered its costs. In a progressive R-factor based production sharing, the division of profits between the government and the company adjusts based on the R-factor, which is the ratio of revenue to expenses. As this ratio increases—indicating greater profitability—the government's share of the profits also increases, ensuring that the benefits from the resource extraction are more favourably balanced towards the "host" country as revenues rise. (International Monetary Fund, *The Taxation of Petroleum and Minerals*, chap. 2.)

²²⁰ Baunsgaard and Vernon, 'Taxing Windfall Profits in the Energy Sector', 8.

²²¹ Tax Notes, 'Pillar 3 for the OECD: A Global Excess Profits Tax. Interview with Allison Christians'.

²²² CbC reporting, BEPS action 13, is a key BEPS measure, requiring MNEs with annual consolidated group revenue of EUR 750 million or more to report information on their activities in each country where they operate.

calculation of global profits earned by large MNEs over recent years. The OECD/G20's Inclusive Framework is suggested as the appropriate platform to harmonize and administer this concept at an international level.²²³

Efficient Fossil Fuel Pricing and Implicit Subsidies. An IMF study from 2021 provides a comprehensive overview of efficient fossil fuel prices at global, regional and national level, reflecting environmental and supply costs. It also discusses explicit and implicit subsidies resulting from charging less than these efficient prices.²²⁴ 'Explicit subsidies' include undercharging for supply costs and direct financial support to energy producers, 'implicit subsidies' are defined as undercharging for environmental costs (externalized environmental damage) and lost consumption taxes if externalized costs are excluded from the consumption tax base.²²⁵ The study outlines that the large majority of subsidies, 92 %, reflects undercharging for implicit subsidies, while only 8% cover explicit subsidies. According to the study's estimations, efficient fuel pricing in 2025 could cut global CO₂ emissions by 36%, align with the 1.5°C warming target, raise revenues worth 3.8% of global Gross Domestic Product (GDP), and prevent 0.9 million air pollution deaths annually.²²⁶ The authors highlight that setting fossil fuel prices efficiently is a well-established principle and that fiscal instruments are crucial for addressing the significant environmental impacts of fossil fuel use.²²⁷

Levying Unsustainable Profits Away. Building on the IMF study from 2021, Christians and Diniz Magalhaes make the case to tax away unsustainable profits: They suggest distinguishing between sustainable profits, where costs are internalized and unsustainable profits, where costs are externalized. Scholars argue that the profit resulting from unsustainable practices fails to account for the full present and future costs, therefore these profits are rather windfalls gained at the expense of current and future taxpayers and should be taxed away.²²⁸ Innovative solutions are essential to target the profits of those who continue to gain windfalls through cost externalization, thereby reinforcing the "polluter pays" principle instead of the "consumer pays," "user pays," or "victim pays" principles. The development of advanced tools, such as life cycle assessments (LCA), may be promising new methods to measure the full cost of unsustainable business practices. Implementing the LCA in the income tax could enable to identify profits gained from externalized environmental damage and favours a fundamental purpose of income tax to accurately measure profit.²²⁹ Experts outline that generally all windfall fossil fuel profits are unsustainable, however societies (currently) heavily rely on fossil fuels.²³⁰ Their environmental impacts/externalized costs are not addressed in current fossil fuel prices or fiscal instruments. Fiscal instruments such as a windfall profits tax are a cost-effective way to account for windfall profits taken from present and future taxpayers as environmental and social costs are offload on the public. Levying windfall fossil fuel profits contribute to transition away from fossil fuels and achieving global climate targets.²³¹

Allocation of Revenue for Climate Finance. Traditionally, revenues from windfall profit taxes have been used for domestic projects due to crises, their extension to support international climate finance initiatives is less straightforward. Experts outline that such revenues could be directed towards projects specifically designed to address the impacts of climate change, such as those aiming

²²³ Christians and Diniz Magalhaes, 'It's Time for Pillar 3', 2ff; Tax Notes, 'Pillar 3 for the OECD: A Global Excess Profits Tax. Interview with Allison Christians'.

²²⁴ Parry, Black, and Vernon, 'Still Not Getting Energy Prices Right: A Global and Country Update of Fossil Fuel Subsidies'.

²²⁵ Ibid at 8.

²²⁶ Ibid at 2.

²²⁷ Ibid at 6.

²²⁸ Christians and Diniz Magalhaes, 'The Case for a Sustainable Excess Profits Tax', 697ff.

²²⁹ Ibid at 701f and 734.

²³⁰ IV E9

²³¹ Ibid.

to avert, minimize, and manage the loss and damage caused by climate-related events.²³² However, using revenue for international climate finance instead of funding domestic projects where taxes have been raised can lead to substantive opposition from various stakeholders, including the private sector, governments and the general public.²³³ To gain support, it could be beneficial to introduce a mechanism where only a small (progressive) percentage of revenue mobilised is directed to international climate finance.

Involvement of Experts and Stakeholders. Some experts highlight the value of engaging and consulting with finance and energy ministers, in particular including the Vulnerable Twenty (V20) Group (Climate Vulnerable Forum). Initiatives for consultations of finance ministers at international level already exist: The Coalition of Finance Ministers for Climate Action²³⁴ brings together fiscal and economic policymakers from approximately 90 countries to ensure a fair transition toward low-carbon, resilient development. Nine countries of the Climate Vulnerable Forum are members to this Coalition (as of October 2023). The involvement of expert groups in establishing criteria to independently assess windfall fossil fuel profits and determine if they are excessive or not could also be beneficial to move such an initiative forward.²³⁵

Socio-Political Aspects

Climate Justice and Fairness. A windfall tax can enhance fairness by skimming off profits that are not offset by entrepreneurial risk. It is an additional benefit that these profits were generated through fossil fuels, which are a primary contributor to climate change. The revenue mobilised could support vulnerable groups and international climate finance.

Supporting the Equity Principle. In the context of a levy on windfall fossil fuel profits, the equity principle has two dimensions: (1) horizontal equity, firms with similar cost bases and operational features should be taxed in the same way, aimed at ensuring fairness across companies. (2) Vertical equity, as companies and permanent establishments with activities in the natural gas, crude petroleum, refinery, and coal sector benefiting from high energy prices, should bear a higher tax burden.²³⁶

Addressing common-but-differentiated responsibility and respective capabilities to increase social and political acceptance. According to Pirlot questions regarding the compatibility with CBDR-RC may arise if a climate club introduces carbon border adjustment measures alongside the levy, particularly in the event that tariffs, and carbon border adjustment mechanisms are applied indiscriminately to products from both developed and developing countries.^{237 238} However, it is important to note that the legal implications of CBDR-RC are (often) unclear, in particular as it primarily addresses differentiation of obligations among countries – especially in a UNFCCC context – rather than the impacts of measures such as levies.

4.3.4. Revenue Mobilisation

Available estimations of the revenue mobilisation of a levy on windfall fossil fuel profits at international level are limited. The potential revenue from such a levy is contingent on its design, in particular tax base, rate and number of entities affected as well as market conditions. Therefore, these estimations highly depend on the parameters of such a levy and how these estimations are calculated

²³² Greno et al., 'International Finance for Loss and Damage Associated with Climate Change Impact - Final Report', 168; de Luis Iglesias et al., 'Scoping Study of Innovative Sources of International Climate Finance', 29.

²³³ de Luis Iglesias et al., 'Scoping Study of Innovative Sources of International Climate Finance', 29f.

²³⁴ The Coalition of Finance Ministers for Climate Action, 'The Coalition of Finance Ministers for Climate Action: Member Countries'.

²³⁵ de Luis Iglesias et al., 'Scoping Study of Innovative Sources of International Climate Finance', 55.

²³⁶ Michail, 'Europe's High Energy Costs: The Case for a Resource Rent Tax', 2f.

(e.g., considering aspects such as behavioural changes due to the introduction of such a levy, tax avoidance and profit shifting etc.).

At global level, Oxfam outlines that in 2020 and 2021, the profits of the world's 1000 largest companies, as listed in the Forbes Global 2000, increased by 68.5%, totalling an excess of \$1.15 trillion over the pre-pandemic average.²³⁹ Oxfam proposes a 90% windfall tax on these companies, potentially generating over \$1000 billion globally.²⁴⁰ However, these numbers include companies outside the fossil fuel sector. For the fossil fuel industry, it has been stated that revenues increased from \$1.5 trillion a year pre-Covid to \$4 trillion in 2022,²⁴¹ resulting in \$2.5 trillion of windfall profits. Global former leaders proposed a levy of \$25 billion to be just (around 1 % of 2022's windfall revenues) to initiate an investment program in the Global South and see high oil and gas prices as the root cause for the increase of extreme poverty.²⁴²

For **option 1**, a **near-global implementation**, the following illustrative calculation considers that the average revenues accounted for \$1.5 trillion a year pre-COVID and that windfall profits start at 22%²⁴³ above this average as outlined by Christians. In this scenario, for the fiscal year of 2022, windfall profits would begin at \$1.83 trillion. Therefore, windfall profits would have amounted to \$2.17 trillion. Employing a levy rate of 33% (similar to the EU approach for its temporary solidarity levy) results in a revenue generation of about \$716 billion. If design option 1 aims for a more ambitious levy rate of 50%, this results in a potential revenue mobilisation of around \$1.09 trillion for 2022. These numbers apply to the global oil and gas industry's profits in the fiscal year of 2022. However, these numbers are purely explorative and only provide an indication. They are based on a broad set of assumptions and do not reflect the potential revenue mobilized, as these calculations do not account for factors such as enforcement issues, avoidance and other necessary deductions such as changing market conditions. For **option 2**, calculations and estimations are based on a **coalition of the willing** assuming it comprises all EU MS (given the precedent of a temporary solidarity contribution), extracting countries and members to the Global Solidarity Levy Taskforce (Brazil and Colombia), as well as some more major fossil fuel extracting countries (Canada, UK, Norway and Australia). For these purposes, based on the data from the Forbes Global 2000 List profits was extracted for companies²⁴⁴ operating in the oil and gas industry and whose headquarter is in any of the countries that are member to this potential coalition of the willing. Note that while levying at national level is desirable, data with the necessary granularity was not accessible. Profits of permanent establishments of other companies operating in these countries were not included in these estimations. This scenario presumes that alongside the levy on windfall fossil fuel profits, GloBE rules (in particular the income inclusion rule) will be adopted. The average fiscal profit was determined for the four years pre-COVID (2016-2019) compared to the profits in 2023.²⁴⁵ The calculation method for windfall profits is the same as of option 1. Profits of all respective companies amounted to \$211 billion in 2023, the average profit pre-COVID (2016-2019) amounts to \$33 billion. Windfall profits would amount to \$170 billion and applying a levy rate of 33% results in a potential revenue mobilisation of around \$56 billion for the fiscal year 2023. Again, these numbers are exploratory estimations and may give an indication of potential revenue mobilisation under such a coalition of

²³⁹ Oxfam, 'Oxfam Media Brief: The Case for Windfall Taxes', 1ff.

²⁴⁰ Ibid.

²⁴¹ Adomaitis, 'Oil and Gas Industry Earned \$4 Trillion Last Year, Says IEA Chief'; IEA, 'World Energy Investment 2023'.

²⁴² The Office of Gordon and Sarah Brown, 'Press Release: Global Leaders Call for \$1 Trillion to Plan to Ease Damage in Global South'.

²⁴³ More details are provided under Section 4.2.2, Windfall Profits and Tax Base.

²⁴⁴ These companies include BP, Canadian Natural Resources, Cenovus Energy, Ecopetrol, Eni, Equinor, Harbour Energy, Hellenic Petroleum, OMV Group, Petrobras, Repsol, Shell, Suncor Energy, TotalEnergies, Tourmaline Oil, Var Energi ASA, Woodside Energy Group.

²⁴⁵ However, there was no data available for Tourmaline Oil, Var Energy ASA and Harbour Energy for the fiscal years 2016-2019 in the Forbes dataset. In addition, for Shell and Hellenic Petroleum the average profits from 2016-2019 only include data from the years 2017 and 2018 for Hellenic Petroleum and 2018 and 2019 for Shell.

the willing, however relevant factors such as profit shifting or changing market conditions are not reflected in these numbers.

Regarding the solidarity contribution at EU level, the estimated revenue from the temporary solidarity contribution for the sample firms is €4.4 billion based on profit data from 2021.²⁴⁶ However, the revenue raised as outlined in a report by the European Commission in 2023, does not reflect those estimations. In 2023, the European Commission published a report presenting findings on the review of the implementation of Chapter III of the Council Regulation (EU) 2022/1854. It indicates that, as of September 12, 2023, the estimated proceeds from the solidarity contribution reported by 12 Member States²⁴⁷ for the fiscal year 2022 is about €18 billion. A few Member States²⁴⁸ reported that they either do not have any companies within the scope of the solidarity contribution or do not expect to generate any or significant revenue. Some Member States²⁴⁹ will only apply the Council regulation for the fiscal year of 2023.²⁵⁰

Generally, in this context it is important to again outline that some scholars refer in this context to volatility of the energy sector's business cycle: Energy companies may experience substantial profits in some years, while in others they may incur significant losses.²⁵¹ This highlights the difficulty of defining "windfall profits", the (potential) pushback from the fossil fuel sector and what is considered a just levy.

4.4. Levy on Plastic Polymers / Hydrocarbon Plastics

A levy on plastic polymers/hydrocarbon plastics is a levy imposed on the production of plastic polymers. Polymer is a key element in the production of plastics.²⁵² The levy represents a fiscal mechanism with the aim of raising funds and could potentially contribute to reducing plastic production. A global levy can thus be considered as a first step internalizing the external costs of plastic production from fossil feedstocks as well as litter (micro-plastics), now being largely ignored in the debate on international climate and environmental policies.²⁵³

Since the 1950s, plastic production has increased exponentially from 2 million tons to 400 million tons in 2022.²⁵⁴ From 2019 to 2060, plastic use is expected to almost triple.²⁵⁵ The use of plastics has grown significantly faster than the global GDP and is anticipated to continue increasing.²⁵⁶ Oil and natural gas supply the resources needed to produce fossil fuel-based plastics, commonly referred to as virgin plastics. Alternative methods of producing plastics involve using biomass (bioplastics) and recycled plastics (recyclate) as a resource. However, the global share of bioplastics is currently smaller than 1%.²⁵⁷

²⁴⁶ Nicolay et al., 'The Effectiveness and Distributional Consequences of Excess Profit Taxes or Windfall Taxes in Light of the Commission's Recommendation to Member States', 12.

²⁴⁷ Belgium, Bulgaria, Germany, France, Greece, Spain, Hungary, Ireland, Italy, Romania, Slovenia, Slovakia.

²⁴⁸ This includes Latvia, Luxembourg, Finland, Croatia or Malta.

²⁴⁹ Czech Republic, Cyprus, Denmark, Italy, Lithuania.

²⁵⁰ European Commission, 'Report on Chapter III of Council Regulation (EU) No 2022/1854 of 6 October 2022 on an Emergency Intervention to Address High Energy Prices: Solidarity Contribution and Enacted Equivalent Measures: Stocktaking'.

²⁵¹ Bray and Weigel, 'The EU's Windfall Profits Tax: How "Tax Fairness" Continues to Get in the Way of Energy Security'.

²⁵² British Plastics Federation. 'How Is Plastic Made? A Simple Step-By-Step Explanation.'

²⁵³ Minderoo Foundation. 'The Polymer Premium: A Fee on Plastic Pollution.'

²⁵⁴ Statista. 'Annual production of plastics worldwide from 1950 to 2022.'

²⁵⁵ OECD. 'Plastics use projections to 2060'.

²⁵⁶ Walker and Fequet. 'Current trends of unsustainable plastic production and micro(nano)plastic pollution.'

²⁵⁷ Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on 29th of May.

The most significant environmental damage caused by plastic is pollution, especially the formation of large accumulations in the oceans known as the 'plastic soup', and the emission of CO₂.²⁵⁸ At EU level, the European Commission's 'Strategy for Plastics in a Circular Economy' calls for reducing the overall amount of plastic used, as well as increasing both the reuse and recycling of the remaining plastic.²⁵⁹ At global level, "plastic pollution fee" is currently being discussed in the context of the intergovernmental negotiating committee on plastic pollution (INC) that is foreseen to conclude its work by the end of 2024.²⁶⁰

4.4.1. Key Design Options

The first design option, a **global implementation** of such a levy, requires large-scale international cooperation. All parties involved would need to agree on the design and parameters of the levy at an international level. Politically, a global implementation will be challenging as there is strong resistance towards a polymer levy by some major polymer producing countries.²⁶¹ However, from a practical standpoint, a global implementation could certainly be feasible as the number of global polymer producers is manageable and the risk of competition distortion in this global scope can be considered minimal.²⁶²

An alternative to global implementation is a **plurilateral and voluntary approach**. In this scheme, a 'coalition of the willing' is formed, with each participating nation imposing a levy on domestic polymer production within its own jurisdiction. Negotiations with these voluntary participants could result in a more ambitious design and faster implementation compared to a global strategy. However, a voluntary approach might harm the level playing field for producers within the coalition compared to those outside the coalition and will have, to some extent, distortional effects on the international polymer market.²⁶³ To ensure the success of a plurilateral implementation, competitiveness issues must be addressed.

For both design options, starting the levy low and gradually increasing the (minimum) tariff, along with reinvesting revenue into local communities or industries, can enhance political feasibility by easing market adaptation and ensuring compliance.²⁶⁴

4.4.2. Technical Feasibility

Complexity of National and Global Implementation

Legal Incidence. There are several fiscal connections in the plastic production process where a levy can be imposed. The plastic production process is shown in Figure 1.

²⁵⁸ Centraal Planbureau. 'The Circular Economy of Plastics in the Netherlands.'

²⁵⁹ Powell. 'The price is right... or is it? The case for taxing plastic.'

