

# Istanbul Sustainable Energy and Climate Action Plan

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Climate Change Branch Directorate

Environmental Engineer

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## C40 Cities Climate Leadership Group

- Istanbul Metropolitan Municipality is the first and only municipality from Turkey to become a member of the **C40 Cities Climate Leadership Group**.
- At the C40 Mayors' Summit held in Copenhagen in October 2019, our Mayor signed the "**Deadline 2020**" commitment, aiming to make Istanbul a "**carbon neutral**" and "**resilient city**" by 2050.

İklim Değişikliği Eylem Planı Hedefi	2030	2040	2050
2019 baz yılına kıyasla sera gazı emisyon miktarının azaltılması	52%	89%	100%



Link:

<https://iklim.ibb.istanbul>

## Global Covenant of Mayors - GCOM

- Istanbul Metropolitan Municipality has been a member of the "**Global Covenant of Mayors for Climate and Energy-GCoM**" since 2016.