²⁶⁰ United Nations Environment Programme. 'Revised draft text of the international legally binding instrument on plastic pollution, including in the marine environment.'

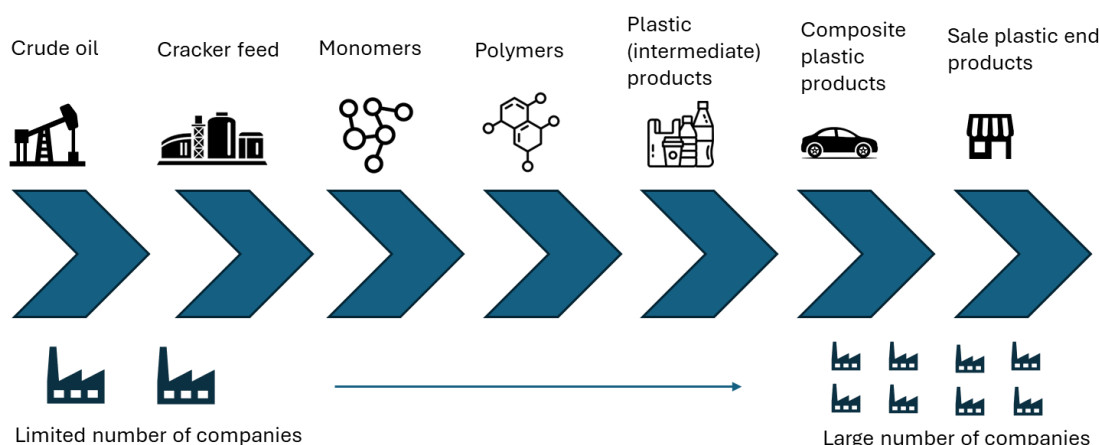
²⁶¹ IV C2.

²⁶² Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on May 29th.

²⁶³ CE Delft. 'Nationale heffing op virgin plastics.'

²⁶⁴ European Environmental Bureau. 'Circular Taxation.'

Figure 1. The production process of plastics.²⁶⁵



In the more upstream production process (i.e. production of crude oil, cracker feed, monomers and polymers) the number of companies involved is relatively limited. Therefore, a levy is probably easiest to implement at this stage of the production process, as the number of companies involved increases further down the value chain, making it administratively more complex to enforce and collect the levy.²⁶⁶ Another advantage of a levy in the upstream process is that the product is homogeneous and therefore easily measurable.²⁶⁷ When considering a levy on crude oil, cracker feed and monomers, a major disadvantage is that these materials are also used for applications other than plastics (monomers are for example also used in cosmetics and antifreeze) meaning that it must be administratively known what part of production will eventually be used to make plastics.²⁶⁸ Further downstream, for example in consumer goods, the tax base is more difficult to determine as consumer goods may be a mixture of plastics and other materials. Measuring the amount of plastics in consumer goods can be challenging.²⁶⁹ Considering the above, the most suitable fiscal connection in the production process for imposing a levy on polymer production (i.e. polymer producers) may be in the upstream process, as the number of polymer producers is limited, the product is easily measurable and solely used for plastic production. Imposing the levy on the production of plastic polymers is also consistent with the polluter pays principle. Primary polymers are the source of plastic production and, hence, pollution.²⁷⁰

Global Distribution of Polymer Production Capacity. In May 2024, the global polymers production capacity equalled 444 million tonnes per year.²⁷¹ Figure 2 shows the distribution of polymer production capacity by region.²⁷² The Asia Pacific region accounts for more than half of the global polymer production capacity. Other big polymer producing regions are North America, Europe and the Middle East. South America, Africa and Australia together produce only 4% of yearly produced polymers worldwide.²⁷³

²⁶⁵ CE Delft. 'Nationale heffing op virgin plastics.'

²⁶⁶ Ibid.

²⁶⁷ Ibid.

²⁶⁸ Ibid.

²⁶⁹ Ibid.

²⁷⁰ Minderoo Foundation. 'The Polymer Premium: A Fee on Plastic Pollution.'

²⁷¹ Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on May 29th.

²⁷² Ibid.

²⁷³ Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on May 29th.

Figure 2. Distribution of polymer production capacity by region.²⁷⁴

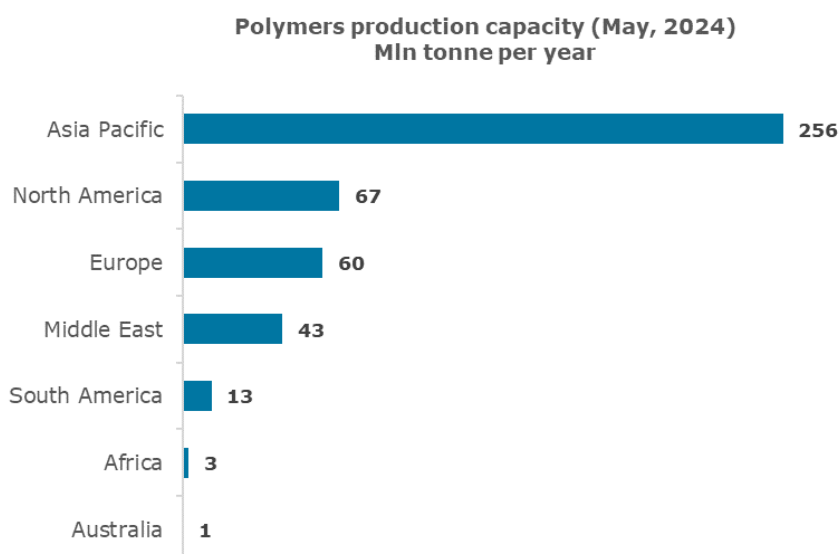
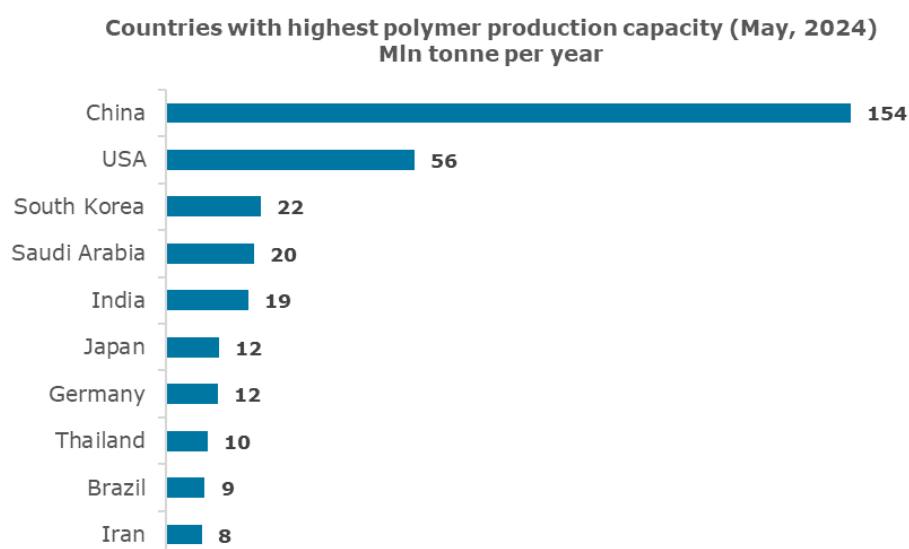


Figure 3 shows the ten biggest polymer producing countries. China is globally the biggest polymer producer and accounts for 35% of the global polymer production capacity. Other big polymer producing countries in the Asia Pacific region are South Korea, India, Japan and Thailand. In North America, the United States are the biggest polymer producing country and accounts for 13% of the global polymer production capacity. In Europe, polymer production is more spread over several countries: Germany is the biggest polymer producing country, with Belgium, Netherlands, France, Spain, Italy, Turkey and Poland as other big producers. In the Middle East, production is concentrated in Saudi Arabia, Iran and to a smaller extent in the United Arab Emirates. In South America, production is mostly concentrated in Brazil.²⁷⁵

Figure 3. Countries with highest polymer production capacity.²⁷⁶



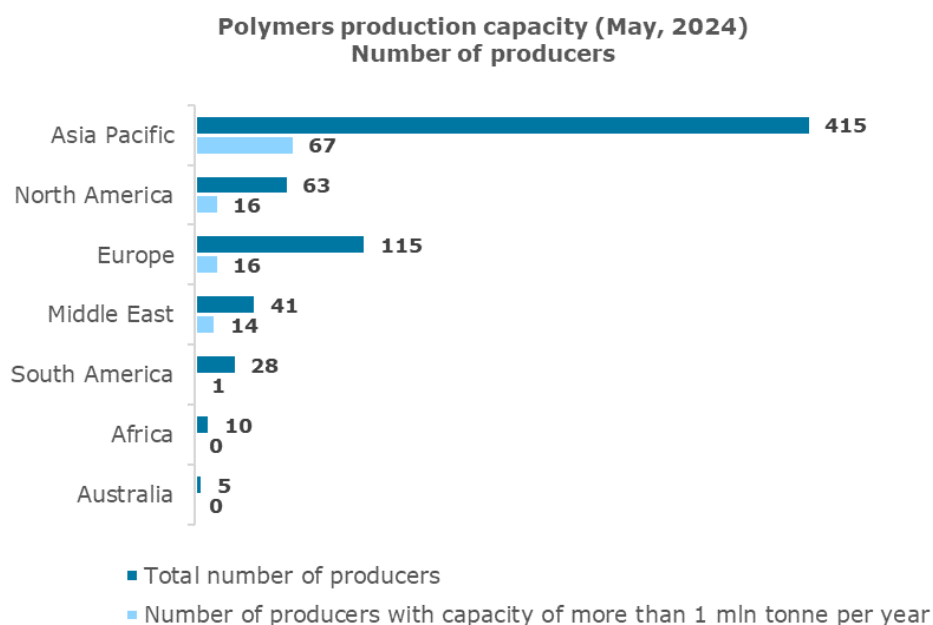
²⁷⁴ Ibid.

²⁷⁵ Ibid.

²⁷⁶ Ibid.

Worldwide, there are 677 companies involved in the production of polymers.²⁷⁷ This includes small and large producers. When considering only polymer producers with a capacity higher than 1 million tonnes per year, the number of producers decrease from 677 to 114.²⁷⁸ The regional distribution of producers is shown in Figure 4. Note that the number of producers is not equal to the number of production plants. Larger polymer producers typically operate multiple production plants. For example, the biggest global polymer producer, Sinopec, has more than 100 production plants.²⁷⁹

Figure 4. Number of polymer producing companies by region.²⁸⁰



Tax Base. Polymers are produced in large quantities in granular or powder form, making either volume (tonnes) or value (price) per unit of polymers a suitable tax base.²⁸¹ The advantage of a levy based on value is that the levy is automatically adjusted by inflation.²⁸² The disadvantage of basing the levy on the value per unit of polymers as a tax base is that it may vary depending on (local) market conditions. This makes value as a tax base more susceptible to fraud.²⁸³ Volume is not volatile and therefore more predictable in terms of revenue forecasts (more legal certainty). However, it would need to be periodically adjusted for inflation, which might call for renewed negotiations on future adjustments between participating countries.²⁸⁴

Worldwide, mechanically recycled polymers account for 8.9% of total plastic production.²⁸⁵ Chemically recycled and biobased polymers together account for less than 1% of total plastics production.²⁸⁶ Recycled and biobased polymers could be excluded from the tax base, in order to incentivize producers to use more recycled or biobased polymers in their production process.²⁸⁷ In this scenario, it would be essential to determine the extent to which (chemically) recycled monomers and recycled

²⁷⁷ Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on May 29th.

²⁷⁸ Ibid.

²⁷⁹ Ibid.

²⁸⁰ Ibid.

²⁸¹ CE Delft. 'Nationale heffing op virgin plastics.'

²⁸² Zero Waste Europe. 'Research paper on a European tax on plastics.'

²⁸³ CE Delft. 'Nationale heffing op virgin plastics.'

²⁸⁴ Ibid.

²⁸⁵ Plastics Europe. 'Plastics – the fast facts 2023.'

²⁸⁶ Ibid.

²⁸⁷ Ibid.

polymers are used as inputs. It should be possible to differentiate mechanically recycled polymers from virgin polymers, as they originate from different markets with different pricing.²⁸⁸ Several large producers market their plastics as "certified bio-based."²⁸⁹ These producers incorporate a percentage of biomass into their production process. The percentage of biomass added determines the proportion of the resulting plastics that are certified as "renewable."²⁹⁰ The challenge of excluding recyclables and biobased plastics from the tax base is its implementation on a global scale, as an international certification system needs to be put in place which brings additional administrative complexity.²⁹¹

To limit the number of polymer producers and countries that are subject to the levy, it would be possible to establish a minimum production volume threshold. As illustrated in Figure 4, setting such a threshold (e.g. 1 million tonnes per year) would reduce the number of entities that are subject to the levy.²⁹² Also, the number of countries that are subject to the tax would be significantly reduced.²⁹³ Possibly, larger producers have more means to administer, thereby simplifying its implementation. A minimum production volume threshold could also have adverse effects. Producers may artificially stay below the production volume threshold or split the company into different entities to avoid the tax. This would require additional enforcement.

Economic Incidence. The economic incidence (i.e. the effect of a particular tax on the distribution of economic welfare) depends on the level of the tax and the extent to which consumers respond to price changes (also known as price elasticity). If price elasticity is elastic (i.e. greater than 1), demand for polymers will be reduced significantly by a levy and polymer producers will be unable to pass the tax on to consumers.²⁹⁴ If price elasticity is inelastic (i.e. smaller than 1), price changes do not affect demand for polymers as much and a tax can generally be passed on to consumers. If the primary aim of a levy is to raise revenues, elastic demand for plastic could erode the tax base and reduce raised revenues as demand for polymer lowers due to the levy.²⁹⁵ Conversely, the more elastic the demand, the lower the tax rate needed to achieve a specific reduction in demand, making environmental taxes more effective.²⁹⁶

Existing literature does not provide robust estimates on the price elasticity of demand for polymers. However, there are high-level studies that assess the price elasticity of plastic products and behavioural responses to plastic (packaging) taxes. For instance, in the state of Washington (United States), the demand for plastic water bottles was found to be inelastic as there are no substitutes for Polyethylene Terephthalate (PET) water bottles.²⁹⁷ In South Africa, the price elasticity for plastic bags was high in the short term, reflecting an initial "overreaction" to paying for a product that was previously free. However, this elasticity decreased over time as tax rates were not high enough to sustain the initial response.²⁹⁸ In the Netherlands, the evaluation of the packaging tax for the period 2008-2010 revealed that this tax had minimal impact on reducing the use of plastics. One of the main reasons was that price increases could be easily passed on to consumers. Passing on the packaging tax (€0.43 to €0.48 per kg) resulted only in a modest increase (1 to 3%) of consumer prices.²⁹⁹

Although the above examples focus on price elasticity of plastic packaging, it does provide insights that can be applied to the case of polymers. In the examples given above, taxes on plastics did not

²⁸⁸ Ibid.

²⁸⁹ Molenveld, K. & Bos, H. 'Biobased Plastics 2020.'

²⁹⁰ Ibid.

²⁹¹ CE Delft. 'Nationale heffing op virgin plastics.'

²⁹² Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on May 29th.

²⁹³ Ibid.

²⁹⁴ Zero Waste Europe. 'Research paper on a European tax on plastics.'

²⁹⁵ IV C4.

²⁹⁶ Ibid.

²⁹⁷ Berck. 'Measuring Consumer Responses to a Bottled Water Tax Policy.'

²⁹⁸ Dikgang, Leiman and Visser. 'Elasticity of demand, price and time: Lessons from South Africa's plastic-bag levy.'

²⁹⁹ CE Delft. 'Nationale heffing op virgin plastics.'

lead to significant reductions in demand. If the levy is fully passed on to consumers, the final product price change is still minor as the costs of raw materials often only represent a small portion of the final product price.³⁰⁰ Given the inelasticity of demand for plastics and the fact that the costs of polymers are just a fraction of final consumer prices, consumers will probably end up absorbing most of the tax burden, rather than producers or intermediaries.³⁰¹

Tax Avoidance. Tax avoidance, i.e. the use of legal methods to reduce tax liability, presents a significant challenge to safeguard the tax base. If the levy is not implemented globally, the level playing field is affected which might lead to potential shifts in production processes to other countries.³⁰²

If the levy is applied globally (design option 1), all countries would experience the same price increase. Although the impact on producers may vary depending on their economic conditions (with the levy constituting a larger proportion of the total price in regions with lower fuel costs), it is unlikely to result in a significant extent of competition distortion or production leakage.

In the case of an implementation on a plurilateral level (option 2) the production costs of polymers may increase in countries where the levy is imposed, potentially affecting the level playing field for these producers.³⁰³ Producers or plastic manufacturers might have economic incentive to import feedstock or polymers from countries without the levy, or might shift production (production leakage) or new investments (investment leakages) to other countries.³⁰⁴ Production and/or investment leakage mitigate positive environmental effects from the taxation scheme (i.e. reduction of plastics from fossil feedstocks) and reduces expected revenues raised with the levy. Moreover, if the levy is imposed on a plurilateral level, the issue of production leakage may prevent countries from imposing the levy. Therefore, a levy imposed on a plurilateral level should be accompanied by complementing measures border tax adjustments on imports and, ideally, also tax exemptions/redemptions on exports to ensure a fair competition framework.³⁰⁵ If the levy is initiated at a broader international level, the notion of a (Climate) Club, as described in general consideration (Section 4.1), could safeguard the level playing field for countries imposing the levy.³⁰⁶

Levy Rate. General considerations on setting a levy rate are addressed in 4.1. When it comes to the level of the rate of a potential levy on plastic polymer, several choices need to be made. First, the levy rate could be differentiated between developed and developing countries, addressing CBDR-RC.³⁰⁷ A reduced levy rate could mitigate the adverse effects on economic development in less developed regions.³⁰⁸ However, varying the levy affects the competitive balance for producers globally and poses the risk of companies shifting production to countries with lower fees. Instead, differentiation can for example be achieved by allocating a larger portion of the revenues to developing countries. Therefore, an equal levy across geographies is recommended.³⁰⁹

Secondly, the levy rate depends on the primary objective of the levy. If the levy is primarily used as a financing instrument, the rate should be set at a level to meet the resource needs of the instrument. If the levy is to act as an economic instrument to reduce polymer production, encouraging a substantial shift in market behaviour and promoting a transition from primary plastic polymer production to the production of recycled and sustainable biopolymers, the levy rate should take market

³⁰⁰ Minderoo Foundation. 'The Polymer Premium: A Fee on Plastic Pollution.'

³⁰¹ CE Delft. 'Nationale heffing op virgin plastics.'

³⁰² Zero Waste Europe. 'Research paper on a European plastic tax.'

³⁰³ CE Delft. 'Nationale heffing op virgin plastics.'

³⁰⁴ Van Voss. 'Zowel ontkennen als opblazen weglek helpt niet bij afbouw fossiele subsidies.' ESB.

³⁰⁵ Ibid.

³⁰⁶ CE Delft. 'Nationale heffing op virgin plastics.'

³⁰⁷ Minderoo Foundation. 'The Plastic Pollution Fee.'

³⁰⁸ Minderoo Foundation. 'The Plastic Pollution Fee.'

³⁰⁹ Ibid.

dynamics into account to effectively induce the desired behavioural change.³¹⁰ As demand for polymers could well be inelastic (see paragraph on tax incidence), behavioural changes caused by a globally introduced levy are only possible (if at all possible) when the levy significantly increases the price of polymers.³¹¹

Different proposals on the rate of a levy on polymers already exist. In advance of the second Inter-governmental Negotiating Committee, the Nordic Council of Ministers proposed a levy in the range of US\$1.000 to US\$2.000 per tonne by 2040, depending on the region. Revenues would be used to 'fund solutions across the plastic lifecycle'. The Minderoo Foundation (2024) calculated that a much smaller levy of US\$60 to US\$90 per tonne, redistributed to developing countries, would generate enough revenues to end plastic pollution in the developing world (e.g. costs associated with Extended Producer Responsibility schemes and waste management infrastructure).³¹²

Payment and Collection Process. Existing literature does not address the payment and collection process for a levy on polymer production. As payment and collection processes are relevant for all assessed instruments, some aspects are elaborated in Section 4.1., Payment and Collection Process.

Precedents at National and Regional Level

So far, no national or multilateral examples of levies on plastic polymers exist. However, further down the supply chain, countries have imposed taxes on for example single-use plastics and packaging waste.

New 'EU Plastic Contribution'. The EU's Plastics Own Resource (Council Decision 2053/2020) is an example of supranational efforts to contribute funds based on non-recycled plastic waste. The EU's Plastics Own Resource Regulation came into force on the 1st of January 2021. It is a national contribution to the EU budget, based on the amount of non-recycled plastic packaging waste the Member State generates. The national contribution is set at a rate of €0.80 per kilogram of non-recycled packaging waste. Member States are not obliged to introduce national plastic taxes, they may also pay the contribution from their own general budget. Estimations are that the EU Plastics own resource could generate €6 to 8 billion each year, which is not earmarked and goes straight into the EU general budget.³¹³ The policy aims to reduce plastic waste and stimulate the use of recycled materials in the production process.³¹⁴

Since the introduction of the EU's Plastics Own Resource, Spain, Italy, Portugal and Germany have introduced or are in the process of introducing new plastic taxes.³¹⁵ Spain set a tax of €0.45 per kilogram of non-recycled plastic packaging. Portugal set a rate of €0.30 per kilogram.³¹⁶ The tax is paid by manufacturers or importers of plastic products. Other Member States (MS) are currently paying the contribution from the state budget, and do not (yet) have finalized plans on how they will pay the contribution in the future.³¹⁷

The EU's Plastics Own Resource Decision is an existing initiative that could serve as an example for implementing a levy on plastic polymers at global or plurilateral level. However, experts indicate that the flexibility given to individual EU MS also has disadvantages: There is an accumulation of national regulations, where multinational companies operating in several European countries have to comply with different taxes, with each country often having its own rules and definitions. Differing national

³¹⁰ Ibid.

³¹¹ Ibid.

³¹² Minderoo Foundation. 'The Polymer Premium: A Fee on Plastic Pollution.'

³¹³ Eunomia. 'Circular Taxation.'

³¹⁴ Ibid.

³¹⁵ There are also Member States who have already imposed plastic taxes before the adoption of the EU's Plastic Own Resource Decision.

³¹⁶ WTS global. Plastic Taxation in Europe: Update 2023.

³¹⁷ Eunomia. Circular Taxation.

regulations create administrative burden and complexity. Among taxpayers operating in different EU countries, there is growing support for multilateral taxation.³¹⁸

4.4.3. Political Feasibility

Existing Efforts on a Multilateral Level

Negotiations for a UN treaty to end plastic pollution. In March 2022, 175 UN Member States have endorsed a new resolution during the fifth session of the UN Environment Assembly (UNEA-5) held in Nairobi, Kenya, aimed at ending plastic pollution and establishing an international legally binding agreement by 2024. This resolution addresses every stage of plastic's lifecycle, including its production, design, and disposal.³¹⁹ All major polymer producing countries are taking part in the negotiations.³²⁰

Drawing upon three initial draft resolutions proposed by various countries, the resolution sets up an Intergovernmental Negotiating Committee (INC). Since the establishment of the INC in 2022, four INC negotiations have taken place to develop an international legally binding instrument on plastic pollution.³²¹ The draft text of the international legally binding instrument, drawn after INC-4, also includes the following provision: "Each Party shall (or is encouraged to) establish (where appropriate) a plastic pollution fee, to be paid by plastic polymer producers within its jurisdiction, and adopt the necessary legislative, regulatory and administrative measures for its collection."³²² The 'global plastic pollution fee' will provide funding to meet the unique costs of ending plastic pollution, including (among others) capital costs of investing in infrastructure essential for managing plastic waste, the establishment of national Extended Producer Responsibility schemes and remediation of legacy plastic pollution that bears heavily on the developing world. Funds are primarily meant to bridge the investment gap in the developing world, with developed country parties taking the lead in the mobilisation of resources.³²³

The fifth session of the INC negotiations is scheduled for the end of 2024 in South-Korea which are expected to be the final session of negotiations.³²⁴

High Ambition Coalition to End Plastic Pollution (HAC). With the establishment of the INC and the objective of reaching an international legally binding agreement to end plastic pollution by the end of 2024, a group of 'ambitious countries' have entered into a HAC. Before each INC-meeting, the coalition makes joint ministerial statements to increase political pressure on the establishment of a legally binding agreement to end plastic pollution by 2040.³²⁵ The Coalition is co-chaired by Norway and Rwanda. From the ten biggest polymer producing countries (see Figure 3), South Korea, Japan and Germany are part of the coalition.³²⁶ Other countries or regions with a big polymer industry that are members to the coalition include Canada, Mexico, the EU, UK and United Arabic Emirates.³²⁷

³¹⁸ IV C3, C4.

³¹⁹ UN Environment Programme. 'Historic day in the campaign to beat plastic pollution: Nations commit to develop a legally binding agreement.'

³²⁰ UN Environmental Programme. INC-4 List of Participants.

³²¹ UN Environment Programme. Intergovernmental Negotiating Committee on Plastic Pollution.

³²² UN Environment Programme. 'Revised draft text of the international legally binding instrument on plastic pollution, including in the marine environment.'

³²³ Ibid.

³²⁴ Ibid.

³²⁵ High Ambition Coalition to End Plastic Pollution. 'Home.'

³²⁶ Ibid.

³²⁷ Ibid.

Political support

Multilateral support. Gaining political support for a levy on polymer production is likely to be a complex task, shaped by various geopolitical and economic factors.³²⁸ Implementing a globally uniform levy (design option one) would require agreement from all involved parties, negotiated in a suitable forum, such as the UN's efforts to end plastic pollution. If the levy is implemented at plurilateral level (option two), it will be crucial to maintain some level playing field with non-participating countries, and participating countries will need to enforce the levy at the national level.³²⁹ However, the main challenge is obtaining widespread support for the introduction of such a levy.³³⁰

Experts highlight that opposition towards a polymer levy is substantial, with strong resistance in major polymer producing countries such as China, United States, India and Saudi Arabia.³³¹ While some countries might be supportive of financial contributions from polymer producers, they still remain sceptical about the implementation of a levy at the national level.³³²

Allocation of Revenue for Climate Finance. Experts recommend to channel a portion of the revenue back into the local community or industry.³³³ According to the Minderoo Foundation (2023), this could be organized as follows: Countries that produce plastic polymers would keep a portion of the revenue from the levy collection (retained share, e.g. 10%), while the rest would be redistributed among eligible countries³³⁴ (redistributed share, e.g. 90%).³³⁵ The retained share ensures that these countries are reimbursed for the costs of collecting the levy, while the redistributed share enables the polymer levy to serve as a funding mechanism. The retained share should at least cover the costs of collecting the levy and may also include an additional amount to encourage collection and participation by polymer-producing countries.³³⁶ Negotiating countries could settle on an alternative distribution between retained and shared portions, with the possibility of adjusting this balance over time.³³⁷

Socio-Political Aspects

CBDR-RC. Unlike fossil fuels, plastic has not played a crucial role in any country's economic development, as its widespread use has only become common in the last decades. Historically, polymers have contributed only a minor share of the oil and gas industry profits.³³⁸ The global plastic market accounts for just 0.6% of the world economy³³⁹, with 73% of this market concentrated in only ten countries.³⁴⁰ Thus, reducing plastic use is unlikely to have significant adverse macroeconomic effects. In fact, cutting back on plastic production and consumption could be economically advantageous, as the societal costs of plastics are higher than the economic value of plastic production.³⁴¹ The costs are borne by the public through waste and litter management, plastic-related health issues, loss of ecosystem services, and impacts on other economic sectors like tourism. While the ownership and

³²⁸ IV C2.

³²⁹ Ibid.

³³⁰ Ibid.

³³¹ Ibid.

³³² Ibid.

³³³ IV C5, C7.

³³⁴ The Minderoo Foundation treats all low- and middle-income countries, as defined by the World Bank, as eligible.

³³⁵ Minderoo Foundation. 'The Plastic Pollution Fee.'

³³⁶ Ibid.

³³⁷ Ibid.

³³⁸ CIEL. 'Fueling Plastics: Fossils, Plastics, & Petrochemical Feedstocks.'

³³⁹ Grand View Research. 'Plastic Market Size, Share, Trends & Growth Report, 2030.'

³⁴⁰ Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on May 29th.

³⁴¹ Tangri. 'POLICY BRIEF: Common But Differentiated Responsibility in the Global Plastics Treaty.'

economic benefits of plastic production are concentrated in a few countries, the costs are felt globally, particularly in developing countries.³⁴²

While a polymer levy might disrupt certain industries to some extent, it's not anticipated to impede economic development of the polymer industry. Thus, there is no justification for developing countries to avoid compliance with a polymer levy.³⁴³ However, a differentiated approach to redistribute revenues is not only justified but essential for its success: developed countries must contribute the most, and developing countries, especially the lower-income ones, should be the first to benefit.³⁴⁴

4.4.4. Revenue Mobilisation

For **design option 1, a global implementation** of a levy on polymer production, revenue mobilisation is estimated to be in between €22 billion (lower bound estimation) and €34 billion a year (upper bound estimation). These estimations are based on a levy rate of €55 per tonne of produced polymers for the lower bound estimation and €85 per tonne of produced polymers for the upper bound estimation. This (roughly) equals the levy rate proposal made by the Minderoo Foundation (2024) for negotiations in the INC to end plastic pollution.³⁴⁵ Other assumptions include retaining 10% of revenues, targeting all polymer producers, and not excluding recyclables from the tax base. Moreover, the levy rate of €55 to €85 per tonne is the maximum rate. Since it is advisable to begin with a lower rate and gradually increase it, revenues will be lower in the initial year(s).

For **design option 2, a plurilateral implementation** of the levy, revenues are estimated to be in between €2,8 billion (lower bound estimation) and €8,5 billion (upper bound estimation). For the lower bound estimation, it is assumed that the coalition includes all EU member states. The upper bound estimation, in addition to the EU, includes major polymer producing countries that are part of the HAC (Canada, Japan, Mexico, South Korea, the United Kingdom, and the United Arab Emirates). The same assumptions for the levy rate and the retained versus redistributed share apply as in the global implementation scenario.

Any revenue estimations rely on assumptions regarding the abovementioned elements. In the short term, as the tariff rate is low, we do not anticipate significant regulatory effects, meaning that the elasticity of the tax base will be close to zero. However, for long-term revenue forecasts, it is important to consider shifts in consumption patterns and take into account small behavioural impact. The levy might be aligned by national authorities with other policy measures in the field of virgin and recycled plastics. For example, potential new national levies on plastic packaging and consumer goods might also influence demand for plastic polymers. Thus, a minor impact on revenues can be anticipated on the longer term.

4.5. Jet Fuel Levy / Kerosene Tax

A levy on jet fuel / kerosene is a levy imposed on jet fuel production or consumption in the aviation sector. The levy serves as a fiscal mechanism to raise funds, incentivize the industry to transition to Sustainable Aviation Fuels (SAFs), while also aiming to implement the Polluter Pays Principle in the aviation sector by shifting the economic burden to those who contribute to climate change.³⁴⁶

For the last decades, aviation has been one of the fastest growing modes of transportation worldwide.³⁴⁷ Aviation contributes to global carbon emissions, and other effects of climate change, resulting from fossil fuel combustion. Pre-COVID-19 figures show that as the number of flights grow, global

³⁴² Ibid.

³⁴³ Ibid.

³⁴⁴ Ibid.

³⁴⁵ Minderoo (2024) proposes a levy of US\$60 to 90 per tonne on global primary polymer production to enable developing countries to implement ambitious obligations to mitigate plastic pollution such as development of waste management infrastructure and extended producer responsibility schemes.

³⁴⁶ IEEP. 'Can Polluter Pays principles in the aviation sector be progressive?'

³⁴⁷ Transport & Environment. 'Kerosene taxation. How to implement it in Europe today.'

fuel consumption surged to an all-time high in 2019.³⁴⁸ Contrary to other industries, fuels used in commercial aviation are exempted from most fuel taxes.³⁴⁹ Therefore, aviation fuel, is highly under-taxed.³⁵⁰

Due to the international nature of the industry, aviation is an industry par excellence where multi-lateral action is needed. Internationally, momentum is growing to reach higher climate ambitions in the aviation industry: at COP26, the International Aviation Climate Ambition Coalition was launched by countries that commit to ambitious action on reducing international aviation emissions.³⁵¹

4.5.1. Key Design Options

The first design option is a **global implementation** of the levy, which would necessitate extensive international collaboration. All participating countries would need to agree on the levy's parameters and establish legislation and procedures within their own countries to implement and enforce it. Politically, global negotiations on a jet fuel levy might not result in a highly ambitious levy rate that drives the transition toward SAFs. A global levy would not distort the level-playing field. However, even a relatively low levy rate, if implemented globally, would lower passenger demand, and may raise significant revenues. Moreover, worldwide adoption of a jet fuel levy would prevent distortions, such as additional tankering, altered flight connections, and hub switching.

An alternative to global implementation is a **plurilateral or voluntary approach**. In this scenario, a coalition of willing countries supportive of the levy is formed, excluding opposed countries from negotiations. This approach could allow for a more ambitious levy rate, but it might impact the level playing field, potentially leading to altered flight connections and hub switching to avoid taxation.³⁵² However, the plurilateral implementation could serve as an initial step toward a more global roll-out of the levy over time.

For both design options, introducing the levy at a low initial rate and gradually increasing it, together with reinvesting part of raised revenues back into the industry, can improve political feasibility by facilitating market adaptation and promoting compliance.³⁵³ Earmarking of tax revenues can however be problematic in some EU Member States.

4.5.2. Technical Feasibility

Complexity of National and Global Implementation

Lifecycle of Jet Fuel. Kerosene is made from refined crude oil. Figure 5 shows the lifecycle of jet fuel, from extraction to fuel consumption. From the refinery, jet fuel usually travels by pipeline or oceangoing vessel to storage terminals. From there, it is further transported by truck, barge, or pipeline to airports. At the airport, fuel is stored in tanks and then distributed to aircraft either by truck or through an underground hydrant system that delivers the fuel to the airport apron, where hoses complete the final transfer to the aircraft's wing.³⁵⁴

³⁴⁸ Statista. 'Total fuel consumption of commercial airlines worldwide between 2005 and 2021, with a forecast until 2023.'

³⁴⁹ Transport & Environment. 'Kerosene taxation. How to implement it in Europe today.'

³⁵⁰ Ibid.

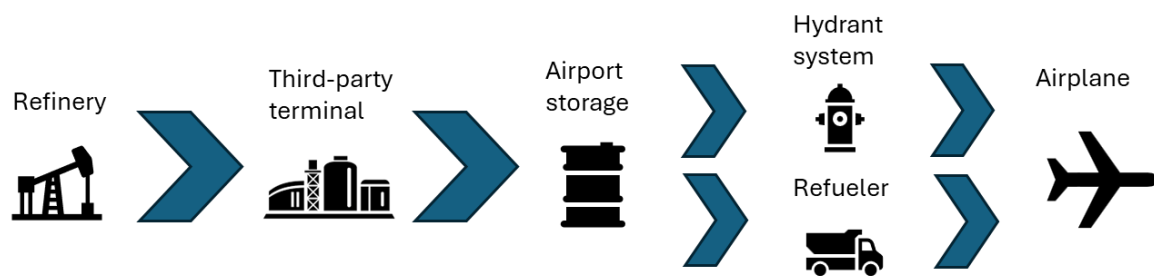
³⁵¹ UK Government. 'Declaration: International Aviation Climate Ambition Coalition.'

³⁵² Ricardo. 'Study on the taxation of the air transport sector.'

³⁵³ European Environmental Bureau. 'Circular Taxation.'

³⁵⁴ Airlines for America. 'Jet Fuel: From Well to Wing.'

Figure 5. A simplistic view of the lifecycle of jet fuel.³⁵⁵



Legal Incidence. There are different fiscal connections in the supply chain where a levy on jet fuel can be imposed. It may be set at the stage of production in refineries, storage in airport facilities or delivery to airlines.³⁵⁶ Most countries already have experience in collecting fuel taxes in other sectors, such as road transport. It is anticipated that a jet fuel levy would be collected similarly, with fuel suppliers collecting the tax when they supply kerosene at airports and then transferring the collected funds to the relevant tax authorities.³⁵⁷ In Portugal, Ireland and Malta, levies for private flights are collected by the fuel supplier as part of the refuel transaction. Another feasible option is to impose the levy on flight operators. Within the CORSIA, airlines already have to report their fuel consumption (in order to monitor CO₂ emissions).³⁵⁸ Therefore, this could also be an opportune moment for taxation. In the UK and in the US, levies for private flights are collected by the flight operator, and directly paid to the tax authorities.³⁵⁹

Global Distribution of the Air Passenger Market. In 2019, prior to COVID-19, the worldwide number of air passengers carried was equal to 4.5 billion.³⁶⁰ Figure 6 shows the global distribution of the air passenger market.³⁶¹ Asia (excluding the Middle East), Europe and North America account for 81% of total passengers carried. The aviation markets in Latin America, Africa and Australia are significantly smaller and account for the remaining share of passengers carried.³⁶²

³⁵⁵ Airlines for America. 'Jet Fuel: From Well to Wing.'

³⁵⁶ Ricardo. 'Study on the taxation of the air transport sector.'

³⁵⁷ Ibid.

³⁵⁸ IATA. 'Handbook CORSIA.'

³⁵⁹ Ricardo. 'Study on the taxation of the air transport sector.'

³⁶⁰ World Bank. 'Air transport, passengers carried.'

³⁶¹ Figures include domestic and international flights.

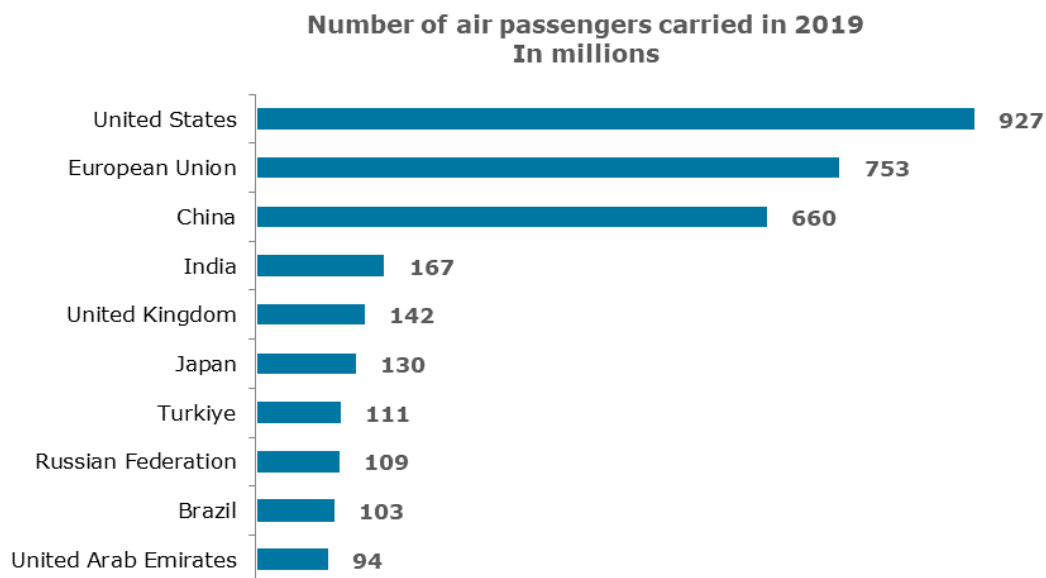
³⁶² Ibid.

Figure 6. Global distribution of the air passenger market.³⁶³



Figure 7 shows the ten countries / regions with the highest number of air passengers carried in 2019.³⁶⁴ The United States, the EU and China together transport roughly half of the air passengers worldwide. Besides from countries in Europe, Asia Pacific and North America, Türkiye, Russia, Brazil, and United Arab Emirates are also among the countries with the biggest aviation industries.^{365 366}

Figure 7. Top ten countries / regions ranked by number air passengers carried in 2019.³⁶⁷



³⁶³ Ibid.

³⁶⁴ Figures include domestic and international flights.

³⁶⁵ It should be noted that the distribution of air passengers across countries could slightly differ from the distribution of jet fuel consumption due to possible variations in the jet fuel efficiency and length of flights between countries and regions.

³⁶⁶ World Bank. 'Air transport, passengers carried.'

³⁶⁷ Ibid.

Tax Base. From a practical standpoint, the simplest way to implement the jet fuel levy is by taxing the total fuel volume rather than excluding SAF or targeting the specific energy or carbon content in jet fuel. This approach will only encourage to reduce fuel demand and will not help to shift towards usage of more sustainable jet fuel. The transition from fossil aviation fuels to SAF could decarbonize the aviation industry significantly. In 2021, SAFs represented less than 0.1% of the world's total fuel consumption.³⁶⁸ Even though SAF output increases, volumes are still low.³⁶⁹ SAFs are currently more expensive than fossil aviation fuels.³⁷⁰ Excluding SAFs from the tax base of the jet fuel levy would reduce the price gap between fossil aviation fuels and SAF and accelerate the transition to SAFs.

SAFs are a relatively standardized and internationally certified fuel stream, making it easier to exempt them from the tax base (e.g. compared to recycled polymers).³⁷¹ Measuring SAF usage by airlines could be incorporated into CORSIA, which already allows aircraft operators to reduce offsetting requirements through the use of CORSIA-eligible fuels (SAFs and lower carbon aviation fuels) and tracks the use of sustainable aviation fuels.³⁷²

Price Elasticity of Demand. Implementing a levy on jet fuel will raise costs for airlines. On average, fuel expenses constitute around 25% of ticket prices and impose a significant share of airline operating costs.³⁷³ An increase in fuel prices will therefore lead to higher airfares.³⁷⁴ The impact of higher airfares on demand depends on the price elasticity of demand.

Several studies have analysed the price elasticity of demand for the aviation industry. These studies show that price elasticity is rather elastic, meaning that a levy would have a negative effect on passenger demand. Brons et al. (2001) conducted a meta-analysis of 37 studies to analyse the price elasticity of demand for air passenger transport. They found that the average price elasticity is -1.146, meaning a 1% increase in price leads to a 1.146% decrease in demand.³⁷⁵ Also, they found that price elasticity of leisure travel is significantly higher than business travel.³⁷⁶ Intervistas (2007) calculated that elasticity of demand for economy class flights is -1.23 for short intra-European flights, -1.12 for long intra-European flights that have no alternative mode of transport and -0.8 for inter-continental flights.³⁷⁷ They also found that price elasticities for demand are slightly lower outside of Europe, with lowest elasticities for trans-Pacific routes (North America – Asia).³⁷⁸ Ricardo (2021) calculated that within the EEA a fuel levy of €0.33 per litre would decrease total flights by 9.1%.³⁷⁹ CE Delft (2023) calculated that a worldwide fuel excise levy of €0.49 reduces flights from the EU to all worldwide destinations by an estimated 12.6%.³⁸⁰

Economic Incidence. The effect of a jet fuel levy on the ticket price depends to what extent airlines can pass-through the levy to passengers. The cost pass-through rates depend on the market dynamics.³⁸¹ Koopmans and Lieshout (2016) argue that the pass-through rate for airline-specific cost increases is less than a half while sector-wide cost increases can be passed through by more than a half. Even though pass-through rates vary in existing literature, it is likely that most of the levy

³⁶⁸ Shell Global. 'Sustainable Aviation Fuel.'

³⁶⁹ IATA. 'Sustainable aviation fuel output increases, but volumes still low.'

³⁷⁰ Ibid.

³⁷¹ IATA. 'Sustainable Aviation Fuel: Technical Certification.'

³⁷² ICAO. 'CORSIA Eligible Fuels.'

³⁷³ There is significant variation in ticket prices. Hence, the share of fuel in the ticket price also varies.

³⁷⁴ Ferdi. Taxation of civil aviation fuels as a source of financing for vulnerable countries.

³⁷⁵ Brons et Al. 'Price elasticities of Demand for Passenger Air Travel: A Meta-Analysis.'

³⁷⁶ Ibid.

³⁷⁷ Intervistas. Estimating Air Travel Demand Elasticities.

³⁷⁸ Ibid.

³⁷⁹ Ricardo. 'Study on the taxation of the air transport sector.'

³⁸⁰ CE Delft. 'Afbouw vrijstelling accijnzen bunkerbrandstoffen.'

³⁸¹ European Commission. 'Taxes in the Field of Aviation and their impact.'

would be passed through to air passengers, making them bear the majority of the tax burden.³⁸² ³⁸³
³⁸⁴

Tax Avoidance and Competition. If the levy is not implemented globally, there is a risk of competition distortion and carbon leakage due to shifts in flight connections and hub switching.³⁸⁵ Because of these potential issues, tax avoidance is considered separately for the two design options: global implementation of the levy and plurilateral implementation.

If the levy is implemented globally (design option one), the levy does not alter price differences in jet fuel between countries, thereby minimizing the risk of competition distortion and carbon leakage.

If the levy is implemented at a plurilateral level (design option two), the price of jet fuel may rise, increasing price differences between countries that have imposed the levy compared to countries that have not imposed the levy. This might lead to carbon leakage caused by the practice of fuel tankering.³⁸⁶ Due to fuel price differences between airports and countries, partially influenced by domestic subsidies³⁸⁷, fuel tankering is a common practice whereby aircrafts uplift excess fuel in one airport to save fuel costs when fuel is cheaper at the departing airport than at the destination airport.³⁸⁸ Tankering is also done for operational purposes, as not fuelling at airports reduces the turn-around time at an airport and allows to carry out more flights on a day.³⁸⁹ Besides economic losses, fuel tankering is also a climate issue, as the weight from the excess fuel leads to extra fuel consumption.³⁹⁰ To limit tankering, the ReFuelEU Aviation Act established the obligation for flight operators to ensure that the yearly quantity of aviation fuel uplifted at any given EU airport is at least 90% of the yearly aviation fuel required.³⁹¹

Next to the issue of tankering, introducing a jet fuel levy on a national level could change route choices as aircrafts might alter departures, destinations, and transfer hubs to avoid taxation.³⁹² This could harm competitiveness and result in emissions being leaked to other countries. SEO Amsterdam Economics & Royal Netherlands Aerospace Centre (2022) calculated that the costs associated with Fit for 55 policies (EU Emissions Trading System (ETS), ETD and ReFuelEU) implemented domestically or within a group of countries increases the cost of air travel, and that the higher costs reduces overall passenger volumes to, from and within the EEA, leading to a partial shift in demand to competing non-EEA hub airports and routes such as Dubai and Istanbul.³⁹³ For hubs close to the EEA-border, the competitive disadvantage was estimated to be larger than for airports located in the centre of Europe, such as Amsterdam or Frankfurt.³⁹⁴

The risk of carbon leakage needs tailored environmental policies in the aviation sector. Calculations by SEO Amsterdam Economics & Royal Netherlands Aerospace Centre (2022) estimate that, even though carbon leakage does occur to a certain extent, the Fit for 55 policies reduce CO₂-emissions caused by the aviation industry by 16%.³⁹⁵ According to Transport & Environment (2022), even though passenger numbers are negatively affected by environmental policy, passenger numbers

³⁸² Vivid Economics. A Study to Estimate Ticket Price Changes for Aviation in the EU ETS.

³⁸³ Koopmans & Lieshout. Airline cost changes: To what extent are they passed through to the passenger?

³⁸⁴ CE Delft. Allocation of allowances for aviation in the EU ETS

³⁸⁵ Ricardo. 'Study on the taxation of the air transport sector.'

³⁸⁶ Transport & Environment. 'Tankering in aviation.'

³⁸⁷ Eurocontrol. 'Fuel Tankering: economic benefits and environmental impact.'

³⁸⁸ Ibid.

³⁸⁹ ICAO. 'Economic Fuel Tankering: A Threat to Aviation Decarbonisation.'

³⁹⁰ Transport & Environment. 'Tankering in aviation.'

³⁹¹ European Parliament. 'ReFuelEU Aviation initiative. Summary of the Commission proposal and the Parliament's draft committee report.'

³⁹² SEO Amsterdam Economics & Royal Netherlands Aerospace Centre. 'Aviation Fit For 55.'

³⁹³ Ibid.

³⁹⁴ Ibid.

³⁹⁵ SEO Amsterdam Economics & Royal Netherlands Aerospace Centre. 'Aviation Fit For 55.'

would still continue to increase (only by less than under a no-policy scenario).³⁹⁶ Under a no Fit for 55 policy scenario, the number of passengers departing from European airports to any destination are predicted to be 40% higher by 2035; with the Fit for 55 policies, the number of passengers is expected to be (only) 24% higher.³⁹⁷

Levy Rate. A jet fuel levy could be implemented either as a nominal levy or as a levy relative to the regional (or national) fuel price. A nominal levy would be most straightforward to implement, however finding political support might be more difficult due to varying jet fuel prices across countries and regions. When prices vary, a nominal levy leads to varying relative increases of the jet fuel price. Countries where prices are lower might be more reluctant to such a levy, as the levy leads to a relatively large increase of the jet fuel price. A second option is to impose a levy that is relative to the actual regional price. In that case, the relative fuel price increase due to the levy will be similar across countries. One difficulty may be that jet fuel prices are sometimes artificially kept at a lower rate by means of domestic subsidies. Implementing a relative tax could incentivize governments to reduce the jet fuel price in order to minimize tax payments. This design may be more susceptible to fraud.³⁹⁸

According to data from the International Air Transport Association (IATA), jet fuel prices show minimal variation across global regions. As of April 2024, the weekly average global jet fuel price stood at \$830 per tonne (€777 per tonne, €0.77/l). In the Middle East and Africa, the region with the lowest prices, jet fuel was 6% lower than the global average. In Latin America, where prices were highest on average, the price of jet fuel was 5% higher than the global average. Given the relatively low regional price differences, it is recommended to adopt a nominal tax rate rather than a relative tax dependent the regional price.³⁹⁹ This simplifies implementation and is less susceptible to fraud.⁴⁰⁰

Payment and Collection Process. Existing literature does not address the payment and collection process for a jet fuel levy. As payment and collection processes are relevant for all assessed instruments, more details on a general approach are elaborated in Section 4.1., Payment and Collection Process.

Precedents at National and Regional Level

Although the aviation sector is exempt from certain taxes, it still faces specific levies. In the United States and Japan, kerosene duties apply to domestic flights. Additionally, many countries, particularly in Europe, have implemented ticket taxes and/or departure/arrival taxes, (e.g. the Netherlands, Germany, France, Italy) which vary in structure.

Fuel Taxes. The United States and Japan are two notable examples of countries with significant domestic commercial aviation sectors where excise duties on kerosene for domestic flights are imposed. In the United States, the commercial jet fuel tax rate is USD 0.043 per gallon (€0.01 per litre).⁴⁰¹ Japan imposes an excise duty of JPY18 per litre (€0.14 per litre).⁴⁰²

In 2019, the excise duty on jet fuel in the United States generated \$428 million (€354 million) in revenue. In comparison, passenger levies brought in much higher amounts: \$10.4 billion (€8.6 billion) from domestic passengers and \$4.3 billion (€3.6 billion) from international passengers.⁴⁰³ Tax

³⁹⁶ Transport & Environment. 'Flying via Istanbul: escaping climate measures?'

³⁹⁷ Ibid.

³⁹⁸ IV C8.

³⁹⁹ IATA. Jet Fuel Price Monitor (Week 26 April, 2024).

⁴⁰⁰ IV C8.

⁴⁰¹ Data & Statistics. U.S. Government-Imposed Taxes on Air Transportation.

⁴⁰² Ricardo. 'Study on the taxation of the air transport sector.'

⁴⁰³ Ricardo. 'Study on the taxation of the air transport sector.'

revenues are used to fund investments and expenditures in the aviation industry via the Airport and Airway Trust Fund.⁴⁰⁴

Ticket Taxes. Ticket taxes have been implemented in various countries. CE Delft (2019) lists twelve EU countries where air passenger ticket taxes are levied or have been levied in the past.⁴⁰⁵⁴⁰⁶⁴⁰⁷ The rate and scope of the tax differs per country. Some countries vary their tax rates according to travel distance, while others apply a flat rate for international travel. This often means a standard rate for EU destinations and higher rates for non-EU destinations.⁴⁰⁸ Outside the EU, Australia, Norway, United Kingdom, South Africa, and Philippines have implemented passenger ticket taxes.⁴⁰⁹ Some ticket taxes have been in place since the early 90's (Philippines, Australia), while others have been introduced more recently (Norway).⁴¹⁰ It is not known whether the funds raised with these taxes were used for specific purposes.

Departure/Arrival Taxes. Several countries impose departure or arrival taxes at their airports. These taxes are typically added to the cost of an airline ticket and can vary significantly depending on the country and the specific airport. Taxes and fees are generally used to fund airport maintenance and development, security, and other related services. Countries with a departure / arrival tax include Mexico, Hong Kong, Thailand, and United States.⁴¹¹

According to Keen and Strand (2006), fuel taxes, ticket taxes and departure/arrival taxes each have their benefits and weaknesses.⁴¹² Fuel taxes are proposed as the most direct method to address environmental externalities because they tax the pollutant directly, however, face legal hurdles. Ticket taxes can potentially raise more revenue but could disproportionately affect different groups of passengers and do not directly target the environmental externalities associated with aviation. Departure/Arrival taxes face the fewest legal hurdles but do not fully address environmental costs associated with flights (e.g. a departure tax would be the same regardless of the distance travelled or the fuel efficiency of the aircraft).⁴¹³ This implies that, once legal obstacles are addressed, fuel taxes are regarded as the 'fairest' form of taxation due to the clear connection between pollution and tax payments.

Legal Feasibility

There are legal limitations to taxing jet fuels. Legislation and international treaties exempt jet fuel from taxation in some cases. However, this does not mean that introducing jet fuel levies on a multilateral level is impossible. If political will is there, these legal obstacles can be overcome relatively easily.⁴¹⁴

Chicago Convention. The Chicago Convention of 1944, signed by practically all countries in the world, forms the constitution of international civil aviation. One provision of the Chicago Convention is directly linked to fuel tax, namely Article 24(a), which states that fuel on board of an aircraft of a contracting State, on arrival in the territory of another contracting State shall be exempt from customs duty, inspection fees or similar national or local duties and charges, as it assumed that fuel carried on board has already been taxed at the airport from where the aircraft departed.⁴¹⁵ Article

⁴⁰⁴ Ibid.

⁴⁰⁵ CE Delft. 'A study on aviation ticket taxes.'

⁴⁰⁶ CE Delft. 'A study on aviation ticket taxes.'

⁴⁰⁷ The twelve European countries mentioned by CE Delft (2019) are Austria, Belgium, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Romania and Slovakia.

⁴⁰⁸ Ibid.

⁴⁰⁹ Ibid.

⁴¹⁰ Ibid.

⁴¹¹ CE Delft. 'Taxes in the Field of Aviation and their impact.'

⁴¹² Keen & Strand. Indirect Taxes on International Aviation.

⁴¹³ Ibid.

⁴¹⁴ IV C6, C8.

⁴¹⁵ ICAO. Convention on International Civil Aviation done at Chicago on the 7th day of December 1944.

24 of the Chicago Convention is often mistakenly used to state that imposing a tax on jet fuel is legally impossible.⁴¹⁶ Though this article implies that countries may not tax fuel that is on board of an aircraft, the Convention does not prevent states from taxing fuel that is loaded into aircraft on their territory. Within the Convention, the adoption of a harmonized levy on the supply of fuel is therefore feasible contingent on design.⁴¹⁷

Energy Taxation Directive. At EU level, the ETD is the principal directive addressing the taxation of energy products including aircraft fuel. Commercial air transport between EU States is mandatorily exempted from taxation of aircraft fuel.⁴¹⁸ Fuel must however be levied in the event of private flights and can be levied in the case of domestic air traffic and in case two EU States have entered into a bilateral agreement. At the moment, no such levies are applied under bilateral agreements between Member States.⁴¹⁹ To introduce a jet fuel levy at EU level, the ETD needs to be revised and the exemption rule for kerosene fuel taxation addressed. The revision of the ETD includes a proposal to no longer fully exempt fossil fuels used for intra-EU air transport from energy taxation in the EU. This proposal has not (yet) been adopted.⁴²⁰

Air Service Agreements. Within the current ETD, imposing a jet fuel levy on intra-EU navigation is only possible under an ASA between respective Member States (though as noted above, no such provisions are in place). In some cases, existing ASAs with third countries (outside the EU) include articles that allow or prevent the taxation of jet fuel.⁴²¹ If ASAs prevent taxation of jet fuel, it means that carriers originating from these countries cannot be taxed, even when operating within the EU. This could seriously harm the level playing field for intra-EU flights. Similarly, ASAs that have been concluded by the EU are, as international agreements, binding upon Member States. ~~Obj~~ The EU has concluded agreements with a number of third countries. According to research from T&E (2020), most EU level agreements that have been renegotiated by the EU with third countries no longer include fuel taxation exemption clauses, including those with Indonesia, Malaysia (both under the ASEAN agreement), Morocco⁴²²~~Obj~~. Some ASAs, for example with Canada and the United States still exempt taxation of jet fuel. Renegotiation of these agreements would be needed to allow taxation for carriers from these countries on intra-EU flights⁴²³

4.5.3. Political Feasibility

On one hand, political opposition towards taxation of jet fuels is strong. This makes for sometimes difficult progress including in ICAO, the United Nations' international civil aviation organisation. On the other hand, in recent years, long-term emission reduction goals have been set by ICAO and multilateral initiatives have been launched to make the aviation industry more sustainable, such as the establishment of the International Aviation Climate Ambition Coalition.⁴²⁴

The International Civil Aviation Organization. ICAO, established at the 1944 Chicago Convention, is a United Nations agency fostering the development of international air transport.⁴²⁵ In the sphere of environmental protection, one of the main achievements of the forum in addressing carbon emissions in the aviation industry is the establishment of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).⁴²⁶

⁴¹⁶ IV C8.

⁴¹⁷ CE Delft. 'Taxing aviation fuels in the EU.'

⁴¹⁸ Ibid.

⁴¹⁹ Neiva et al. 'Study on the taxation of the air transport sector.'

⁴²⁰ Pieter Baert. 'Revision of the energy taxation directive (ETD).'

⁴²¹ Ricardo. 'Study on the taxation of the air transport sector.'

⁴²² Transport & Environment. 'Kerosene taxation.'

⁴²³ Ibid.

⁴²⁴ Changing Transport. 'Still alive? An update on the COP26 initiatives for transport decarbonisation.'

⁴²⁵ ICAO. 'About ICAO.'

⁴²⁶ ICAO. 'Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).'

ICAO favours the adoption of environmental charges over environmental taxes,⁴²⁷ as supported by a resolution on environmental charges and taxes adopted by the Council in 1996. In contrast to charges (that are supposed to be reallocated to the aviation industry and prevent the risk of potential revenue misuse), taxes generate revenues that can be used for non-aviation purposes.⁴²⁸ The Chicago Convention's only mention of taxation is in Article 24, which addresses customs duties and does not explicitly prohibit the taxation of fossil kerosene. It only calls for the avoidance of taxing fuel already onboard of aircraft on arrival. However, ICAO advises states against taxing fossil kerosene and to incorporate such prohibitions in bilateral air service agreements.

At the 41st Assembly in 2022, ICAO set a long-term global aspirational goal (LTAG) of achieving net-zero carbon emissions by 2050 and goal of reducing CO₂ emissions by 5% by 2030 through increased use of sustainable aviation fuels (SAF) worldwide.⁴²⁹ It reflects a sense of urgency of aligning aviation with the 2015 Paris Agreement and supports Member States in implementing measures to control aviation emissions.⁴³⁰ From the perspective of time, however, there is a consensus that further efforts are needed to strengthen its ambition and enforcement mechanisms, in order to support the achievement of the LTAG.

Existing Efforts at Multilateral Level

Carbon Offsetting and Reduction Scheme for International Aviation. A notable precedent of multilateral cooperation in addressing aviation industry emissions is the implementation of the CORSIA-system. CORSIA, agreed upon by ICAO, is a global market-based measure for aviation emissions in which airlines and other aircraft operators will offset any growth in CO₂-emissions above baseline emissions. Baseline emissions have been determined at 85% of the total CO₂-emissions covered by CORSIA in 2019.⁴³¹ As of 2024, 126 countries voluntarily participate in CORSIA.⁴³² The implementation of CORSIA has been divided into three phases. Two initial, voluntary phases (2021 - 2023 and 2024 - 2026) and a mandatory phase that takes place from 2027 until 2035.⁴³³ During the initial phases, CORSIA will only apply to international flights between states that voluntarily participate in the scheme. From 2027 onwards, it will cover all international flights between states above a certain threshold of traffic in aviation and other volunteering states, I.⁴³⁴ Airlines will be required to monitor emissions on all international routes and offset emissions from routes included in the scheme by purchasing eligible emission units generated by projects that reduce emissions in other sectors (e.g. renewable energy).⁴³⁵

Although CORSIA represents a step forward in addressing emissions for the aviation industry, there is room for improvement in both ambition and enforcement. The International Aviation Climate Ambition Coalition, launched at COP26 in 2022 and now comprising nearly 60 member countries, recommends pursuing and strengthening decarbonisation efforts within the ICAO, using the basket of measures such as the promotion of Sustainable Aviation

⁴²⁷ ICAO. 'Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality.'

⁴²⁸ CE Delft. 'Taxing aviation fuels in the EU.'

⁴²⁹ ICAO Assembly. 'Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection - Carbon Offsetting and Reduction Scheme for International Aviation.'

⁴³⁰ ICCT. ICAO's 2050 net-zero CO₂ goal for international aviation.

⁴³¹ ICAO. 'Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) - Frequently Asked Questions (FAQs).'

⁴³² Ibid.

⁴³³ Ibid.

⁴³⁴ Ibid.

⁴³⁵ Aviation: Benefits Beyond Borders. CORSIA explained.

Fuels, uptake of new technology and operational efficiencies, apart from market-based measures like CORSIA. Political support

Finding Support. For global implementation (design option one), the most straightforward approach would be to propose and implement the jet fuel levy through ICAO, which is widely regarded as the appropriate forum for initiatives affecting the global aviation industry.⁴³⁶

On the one hand, some economic players within the industry might not be entirely against implementing such a tax. The more ambitious aircraft and engine manufacturers might favour it because it would speed up the renewal of the aircraft fleet, being an important new market opportunity and will help to speed up innovation in the sector.⁴³⁷ Sustainable fuel producers could also see advantages, as the development of sustainable fuels presents new market opportunities.⁴³⁸ On the other hand, most airlines, especially those which have an older fleet, are expected to provide fierce resistance, as they risk a decline in demand due to the higher costs of their transport services resulting from the tax.⁴³⁹

When considering a plurilateral approach (design option two), a coalition of countries willing to implement a jet fuel levy needs to be formed. To effectively cover a significant share of the global aviation industry and raise substantial revenues, this coalition should include countries and regions with major aviation industries. Countries sympathetic to increased climate action in aviation, such as those in the International Aviation Climate Ambition Coalition, are relevant candidates. IACAC countries account for more than half of global air passenger traffic.⁴⁴⁰

An alternative approach would be to propose a jet fuel levy under the OECD/G20.⁴⁴¹ A similar approach was taken with the implementation of a uniform minimum corporate tax on multinational enterprise groups.⁴⁴² France and Germany were in principle two countries that wanted to introduce a minimum tax on corporate profits. However, if the tax was only to be introduced by two countries, adverse effects may occur, such as distortional effects on tax evasion or potential severe juridical conflicts between tax treaties. France and Germany therefore went to the EU to initiate the tax at a higher level.^{443 444}

Socio-Political Aspects

Addressing CBDR-RC to Increase Social and Political Acceptance. Globally, there is significant income inequality and a strong disparity in access to air travel. Around 80% of the world population has never taken a commercial flight (industry estimate⁴⁴⁵) and 1% of the world population emits 50% of CO₂ from commercial aviation.⁴⁴⁶ The unequal distribution of flights extends beyond Western countries. In China, 5% of households account for 40% of flights and in India just 1% of households take 45% of all the flights.⁴⁴⁷

⁴³⁶ The International Aviation Climate Ambition Coalition also considers ICAO as the appropriate forum to address emission reductions in the aviation industry.

⁴³⁷ FERDI. 'Taxation of civil aviation fuels as a source of financing for vulnerable countries.'

⁴³⁸ Ibid.

⁴³⁹ Ibid.

⁴⁴⁰ World Bank. 'Air transport, passengers carried.'

⁴⁴¹ IV C4, C8.

⁴⁴² Mindereroo Foundation. 'The Polymer Premium: A Fee on Plastic Pollution.'

⁴⁴³ IV C4.

⁴⁴⁴ More information on the global corporate minimum tax is provided under Section 4.3.2, Global Anti-Base Erosion (GloBE) rules and Pillar Two and 5.4.3 Recommendations, At International Level: Finding a Suitable Forum.

⁴⁴⁵ CNBC. 'Boeing CEO: Over 80% of the world has never taken a flight.'

⁴⁴⁶ Gössling & Humpe. 'The global scale, distribution and growth of aviation: Implications for climate change.'

⁴⁴⁷ Choong & Wong. 'Mastercard Future of Outbound Travel in Asia Pacific (2016 to 2021).'

Considering the unequal distribution of flights among the wealthiest, momentum is growing for a frequent flyer levy.⁴⁴⁸ A frequent flyer levy is a per-flight tax that increases as a person takes more flights in a year.⁴⁴⁹ Zheng and Rutherford (2022) estimate that a global frequent flyer levy would generate 81% of its revenue from frequent flyers (those taking more than six flights a year) and 67% from high-income countries. In comparison, a flat tax would collect 41% of its revenue from frequent flyers and 51% from high-income countries.⁴⁵⁰ Thus, a frequent flyer levy would shift the tax burden from occasional flyers to frequent flyers and from lower-income countries to high-income countries.⁴⁵¹

Although a jet fuel levy will function as a flat tax mechanism where every passenger will pay an equal burden, the unequal distribution of flights provides a strong ethical argument for introducing the jet fuel levy especially when concentrated in the richest countries of the world (80% of world population has never taken a flight). A jet fuel levy addresses CBDR-RC in an identical manner, given the clear link between aviation emissions and levy payments. Most flights occur in Asia, Europe, and North America, which also have the highest historical emissions. Additionally, a jet fuel levy adheres to the Polluter Pays Principle, as passengers on longer flights, which produce more emissions, would pay higher levies.

4.5.4. Revenue Mobilisation

Starting with a low rate to give the market time to respond to the levy, Ferdi (2023) estimates potential revenue mobilisation to be €5.8 billion per year (based on a levy rate €0.10 per litre), gradually increasing to an estimated €18.0 billion per year (based on a levy rate of €0.33 per litre).⁴⁵²

Ferdi (2023) estimates the impact of a jet fuel levy on global international flights (excluding domestic flights), using a rate of €0.33 per litre, which aligns with the minimum excise duty for kerosene in the ETD.⁴⁵³ The analysis assumes that the levy is fully passed on to consumers, resulting in a 2.7% increase in ticket prices for a €0.10 per litre levy and a 9.2% increase for a €0.33 per litre levy.⁴⁵⁴ Estimations take into account that increased ticket prices negatively affect air transport demand. The estimations do not consider potential behavioural changes following the implementation of the excise duty.⁴⁵⁵

⁴⁴⁸ IV C6.

⁴⁴⁹ Zheng & Rutherford. 'Aviation climate finance using a global frequent flying levy.'

⁴⁵⁰ Ibid.

⁴⁵¹ Ibid.

⁴⁵² FERDI. 'Taxation of civil aviation fuels as a source of financing for vulnerable countries.'

⁴⁵³ European Commission. 'Excise Duty on Energy.'

⁴⁵⁴ FERDI. 'Taxation of civil aviation fuels as a source of financing for vulnerable countries.'

⁴⁵⁵ Ibid.

5. RECOMMENDATIONS

In this section, we outline the most promising instrument design option for each instrument, identify key barriers and discuss solutions. We then provide recommendations on relevant international fora and on the potential role of the EU to progress on each instrument.

For all instrument we consider a plurilateral approach as the most promising option. A plurilateral approach not only enables faster consensus among a significant group of countries, making it more feasible to implement swiftly, but also holds the potential for more ambitious results. In contrast, a (near-)global agreement often necessitates extensive compromises to satisfy the most fervent opponents, leading to diluted outcomes. Such compromises may not only fall short of achieving the intended goals but also potentially obstruct the pathway for future negotiations aimed at reaching a more comprehensive solution in the (near) future.

5.1. Fossil Fuel Extraction Levy

5.1.1. Most Promising Instrument Design

A global implementation, with countries allowing collected revenue to directly flow into an international climate finance framework, circumventing national treasuries, is unlikely (see Section 4.2.3.). Hence, for the further analysis of the fossil fuel extraction levy, design option two is considered: a plurilateral implementation by a coalition of the willing, with revenues collected at the national level, from which a share is then channelled towards international climate financing purposes.

There are two key elements: first, members of the coalition have to impose the levy and collect the associated revenues. Second, they will have to allocate a specified portion of these revenues to international climate finance. This allocation may be secured by incorporating it into the relevant legal framework, or, where national laws preclude statutory earmarking of revenues, through a political commitment to designate a defined share for such purposes (which then needs to be implemented in subsequent budget negotiations).

At the international level, the coalition of willing countries needs to decide in which legal form it wants to formalise its agreement, and what level of detail this should include. The agreement could be formalised in an international treaty, which entails a longer negotiation process but ensures a higher degree of legal prescriptiveness and is more difficult to repeal or withdraw from. The other main option is to enter into a less formalised political agreement, such as a memorandum of understanding. Such agreements can be established more easily but lack the legal force, and instead need to rely on the strength of the political commitment.

5.1.2. Key Barriers and Solutions

While a plurilateral approach appears more feasible, major barriers remain that could prevent effective implementation.

Political Feasibility - Gathering Support of Relevant Parties

For the successful implementation of a plurilateral fossil fuel extraction levy, it is crucial that it includes a critical mass of fossil fuel producers. Potential founding members of such a credible coalition could be the UK, Canada and Norway as countries that have relevant fossil fuel reserves, and at the same time have a progressive climate policy,⁴⁵⁶. Another candidate could be Australia – particularly if the outlook of hosting the COP 31 supports greater climate ambition.⁴⁵⁷

As touched upon in Section 4.2.3. there are significant barriers to gathering political support. Elements that could help to make the initiative more palatable:

⁴⁵⁶ IV E6

⁴⁵⁷ IV E1

- Presenting the levy as key to enabling investments, nationally in the form of a domestic dividend and internationally by channelling revenues towards international climate finance. This could shift perceptions, encouraging stakeholders to view the contributions not merely as costs but see the benefits as well.⁴⁵⁸
- Rising political pressure on the international stage to commit to considerable amounts of additional climate finance.⁴⁵⁹ With the costs of climate change becoming more visible world-wide and thus rising pressure for increased finance, countries might become more open to seek new ways of generating revenue for climate finance.
- Transparent communication and use of revenues, visible public benefits and measures to compensate low-income households can enhance acceptance (see Section 4.2.3).

Legal Challenges – Earmarking Revenue for Climate Finance

A particularly contentious aspect is how to ensure that revenues from the levy are directed to international climate finance. As noted in Section 4.2.2., earmarking is not compatible with some national legislations, at least in terms of a legal requirement.

Assuming national legislations are not altered, in countries that cannot legally earmark funds the allocation of collected revenues to climate finance would depend on the political commitment and the (annual) budget negotiations. This creates a risk as budgetary decisions are usually re-evaluated each year and may shift in response to emerging crises, changing priorities or new governments. Differences in the ability to earmark funds could also prove contentious in the formation of a cooperative coalition, if some jurisdictions are only able to commit to earmarking on a political basis whereas others enshrine their commitment in law.

To address these challenges, it may be useful to identify for which jurisdictions earmarking may not be feasible and explore alternative strategies. It may be necessary to rely on political commitment and sustain international pressure by agreeing to ambitious financial targets. Additionally, evaluating the implementation of Unitaids' international voluntary solidarity levy (see Section 4.1., Precedents in International Revenue Generation), could provide relevant insights. This assessment should investigate whether countries have implemented the solidarity levy through a legal commitment or as a political agreement, if any have discontinued it and if so, what the causes for this were.

Societal Acceptance – Impacts on Consumers

Another key barrier to implementation could be societal opposition triggered by rising consumer prices. This can be alleviated – but not resolved – by introducing the levy at a relatively low level, rising gradually in a foreseeable manner. This can minimise immediate price shocks, and thereby increasing acceptance by consumer and giving them time to adjust, thus maintaining economic stability.⁴⁶⁰ However, a gradual introduction also means that the levy will (initially) mobilise fewer resources and have a smaller effect on reducing fossil fuel production and use.

If companies pass costs to consumers, regulatory mechanisms like revenue caps or profit margin controls could ensure that producers absorb a (larger) portion of the levy's financial burden.⁴⁶¹ Following Russia's war of aggression against Ukraine, revenue capping was for example effectively implemented in the EU's electricity sector for generators deploying inframarginal technologies to protect consumers from substantive price increases.⁴⁶²

⁴⁵⁸ IV E9

⁴⁵⁹ Simavi, 'Money on the Table'.

⁴⁶⁰ Hillman and Sharma, 'The Climate Damages Tax - A Guide to What It Is and How It Works'.

⁴⁶¹ Ibid.

⁴⁶² European Commission, 'REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the Review of Emergency Interventions to Address High Energy Prices in Accordance with Council Regulation (EU) 2022/1854 - COM/2023/302 Final'.

The effect of the extraction levy on private households is difficult to predict: the levy will (initially) only affect a limited share of the global fossil fuel extraction, yet the prices of fossil fuels are determined by global supply and demand on the world market. With a limited share of supply covered by the levy, it is uncertain if this share will be sufficient to affect world market prices, which would enable producers to pass on the additional costs from the levy to consumers. If the levy should indeed lead to rising prices for consumers, part of the revenue can (and should) be used to support vulnerable groups and assist them to adjust to rising energy prices. There is at this point a substantial body of both conceptual and empirical studies on how this can best be achieved while preserving the incentives for more efficient energy use. The British Columbia carbon tax provides one such example, successfully using tax revenues to lower other taxes and provide direct financial relief to vulnerable populations.⁴⁶³

5.1.3. Recommendations

There are several key steps for introducing a fossil fuel extraction levy within a coalition of willing countries: 1) Identifying or establishing an appropriate forum for participants to negotiate the agreement on the levy, including technical preparations, deliberation and formalisation of the agreement; 2) Deciding on the legal form of the international agreement and its level of detail; 3) Finding credible solutions to ensure that an agreed share of the revenue is directed to international climate finance, in particular in the absence of formal earmarking; 4) Cumulative contributions (data, technical assessments and impact evaluations, research results, political and technical discussions) are needed that underpin the process and the formulation of an agreement. These cumulative contributions can stem from various actors, institutions and fora.

At International Level: Finding a Suitable Forum

While some fora can support technical preparations and gather data others are better suited to build political trust and will or form and communicate political agreement in a formalised manner. While somewhat formalised political agreement will have to be made in one forum contributions to a larger process around the introduction of a fossil fuel extraction levy can come from different fora. For the EU to see where it can become active, it is relevant to consider which status and political weight the EU and the Commission have in that forum.

On a general level, aspects to consider in the process of selecting a suitable forum (or establishing a new one) are the general objective of the body, its inclusiveness, its available resources (e.g. technical expertise and staff, financial resources, institutionalised structures) and its capability to foster political agreement. The most relevant fora and how they relate regarding these criteria are outlined below. These fora can be leveraged to spread the idea of and increase the support to the coalition of the willing, and (if there is sufficient overlap of their membership) used to develop the agreement itself.

The **OECD** has extensive technical expertise and financial resources, a history of serving as secretariat for different multilateral initiatives and bodies, and staff proficient in various issues. The OECD also has demonstrated that it can formalise political agreements through various documented agreements.⁴⁶⁴ Yet key fossil fuel extractors like Russia, China, and Saudi Arabia are not OECD members.⁴⁶⁵ OECD membership consists of 38, mainly high-income countries and as per a Supplementary Protocol to the Convention on the OECD the EU takes part in OECD work in a similar form as other OECD member countries.⁴⁶⁶ For introducing a fossil fuel extraction levy, the OECD's robust technical and institutional resources, along with its capacity to formalise detailed agreements, makes it a

⁴⁶³ Köppl and Schratzenstaller, 'Carbon Taxation'.

⁴⁶⁴ OECD, 'OECD Legal Instruments'.

⁴⁶⁵ OECD, 'OECD Members and Partners'.

⁴⁶⁶ Ibid.

strong candidate.⁴⁶⁷ However, some key major extractors and smaller developing states with fossil fuel extraction are not represented.

Another relevant forum is the **G20** which focuses on broad economic cooperation, including sustainable development and environmental issues.⁴⁶⁸ It includes 19 major economies as well as the African Union and the EU, representing a significant portion of global GDP and trade. Its membership also includes major fossil fuel extractors like the USA, Canada and Australia but also Russia, China, Mexico, Indonesia and Saudi Arabia.⁴⁶⁹ Yet the G20 does not have a permanent secretariat, and leaders' declarations are typically non-binding, relying on consensus reached at annual summits. While the G20's broad and influential membership is advantageous, its lack of a permanent structure and reliance on non-binding agreements limit its suitability to facilitate the introduction of a fossil fuel extraction levy: while the G20 could offer a forum to foster agreement among the G20 members (or a subset of them), it is not equipped to support, oversee or coordinate the implementation of such an agreement.

If the – long run – aim is to include all major fossil fuel extracting countries under an agreement on a fossil fuel extraction levy, these fora do not include all countries of relevance. Therefore, any political agreement adopted in one of these fora would have to be open to states other than those who are members of the particular body or organisation – which indeed is the standard practice for many initiatives, clubs or alliances that have emanated from the orbit of the G20. One example is OECD G20 inclusive framework on base erosion and profit shifting where a smaller group of states created a framework which non-members of the OECD and G20 were able to join.

A relevant platform to foster the agreement on a levy is the **Platform for Collaboration on Tax**.⁴⁷⁰ The PCT is a collaborative initiative among the IMF, OECD, UN, and World Bank, aimed at improving domestic resource mobilisation through tax reforms, including workstreams on environmental and international taxation.⁴⁷¹ It has broad membership through participating organizations and a secretariat hosted by the World Bank,⁴⁷² and would be able to host discussions on a fossil fuel extraction levy.

A relevant multilateral effort in this field, is establishment of the Ad-Hoc Committee to Draft Terms of Reference for a United Nations Framework Convention on International Tax Cooperation,⁴⁷³ as mandated by UN Resolution 78/230 on 22 December 2023 (voted by 125 jurisdictions out of 182). Considerable developments are anticipated for the **UN Tax Framework Convention** in 2024 and 2025. Substantive elements of such a convention discussed according to the agenda of the first substantive meeting (within informal meetings) include “effective taxation of high-net worth individuals” and “ensuring that tax measures contribute to addressing environmental challenges”.⁴⁷⁴

Additional fora that can provide input to a larger process of cumulating information and fostering political discourse on a fossil fuel extraction tax could include:

- the **High-Level Expert Group on scaling up sustainable finance** could prove scientific input and technical support; being set up by the European Commission it can be a relevant Group through which the EU can provide independent input into an international process;⁴⁷⁵

⁴⁶⁷ IV E5

⁴⁶⁸ Ibid.

⁴⁶⁹ G20 - Brasil 2024, 'About the G20'.

⁴⁷⁰ IV E9

⁴⁷¹ Platform for Collaboration on Tax, 'Platform for Collaboration on Tax - Who We Are'.

⁴⁷² Ibid.

⁴⁷³ The UN Tax Framework Convention builds on the Resolution 77/244 to strengthen international tax cooperation, fight illicit financial flows and combat aggressive tax avoidance and evasion.

⁴⁷⁴ United Nations, 'Ad Hoc Committee to Draft Terms of Reference for a United Nations Framework Convention on International Tax Cooperation: First Session, 26 April – 8 May 2024'.

⁴⁷⁵ European Commission, 'Scaling up Sustainable Finance in Low and Middle-Income Countries - High-Level Expert Group'.

- scientific input could also come from the **UN Subcommittee** on environmental taxation issues or the UN Subcommittee on Extractive Industries Taxation Issues;
- the **Coalition of Finance Ministers on Climate Action** is a potential political forum for discussions on a possible extraction tax, the ideas of which would align with two of the coalition's principles: Helsinki principle 3 to promote carbon pricing measures and Helsinki principle 5 to mobilise climate finance;⁴⁷⁶
- the **Global Solidarity Levies Taskforce** can also serve as a political forum that, supported through the ECF, could also gather technical input and build momentum as its aim is to achieve a "series of joint declarations agreeing to implement new international taxes at domestic level or in a relevant international forum" at COP30.⁴⁷⁷
- the **Paris Agreement** additionally offers a platform for discussions on a potential fossil fuel extraction levy. While a political agreement through a Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) decision is unlikely, as it would necessitate consent among all signatories, discourse can be fostered in the margins of a CMA session.

At EU level: Actionable Steps for the EU

Recommendation 1: Credible Advocacy

Given the European Union's limited direct stake in fossil fuel extraction relative to global major extractors, strong advocacy for a fossil fuel extraction levy could be perceived as lacking credibility.⁴⁷⁸ In contrast to other policy instruments where the EU has a more substantial stake, it is advisable for the EU to facilitate processes in the background and support the process with analysis, e.g. regarding the feasibility of implementation, rather than prominently advocating for the adoption of a levy which would affect the EU economy to a limited extent.⁴⁷⁹ However, the EU could coordinate with another country that is in a position to credibly push for this instrument, and support that country's initiative. Additionally, a resource extraction levy could become a point of discussion in Just Energy Transition Partnerships.

Recommendation 2: Broadening the Knowledge Base

The EU's contribution could be relevant in broadening the knowledge base regarding the potential mechanisms and impacts of a fossil fuel extraction levy. This can be achieved by leveraging its financial resources and technical expertise to commission studies and analyses and incorporate these themes into its research programmes, such as Horizon Europe. The abovementioned High-Level Expert Group on scaling up sustainable finance could for example also be commissioned to comprehensively assess a potential fossil fuel extraction levy and its contributions to climate finance. In this way, the EU can support the discussion that is unfolding with a scientifically rigorous knowledge base.

Recommendation 3: Internal Assessment

Externally, the European Commission should monitor the evolution of international discussions concerning a potential fossil fuel extraction levy. Should momentum for the implementation of such a levy rise, internally, the Commission needs to evaluate whether and how such a levy could be implemented within the EU, considering the existing legal and policy frameworks as well as the EU's competence and mandate. This internal review is relevant for understanding the EU's capacities and limitations but also for informing external communications. By clarifying what is feasible within the EU, it can communicate externally based on well-grounded internal assessment.

⁴⁷⁶ Coalition of Finance Ministers, 'Coalition of Finance Ministers'.

⁴⁷⁷ Global Solidarity Levies Task Force, 'Global Solidarity Levies Task Force', sec. Who We Are-Timeline.

⁴⁷⁸ IV E5, IV E7

⁴⁷⁹ Ibid.

5.2. Levy on Windfall Fossil Fuel Profits

5.2.1. Most Promising Instrument Design

A global implementation of a minimum levy on windfall fossil fuel profits with a uniform definition of windfall is unlikely for above stated reasons. Hence, recommendations will be considered for both option 2a and option 2b: a plurilateral implementation by a coalition of the willing, introducing the levy on windfall fossil fuel profits within the system of the corporate income tax (option 2a) or introducing a flat rate levy on the part of the profit that is considered excessive (option 2b). Designing the levy on windfall fossil fuel profits as part of the corporate income tax system, especially as a **corporate surtax** is complex and challenging to implement. However, this approach minimizes the direct impact on consumer prices compared to a flat rate levy. By building on the current system, the likelihood increases that it may serve to close existing tax loopholes.⁴⁸⁰ In addition, including the levy in the corporate income tax systems allows to build on the work of the OECD/G20 Inclusive Framework. Yet a separate, dedicated levy is potentially easier to implement if applied as a flat rate-levy and could be more sustainable politically.⁴⁸¹ The levy should be collected from companies that produce or sell fossil fuels in the respective jurisdiction and a proportion of the mobilised revenue should be channelled to international climate finance.

If a coalition of countries decides to move ahead with the levy, they each would be required to take two steps: first, members of the coalition have to impose the levy and collect the associated revenues. Second, they will have to allocate a specified portion of these revenues to international climate finance. This allocation may be secured by incorporating it into the relevant legal framework, or, where national laws preclude statutory earmarking of revenues, through a political commitment to designate a defined share for such purposes (which then needs to be implemented in subsequent budget negotiations).

The coalition of the willing can be formalised more firmly in the form of an international arrangement, ratified as an international treaty which ensures a binding legal obligation and enduring commitment, or through a political agreement/joint declaration to demonstrate political commitment.

5.2.2. Key Barriers and Solutions

While a plurilateral approach might be a more feasible option than a near-global implementation, major barriers which could hinder (effective) implementation remain.

Determining Windfall Profits

Determining windfall fossil fuel profits could become a major barrier to the introduction of an international levy on windfall fossil fuel profits as they are volatile and revenues hence difficult to predict. As outlined above in Section 4.2.2, distinguishing between “normal” and “excessive” profit levels is particularly difficult, therefore achieving consensus on a universal definition will be challenging. Christians suggests that, based on existing analytical methods and available data, windfall profits may start at above 22% compared to average profits pre-COVID.⁴⁸² Other scholars argue to compare the increase in profits with the rise in commodity prices from previous periods to determine windfall fossil fuel profits.⁴⁸³ Another solution might be to analyse existing precedents and their definitions of windfall profits. At EU level, the Council Regulation (EU) 2022/1854 defined for its mandatory temporary solidarity contribution that profits made in 2022 and/or 2023 above a 20 % increase of the average taxable profits generated in the four fiscal years starting on or after 1 January 2018 should be subject to the [temporary] solidarity contribution (see recital 53).

⁴⁸⁰ IV E9

⁴⁸¹ Ibid.

⁴⁸² Tax Notes, ‘Pillar 3 for the OECD: A Global Excess Profits Tax. Interview with Allison Christians’.

⁴⁸³ IV E6

Political Feasibility - Gathering Support of relevant parties

To form a strong and effective initiative, a coalition of willing countries should include members that will be affected by such a levy, i.e. countries of extraction or, if GloBE rules are introduced alongside an international levy on windfall fossil fuel profits, also countries where fossil fuel companies are headquartered. To form a credible coalition, relevant partners could be the UK, Canada and Norway,⁴⁸⁴ perceived as a progressive fossil fuel extracting state and leaders in the field, as well as Australia – as the potential host for COP 31.⁴⁸⁵ In addition, all these countries already have fiscal instruments in place that target economic rents.⁴⁸⁶ The EU had also introduced a mandatory temporary solidarity contribution on companies and permanent establishments with activities in the crude petroleum, natural gas, coal and refinery sectors generating at least 75 % of their turnover from economic activities in the field of the extraction, mining, refining of petroleum or manufacturing of coke oven products operating in the fossil fuel sector, including coal, natural gas, gasoline and diesel.

A global corporate minimum tax has already been adopted and supported by a large scale of countries and jurisdictions. It would be beneficial to build on the work of the OECD/G20's Inclusive Framework: A Pillar 3 could be introduced, and the Inclusive Framework may provide the (most) appropriate platform to harmonize and administer this concept of a levy on windfall (fossil fuel) profits at international level.⁴⁸⁷

Legal Risks related to Fiscal Stabilisation

Fiscal stabilisation clauses might be a risk to the introduction of an international levy on windfall fossil fuel profits, particularly in developing and emerging economies. Windfall profits from fossil fuels are generally concentrated in the countries where these resources are extracted including some developing countries and emerging economies.⁴⁸⁸

If an international levy on windfall fossil fuel profits were to become an international norm, it could be argued that the levy is an exception to stabilisation, allowing for deviations from legal obligations that would otherwise apply.⁴⁸⁹ However, achieving the necessary widespread support⁴⁹⁰ is highly unlikely. Another approach to mitigate legal risks for respective countries implementing domestic tax reforms in response to such a levy is to directly encourage MNEs to agree to waive or revise stabilisation clauses in domestic laws, investment contracts, and BITs.⁴⁹¹

Alternatively, countries have three additional options to address stabilisation clauses hindering the implementation of such a levy. First, unilateral disclosure by the taxpayer: This approach could be effective if the GloBE rules also apply to the introduced international levy on windfall fossil fuel profits. Taxpayers might voluntarily agree to pay the tax in the country of extraction despite the stabilized fiscal terms – otherwise, the tax would have to be paid to the residence country of the parent company via the income inclusion rule, or to a third country under an undertaxed profits rule.⁴⁹² Second, Renegotiate Stabilized Fiscal Provisions: Modifying stabilized investment contracts requires mutual agreement between host countries and investors, potentially involving trade-offs to reach a

⁴⁸⁴ Ibid.

⁴⁸⁵ IV E1

⁴⁸⁶ More information and potential challenges are outlined under Section 4.3.2 Technical Feasibility, Precedents at National and Regional Level and 4.3.3 Political Feasibility, Multilateral Support and Significant Precedents.

⁴⁸⁷ Christians and Diniz Magalhaes, 'It's Time for Pillar 3', 2ff; Tax Notes, 'Pillar 3 for the OECD: A Global Excess Profits Tax. Interview with Allison Christians'.

⁴⁸⁸ Global Energy Monitor, 'Global Oil and Gas Extraction Tracker'.

⁴⁸⁹ Christians et al., 'A Guide for Developing Countries on How to Understand and Adapt to the Global Minimum Tax', 34.

⁴⁹⁰ The global minimum tax with support from over 140 countries could be considered an international norm.

⁴⁹¹ Christians et al., 'A Guide for Developing Countries on How to Understand and Adapt to the Global Minimum Tax', 40.

⁴⁹² Ibid at 34f.

consensus.⁴⁹³ Finally, should investors initiate arbitration and succeed on liability, they might still lose on damages if the taxpayer is required to pay the tax elsewhere due to the application of the GloBE rules and the implementation of a minimum levy on windfall fossil fuel profits by several countries (although this scenario is highly unlikely). In this context, courts and tribunals should be encouraged to take a holistic view of damages related to the levy's implementation.⁴⁹⁴

Profit Shifting and Cross-Border Enforcement

Profit shifting can pose a significant barrier to the effective implementation and enforcement of an international levy on windfall fossil fuel profits. As outlined above, MNEs might mitigate the impact of a windfall profits tax by using tax credits from another country: The MNE could reduce its overall tax burden by claiming credits in one country for taxes paid in another. A careful tax planning by MNEs to avoid or reduce the impact of the new tax could undermine its effectiveness.⁴⁹⁵

However, certain rules for cross-border tax cooperation could contribute to a more effective implementation of such a tax as numerous cooperative norms and standards for allocating multinational profits exist.⁴⁹⁶ There will be a strong need for international coordination providing guidance, enhanced cooperation of tax authorities (where profits have been taxed) and harmonizing the calculation of the apportionable profits across jurisdictions, where appropriate.⁴⁹⁷ Efforts to address profit shifting and enhance cross-border tax cooperation could build on the BEPS⁴⁹⁸ project (the G20/OECD Inclusive Framework on BEPS). The BEPS project has established a framework to tackle tax avoidance, including profit shifting by MNEs. In addition, BEPS guidelines on transfer pricing ensure related entities price transactions as if they were unrelated, which can contribute to allocating windfall profits more properly and to the levy's effectiveness.⁴⁹⁹

5.2.3. Recommendations

To introduce a levy on windfall fossil fuel profits through a coalition of willing countries, a formalized political agreement or joint declaration in a suitable international forum is necessary. The conditions for reaching an agreement are outlined in Section 5.1.3.

At International Level: Finding a Suitable Forum

Considerations for identifying a suitable forum are similar to those discussed under Section 5.3.3. Fossil Fuel Extraction Levy, Recommendations. Key factors include the forum's objective, available resources, inclusiveness and ability to agree to a joint declaration to demonstrate collective commitment.

The **OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting** (BEPS) may be a suitable forum to introduce a levy on windfall fossil fuel profits, potentially through a new Pillar Three. The framework convenes over 140 countries and jurisdictions and 14 observer organizations around 15 Actions to ensure coherence in the international tax system and tackle tax avoidance (including country-country reporting or transfer pricing).⁵⁰⁰ A new pillar would not necessarily automatically include all parties that are part of the existing framework.

⁴⁹³ Ibid at 35.

⁴⁹⁴ Ibid at 40.

⁴⁹⁵ Christians and Diniz Magalhaes, 'The Case for a Sustainable Excess Profits Tax', 744f.

⁴⁹⁶ Ibid at 744.

⁴⁹⁷ Hebous, Prihardini, and Vernon, 'Excess Profit Taxes: Historical Perspective and Contemporary Relevance', 16; de Luis Iglesias et al., 'Scoping Study of Innovative Sources of International Climate Finance', 29f.

⁴⁹⁸ More information on the BEPS project is provided under the Section 4.2.2, Technical Feasibility, Global Anti-Base Erosion (GloBE) rules and Pillar Two.

⁴⁹⁹ OECD, 'Base Erosion and Profit Shifting (BEPS)'.

⁵⁰⁰ Ibid.

- **Structure:** Countries and jurisdictions are invited to join as Associates by expressing their interest, participating equally and committing to implement the BEPS package. Major fossil fuel extractors are already member to the OECD/G20 Inclusive Framework on BEPS, including for example the US, Russia, Saudi Arabia, Canada or the UK, this could increase likelihood of these countries also joining a new pillar.⁵⁰¹ Implementation timelines may vary based on each country's development level. Currently, a 24-country Steering Group guides the framework's direction and priorities.
- **Resources and Support Mechanisms:** The Inclusive Framework provides technical assistance and capacity building, particularly for developing countries, supported by the IMF, UN or World Bank Group as well as regional tax organizations. Policy papers, research reports, guidance, data and other tools are being made available to assist the implementation of BEPS actions.
- **Pillar Two:** Members of the OECD/G20 Inclusive Framework on BEPS joined the Two-Pillar Solution (Global Minimum Tax) to Address the Tax Challenges Arising from the Digitalisation of the Economy. The **timeline** to reach an agreement on Pillar Two officially started in 2013 with the adoption of the 15-point Action Plan on BEPS.⁵⁰² In 2021, members to the Inclusive Framework agreed to a statement on the Pillar Two Solution and, in 2023, adopted the Multilateral Convention facilitating the implementation of the Subject to Tax Rule.⁵⁰³ As of May 2024, over 50 jurisdictions are actively moving towards the implementation of the global minimum tax framework under Pillar Two.⁵⁰⁴ The EU (see Council Directive (EU) 2022/2523) and several other jurisdictions plan to implement Pillar Two starting in 2024, while others will follow in 2025.⁵⁰⁵

When considering the OECD/G20 Inclusive Framework on BEPS as a potential forum, it is important to note that the objective of the BEPS project is to provide governments with rules and instruments to tackle tax avoidance, ensuring that profits are taxed where the related economic activities occur. The Global Minimum Tax at 15% under Pillar Two targets all MNEs with a turnover of more than €750 million.⁵⁰⁶ Therefore, the BEPS project does not specifically target an industry/sector, nor aim to introduce a new levy.

Considerations for other fora are analogous to those of the fossil fuel extraction levy and can be found in Section 5.1.3.

At EU Level: Actionable Steps for the EU

Recommendation 1: Build on the Mandatory Solidarity Contribution

The EU's implementation of Council Regulation (EU) No 2022/1854, which targets the economic rent of fossil fuel companies, may enable the EU to advocate a similar (minimum) levy at the international level. The European Commission can share insights and best practices with other, like-minded countries to rally support for such an instrument, and demonstrate its feasibility and effectiveness. This includes further engagement with Member States to obtain a clear view of the estimated and actual proceeds generated under Chapter III of the Council Regulation for the full fiscal years of 2022 and 2023. One aspect to consider for revenue allocation is the principle of universality applied by some Member States, which requires that all revenue is pooled into the general budget, and which does

⁵⁰¹ Ibid.

⁵⁰² OECD, *Tax Challenges Arising from the Digitalisation of the Economy – Consolidated Commentary to the Global Anti-Base Erosion Model Rules (2023)*.

⁵⁰³ More information is provided under Section 4.3.2., Global Anti-Base Erosion (GloBE) rules and Pillar Two.

⁵⁰⁴ OECD, 'Outcome Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy', 1.

⁵⁰⁵ KPMG, 'BEPS 2.0: Pillar One and Pillar Two'.

⁵⁰⁶ More information is provided above under Section 4.3.2., Global Anti-Base Erosion (GloBE) rules and Pillar Two.

not foresee earmarking revenue streams for specific purposes.⁵⁰⁷ However, governments may still direct these revenues towards specific objectives⁵⁰⁸, such as international climate finances. Although the Council Regulation was an exceptional, targeted, and temporary measure, the European Commission could build on the common ground among MS for the solidarity contribution to rally support for an international levy on windfall fossil fuel profits.

Recommendation 2: Broaden the Knowledge Base

This recommendation has already been made for the Fossil Fuel Extraction Levy and is also relevant for the Levy on Windfall Fossil Fuel Profits. The EU could contribute to knowledge building by providing further analysis for the (technical) challenges of implementing a levy on windfall fossil fuel profits, through funding relevant research, funding expert positions, and facilitating exchanges between international experts.

Recommendation 3: Leverage Existing Frameworks

Within the OECD/G20 Inclusive Framework on BEPS, international organizations can act as observers, enabling more coordinated and targeted capacity building for implementing BEPS outcomes. Organizations such as the IMF, UN, and World Bank Group play significant roles in the BEPS Project. Additionally, regional networks involved in the BEPS Project are particularly relevant for developing countries, supporting the implementation of the BEPS package and helping these countries effectively participate in the ongoing standard-setting process.⁵⁰⁹ Given the role of international organisations, the European Commission could, following consultations with respective Member States, aim to introduce the concept of an international levy on windfall fossil fuel profits within the Inclusive Framework, or initially at the G20 and subsequently within the Inclusive Framework.

5.3. Levy on Plastic Polymers / Hydrocarbon Plastics

5.3.1. Most Promising Instrument Design

Due to the reasons detailed in Section 4.4.3, a global implementation of the polymer levy is unlikely. Therefore, recommendations will focus on design option 2: a plurilateral implementation by a coalition of countries willing to move ahead. Forming such a coalition allows for focused negotiations with selected countries. This coalition should include several major polymer-producing countries to ensure the levy has impact and generates substantial revenue. Accordingly, two conditions must be met: first, members to the coalition must enact legislation to impose the levy and collect the associated revenues; second, they must allocate a specified portion of these revenues to international climate finance.

5.3.2. Key Barriers and Solutions

Opposition towards a levy on polymer production, particularly from major producers, can be expected due to high payments and concerns over competitiveness and the lack of an international level playing field.⁵¹⁰

To circumvent negative impact on competitiveness, uniform import tariffs on imports from countries that have not implemented the polymer levy contributes to a level playing field and encourages a broader participation at the same time. Starting the levy low and gradually increasing its tariffs, along with reinvesting revenue into local communities or industries, can enhance political feasibility by easing market adaptation and ensuring compliance.

⁵⁰⁷ European Commission, 'Report on Chapter III of Council Regulation (EU) No 2022/1854 of 6 October 2022 on an Emergency Intervention to Address High Energy Prices: Solidarity Contribution and Enacted Equivalent Measures: Stocktaking', 10.

⁵⁰⁸ More information is provided under Section 5.4.1.

⁵⁰⁹ OECD, 'Base Erosion and Profit Shifting (BEPS)'.

⁵¹⁰ IV C2.

Political Feasibility - Gathering Support of Relevant Parties

Strong resistance towards a polymer levy can be expected from major polymer producing countries such as China, United States, India and Saudi Arabia.⁵¹¹ Diminishing the possible impact on competitiveness is a key prerequisite for political support on the polymer levy. Competitiveness could be addressed by creating a 'clean polymer club', akin to the theoretical concept of a climate club proposed by Nordhaus, which require club members to implement a domestic polymer levy, and at the same time agree to not implement any trade barriers against other club members. This would reduce the leakage risk and incentivize non-participating countries to join the club, encouraging a large stable coalition.⁵¹²

Channelling a portion of the generated revenue back into the local community or polymer industry might increase industry support.⁵¹³ The retained share of the levy collected could be used to encourage broader participation in the coalition or club. Negotiating countries could settle on distribution between retained and shared portions, with the possibility of adjusting this balance over time.⁵¹⁴

Political feasibility could also be enhanced by designing the levy to start at a lower rate and gradually increase over time, a concept known as a "tax escalator".⁵¹⁵ Announcing these escalators well in advance allows the market, including polymer producers, plastic manufacturers, and consumers, to anticipate and adapt to the changes. This approach, which has been successfully implemented in cases like the UK landfill tax, makes the levy more politically viable.⁵¹⁶ Setting the tax level too high from the start could lead to resistance and increased non-compliance.⁵¹⁷

Lastly, to enhance cross-border tax cooperation, one could leverage the BEPS project (the G20/OECD Inclusive Framework on BEPS).

Certification of Recycled and Biobased Polymers

Globally, only a small fraction of polymers is produced using recyclables or biobased inputs.⁵¹⁸ To encourage greater use of these materials, a first best solution would be to exclude recyclables and biobased polymers from the tax base of the polymer levy.

Excluding recyclables and bio-based plastics from the tax base is only possible on the basis of a well-functioning monitoring system that reliably guarantees the use of recycled and bio-based plastics. International agreements will have to be reached on mutual recognition and withdrawal of certificates to avoid benefiting from different incentive schemes.

5.3.3. Recommendations

The conditions for reaching an agreement are outlined in Section 5.1.3. To secure an agreement, a committed coalition must formalise a pact within a suitable international forum.

At International Level: Finding a Suitable Forum

A coalition should include key polymer-producing countries and regions. When selecting an appropriate forum, attention should be directed towards countries in North America, Europe, the Middle East, and the Asia-Pacific region.⁵¹⁹

⁵¹¹ IV C2.

⁵¹² Nordhaus, 'Climate Clubs', 1341ff.

⁵¹³ Minderoo Foundation. 'The Polymer Premium: A Fee on Plastic Pollution.'

⁵¹⁴ Ibid.

⁵¹⁵ European Environmental Bureau. 'Circular Taxation.'

⁵¹⁶ Ibid.

⁵¹⁷ Ibid.

⁵¹⁸ Polyglobe. 'Worldwide polymer producers, plants, capacities.' Accessed on 29th of May.

⁵¹⁹ Ibid.

The **High Ambition Coalition to End Plastic Pollution (HAC)** calls for urgent action to reduce plastic pollution and may support a polymer levy. In the forum, some key polymer producing countries are represented, including Canada, Mexico, Japan, South Korea, the United Arab Emirates, the United Kingdom and all EU countries. Altogether, the forum accounts for roughly a quarter of global polymer production.⁵²⁰ Within the forum, there have not yet been any discussions regarding a polymer levy as this is currently being discussed in the UN negotiations for a treaty to end plastic pollution.⁵²¹ The HAC is a group of like-minded countries; however, the forum does not have a highly institutionalized structure nor significant political influence, as it was established to increase pressure for a legally binding UN Treaty to end plastic pollution.⁵²²

Other fora that might be suitable for proposing a polymer levy, including the **OECD, G20** and **PCT**, are outlined in Section 5.1.3. Even at the plurilateral level, involving too many countries at the early stages of negotiations can make progress difficult.

At EU Level: Actionable Steps for the EU

Recommendation 1: Implement a Polymer Levy within Europe

The first recommendation is to implement the polymer levy within Europe, where it is expected to be more politically feasible due to stronger resistance in countries outside of Europe. To maintain a level playing field for European polymer producers, the levy should be paired with comparable import tariffs on polymers from non-European countries. A polymer levy interacts with EU ETS. Plastic is produced primarily from fossil fuels, either natural gas liquids or naphtha from oil refineries. The manufacturing emissions (excluding the feedstock) of naphtha are already included in the EU ETS. Waste incineration (final stage of polymers) is currently not part of the EU ETS but will be included as of 2030. A polymer levy would thus partly overlap with the EU ETS – yet it can be justified to have both instruments operate in parallel, as a polymer levy is not only (or primarily) intended to reduce CO₂ emissions, but also to reduce plastic pollution and to promote a circular use of plastic and reduction of virgin plastic from fossil oil. Studies indicate that levies on plastic products have a minimal impact on the final price of end products because the cost of raw materials constitutes only a small portion of the total product price. For example, CE Delft (2021) calculated that a tax of €0.80 per kilogram on a 400-gram plastic bin, costing consumers between €5 and €30, would result in a price increase of just €0.32.⁵²³ Such a price increase is barely noticeable to consumers, even if it is significant at the raw material level. Consequently, for the polymer levy, the minimal price increase suggests that substantial leakage effects at the end product level are unlikely.

Recommendation 2: Create a Clean Polymer Club

As an alternative to recommendation 1, the European Commission could target specific countries that are sympathetic towards a polymer levy within an appropriate forum. It is advisable to begin with a limited scope but aspire to wider involvement. Engaging too many countries early in the negotiation process, even on a plurilateral scale, can hinder progress. Negotiations among smaller, like-minded groups are more likely to succeed. Once the initial group reaches an agreement on the climate club's terms, the arrangement can then be opened for other countries to join.⁵²⁴

In negotiations, the Commission could propose the establishment of a 'clean polymer club', which would serve a similar purpose as CBAM: protecting the internal polymer market within a coalition of the willing. For such a club to be successfully implemented, the Commission would need to clearly articulate the goals and entry requirements of the club, i.e. applying the Polluter Pays Principle on polymer producers, maintaining a level playing field and penalizing non-participating countries. Club

⁵²⁰ Ibid.

⁵²¹ UN Environment Programme. 'Revised draft text of the international legally binding instrument on plastic pollution, including in the marine environment.'

⁵²² High Ambition Coalition to End Plastic Pollution. 'Home.'

⁵²³ CE Delft. 'Nationale heffing op virgin plastics.'

⁵²⁴ Climate Advisers. 'Climate Clubs.'

members would thus need to commit to implementing a polymer levy (or an equivalent measure) domestically, based on shared criteria and design parameters, and agree to not impose trade-related measures against other club members. National policies of club members thus need to be harmonized, and a mechanism needs to be set up to enforce compliance with the climate club's regulations and standards, including penalties for non-compliance. Like CBAM, the club needs to be aligned with WTO rules.⁵²⁵

Recommendation 3: Channel Part of the Revenues Back into the Industry

In garnering international support for the polymers levy, the negotiation mechanism can leverage the tax level and the distribution ratio of retained and shared tax revenue. Starting with a low rate upon implementation and gradually increasing it over time can facilitate acceptance. Additionally, ensuring a portion of the levy revenue is reinvested into the industry enhances political feasibility.⁵²⁶ This approach aligns economic incentives while supporting industry adaptation, thereby fostering broader support for the levy.

Recommendation 4: Introduce the Levy in its Most Basic Form

The primary purpose of the levy on polymers is to generate revenue for climate finance. As a first best solution, the tax could also have an incentive function by excluding recycled and biobased polymers from the tax base, thereby narrowing the price gap with virgin polymers. However, implementing such an exemption requires an international certification system for recycled and biobased polymers, which is currently not operational. Therefore, the recommendation is to introduce the levy as simple as possible, including recycled and biobased polymers in the tax base. Instead, priority should be given first to developing an international certification system for recycled and biobased polymers. Once this system is operational, recycled and biobased polymers can be considered for exemption from the tax base.

5.4. Jet Fuel / Kerosene Levy

5.4.1. Most Promising Instrument Design

Implementing a jet fuel levy, whether globally or plurilaterally, holds promise but faces significant hurdles. Both approaches require overcoming legal obstacles, such as the current exemptions in the Energy Taxation Directive (ETD) and air service agreements. However, for the reasons outlined under Section 4.4.3, a global implementation with countries implementing a levy on jet fuel is an unlikely scenario – not least since, in the view of most ICAO members, the problem is sufficiently addressed with the CORSIA system. Alternatively, leveraging momentum within ICAO to find support with individual countries, or a targeted state-by-state approach to form a 'coalition of the willing' may be effective.

5.4.2. Key Barriers and Solutions

Implementing a jet fuel levy encounters political resistance both in Europe and internationally. Changing European laws to permit jet fuel taxation requires significant effort, and the aviation industry's influence in international aviation forums complicates efforts to garner support for ambitious climate action.

Political Feasibility - Gathering Support of Relevant Parties

Gathering international support for a jet fuel levy will be challenging and presents a significant barrier to its implementation. Within Europe, revising the ETD to eliminate the jet fuel tax exemption remains controversial and has been delayed since its proposal in 2021.⁵²⁷ However the Council is still in a position to reach agreement to eliminating exemptions. Internationally, the ICAO, widely regarded

⁵²⁵ Ibid.

⁵²⁶ IV C5.

⁵²⁷ Legislative Train Schedule. 'Revision of the energy taxation directive (ETD).'

as the appropriate forum to address emissions from international aviation through in-sector and out-of-sector measures, typically opposes any form of taxation, particularly if the revenue is not fully reinvested into the industry.⁵²⁸ Airlines are also likely to fiercely oppose a jet fuel levy, as they will probably face a decrease in demand (or at least slower demand growth) as the tax would increase the price of their services.⁵²⁹

ICAO has set ambitious emission reduction targets. Given the anticipated continuous growth of the global aviation industry, and the need to progress towards climate neutrality in all sectors, these targets cannot be reached with CO₂-offsetting alone. Additional measures are deemed necessary to lower emissions, such as transitioning to SAFs.⁵³⁰ The most (cost)effective way to foster this transition is through the taxation of fossil jet fuels. The increased pressure on the aviation industry to become more sustainable could be leveraged to create momentum for a jet fuel levy.

Legal Challenges – Exemption rule on taxation of jet fuels

Legislation and international treaties exempt jet fuel from taxation in some cases. Within Europe, the ETD exempts taxation of aircraft fuel from commercial air transport between EU states.⁵³¹ Additionally, existing ASAs between the EU and third countries in some cases prevent the taxation of jet fuel, such as Canada and the United States. This means that carriers originating from these countries cannot be taxed, even when operating within the EU.

For a jet fuel levy to be imposed on intra-EU flights, the ETD needs to be revised to remove the exemption rule for aircraft fuel. This revision requires approval from all individual member states. Additionally, to allow for the taxation of non-EU carriers and extra-EU flights, bilateral agreements with third countries that currently exempt jet fuel from taxation need to be renegotiated.

5.4.3. Recommendations

The conditions for reaching an agreement are outlined in Section 5.3.3. To secure an agreement, a committed coalition must formalise a pact within a suitable international forum.

At International Level: Finding a Suitable Forum

The most ambitious scenario - a global implementation with countries worldwide implementing a levy on jet fuel (in the form of posing minimum tax tariffs) may be unfeasible at current or serve as a long-term aspiration rather than an immediate option. Alternatively, leveraging momentum within ICAO to gain support with individual countries, or a targeted state-by-state approach to form a 'coalition of the willing' could be effective. A multilateral coalition should incorporate major aviation hubs to ensure the levy is effective and generates substantial revenue. Such an initiative must allow countries and jurisdictions time and fiscal room to move forward with implementing and revising their tax system within a common framework of e.g. minimum tariffs. Therefore, the Commission could prioritize countries within Europe, North America, and the Asia-Pacific region, as global aviation is concentrated in these world regions.

The International Aviation Climate Ambition Coalition, launched at COP26, advocates for aviation decarbonization and alignment of aviation climate goals with the Paris Agreement.⁵³² The Coalition effectively lobbied for the adoption of the net-zero emissions target during the 41st ICAO Assembly. Its membership consists of European and North American countries, as well as Japan, Turkey and South Korea. Together, these countries represent more than half of global air passenger traffic.⁵³³ The Coalition's stance on a jet fuel levy remains uncertain, as taxation issues have not

⁵²⁸ CE Delft. 'Taxing aviation fuels in the EU.'

⁵²⁹ FERDI. 'Taxation of civil aviation fuels as a source of financing for vulnerable countries.'

⁵³⁰ IV C7

⁵³¹ CE Delft. 'Taxing aviation fuels in the EU.'

⁵³² Changing Transport. 'Still alive? An update on the COP26 initiatives for transport decarbonisation.'

⁵³³ World Bank. 'Air transport, passengers carried.'

been a priority in the Coalition.⁵³⁴ In its declaration, the Coalition recognizes ICAO as the suitable forum for addressing emissions in alignment with climate goals.⁵³⁵ The Coalition is perceived to have limited institutional and political influence. Nevertheless, it could serve as a platform to collectively propose this initiative within ICAO.

The **ICAO** is widely recognized as the appropriate forum for proposals impacting the global aviation industry.⁵³⁶ As a United Nations agency, it includes representation from nearly all countries worldwide, making it highly institutionalized with significant political influence. However, ICAO typically opposes taxation initiatives, particularly if revenues are not fully reinvested in the aviation sector.⁵³⁷ This possibly presents a significant hurdle to successfully implementing a jet fuel levy within ICAO.

Other fora that might be suitable for proposing a jet fuel levy, including the **OECD**, **G20** and **PCT**, are outlined in Section 5.1.3.

At EU Level: Actionable Steps for the EU

Recommendation 1: Overcome Legal Hurdles

When considering a jet fuel levy, the Commission must first need to overcome legal barriers related to implementing such a levy. This includes obtaining agreement on the 2021 proposal for a revision of the ETD, lifting the exemption on jet fuel taxation. Some member states might be hesitant due to concerns about market distortions if the EU taxes jet fuel on intra-EU flights. However, it's important to recognize that revising the ETD facilitates negotiations for an international jet fuel levy, potentially reducing market distortions if the levy is implemented at a broader geographical scale.

Before initiating international negotiations on a jet fuel levy, it would be essential to renegotiate ASAs between the EU and third countries. The exemption rule concerning fuel taxation would need to be removed as part of this process.

Recommendation 2: Use Momentum within ICAO to Find Political Support

During the next ICAO Assembly in 2025, CORSIA will be periodically revised and practical measures to achieve climate neutrality will be discussed. This offers a strategic moment to build momentum and secure political support for a jet fuel levy. The climate neutrality commitments made by ICAO during the previous Assembly provide a strong foundation for additional measures to curb the growth of emissions caused by aviation.

Political backing for a jet fuel levy could initially be pursued within the International Aviation Climate Ambition Coalition. Once support is secured within the Coalition, the Commission could collaborate with countries inside the coalition to propose the jet fuel levy during the upcoming ICAO Assembly, positioning it as a measure to advance climate neutrality efforts.

Recommendation 3: Channel Part of the Revenues Back into the Industry

To build international support for the jet fuel levy, the negotiation strategy can utilize the initial tax rate and how revenue is allocated – starting with a conservative rate and gradually raising it can improve acceptance. Additionally, ensuring a portion of the levy's revenue is reinvested into the aviation sector enhances political feasibility. This approach aligns economic incentives with industry adaptation efforts, promoting broader support for the levy.

⁵³⁴ Changing Transport. 'Still alive? An update on the COP26 initiatives for transport decarbonisation.'

⁵³⁵ GOV.UK. Declaration: International Aviation Climate Ambition Coalition.

⁵³⁶ The International Aviation Climate Ambition Coalition also considers ICAO as the appropriate forum to address emission reductions in the aviation industry.

⁵³⁷ IV C5, C8.

6. CONCLUSIONS

Globally, there is an increasing recognition of the urgency to address climate change and its far-reaching impacts. Mobilised finance flows, however, fall significantly short of the requirements for a sustainable and equitable shift towards a low-carbon, climate-resilient future. To close the gap, innovative financial mechanisms are needed that can generate substantial funding. This report assessed four potential international instruments – a Fossil Fuel Extraction Levy, a Levy on Windfall Fossil Fuel Profits, a Levy on Plastic Polymers/Hydrocarbon, and a Levy on Jet Fuel/Kerosene in terms of their political and technical feasibility, as well as their potential to generate revenue.

A Fossil Fuel Extraction Levy can generate significant revenue in a predictable way. It aligns with the polluter-pays principle and – contingent on the rate chosen – can reduce the emissions and support the transition away from fossil fuels, also reducing import dependence. In the long term, however, the continued phase-out of fossil fuels may lead to declining revenues. The instrument will only be effective if major fossil fuel-extracting nations can be convinced to participate. The EU as an actor is recommended to focus on facilitating background processes, credible advocacy, broadening the knowledge base, and conducting internal feasibility assessments regarding a fossil fuel extraction levy to align its stance and actions coherently with global efforts.

A Levy on Windfall Fossil Fuel Profits serves to skim off excessively high profits in the fossil fuel industry result from exceptional external developments, such as crises or conflicts. The nature of these causes, however, means that the revenues that this instrument generates for climate finance are inherently volatile and near impossible to predict. The OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting may be a suitable forum to make further progress on a levy on windfall fossil fuel profits, potentially through a new Pillar Three. The EU can leverage its experience with a comparable mechanism, the Mandatory Solidarity Contribution and share insights and data from its implementation. Additionally, the EU could contribute to knowledge building by providing further analysis for the (technical) challenges of implementing a levy on windfall fossil fuel profits, through funding relevant research and facilitating exchange.

A Levy on Plastic Polymers/Hydrocarbon aims to reduce the production and consumption of virgin plastics, in light of their effects on climate and the environment. This approach not only generates predictable funds for climate finance but can also support the shift towards more sustainable production and consumption of plastic. Similar to a Fossil Fuel Extraction Levy, participation of leading polymer-producing nations is necessary for effective implementation. A potential forum to progress on this instrument internationally could be the High Ambition Coalition to End Plastic Pollution, representing key polymer producing countries. However, this body lacks both a formal structure and the necessary political influence. Additionally, the levy could be advanced under the UN negotiations for a treaty to end plastic pollution. Internally, the EU could implement a polymer levy in a basic form to set a precedent or aim to implement it within a smaller group of like-minded countries, possibly including defensive elements to create and protect a market that is only accessible to club members and limits market access to others in a WTO aligned way (akin to the original idea of a Climate Club).

A Levy on Jet Fuel/Kerosene would apply the polluter-pays principle to the aviation sector and would increase its level of taxation, helping address the significant carbon footprint. The implementation of this levy, ideally at a global scale to minimize competitive distortions, would encourage the adoption of more sustainable aviation practices, including the use of Sustainable Aviation Fuels, while providing predictable revenues for climate finance. The levy's success depends on aligning international regulations and gaining support from major aviation hubs and could be facilitated by the International Civil Aviation Organization.

For all of the instruments considered, a plurilateral approach is likely to be the most feasible option for implementation, i.e. engaging initially with a smaller group of like-minded countries, to agree on the basic parameters of the levy, and to subsequently implement the levy in each participating jurisdiction. This would have repercussions over the level-playing field. For the channeling of revenue two questions arise: First, whether it is feasible to direct funds to an international institution, which in some countries may face legal or constitutional obstacles if it is seen to bypass the national budget. Second, if revenues enter the national budget first, whether these funds can be earmarked for specific

uses, such as international climate finance or a designated fund. A plurilateral implementation is not only more likely to be agreeable for a critical mass of countries and thus quicker to agree on, but it is also more likely to result in an ambitious outcome: By contrast, a (near-)global agreement is more likely to result in a watered-down compromise, which needs to make substantial concessions to be acceptable also to the most fervent opponents. Yet such a watered-down compromise is not only unlikely to be sufficient for attaining the goal – it may also block the political space for further negotiations on an alternative, more substantial solution.

Yet, even if they are implemented only as a plurilateral effort by a limited number of countries, all options will require the consent and cooperation of parties that have a history of blocking progress and obfuscating processes. Oil and gas companies, the petrostates where they operate, but also the aviation industry have been working more or less openly to either prevent progress on multilateral climate action, or to ensure that its ambition remains limited. Yet it is some of these same institutions that need to be convinced and brought on board for the proposed options to go forward.

Yet there is hope – for all four instruments, there are drivers that enhance their **political feasibility**, as well as potential drivers. The fossil fuel extraction levy would arrive in a time when the fossil-fuel phase-out is increasingly recognized as a necessity, and possibly an inevitability. Also, to progress towards fossil-fuel phase-out, it is necessary to complement to the suite of established climate policies – which tend to focus on fossil fuel demand only – with others that target their supply. Levy on windfall profits from fossil fuel extraction can be framed as a matter of fairness and (climate) justice, as it addresses a fundamentally unjust situation, in which companies are allowed to profit from a polluting activity and generate massive profits, paid for by consumers, in addition to the external costs carried by future generations. Production and consumption of polymers is not only relevant as a climate issue, but above all adds to a massive and potentially irreversible pollution problem, through which the industry creates a massive, long-lasting externality in the form of near-universal pollution of water, soil and biosphere. Jet fuel, finally, is increasingly recognized as one of the toughest nuts to crack in the transition to climate neutrality, as one of the sectors where emissions continue to grow and show little sign of a trend change.

Interestingly, none of the four options would a priori appear as particularly sensitive in terms of the **distributional impacts** they would entail. Least problematic in this regard is the jet fuel levy: since flying disproportionately increases with income, it would generally be progressive, i.e. placing a higher burden on those with higher incomes. Likewise, the windfall profit levy would be socially balancing almost by definition: while the windfall profits themselves are most likely socially unjust, imposing a high burden on poorer household, a levy to recover the profits and redistribute part of the revenue would (partly) correct the original injustice. The fossil fuel extraction charge could have a regressive effect if and when it affects global fuel prices – yet for this to happen, it would first need to cover a sufficient share of the global supply. And even then, the experience with implementing carbon pricing provides ample conceptual approaches and practical solutions for addressing its distributional effects.

In terms of **competitive effects**, all four instruments require coordinated multilateral action to avoid imbalances, market distortions and (carbon) leakage, and thereby to increase their political feasibility. The intensity of the potential competitive distortions, however, differs between the instruments. For the levies on fossil fuel extraction and polymers, the case is clearest, since they both are homogeneous goods traded on a unified and competitive global market. Increasing production cost for some producers may thus cause them to lose in market share, with suppliers from other countries stepping in. The case is least clear-cut for a windfall profit levy, as this does not affect the direct production cost. There may be indirect effects as the windfall levy may reduce the capacity of affected companies to invest, yet the extent of this effect is uncertain.

A crucial factor for the likelihood that an agreement can be negotiated internationally is the **additionality of the effort**, i.e. whether the issue is already (seen to be) addressed through a multilateral instrument in other contexts. This is most critical for aviation – with CORSIA, there is an existing international solution. While this may be considered as insufficient and criticized for lacking ambition, it is what the sector agreed on. For a fossil fuel extraction levy, the argument can be raised that it

overlaps to some degree, with carbon pricing systems implemented in a growing number of jurisdictions worldwide. For windfall profits and polymers, less overlap.

The assessed instruments have significant potential to contribute to global climate finance. However, their success hinges on the ability to generate international momentum, align interests, and create mechanisms that are perceived as fair and equitable across different economic and social contexts. This report provides a scoping analysis for policymakers to consider as they seek pathways to mobilise the necessary finance to meet global climate goals.

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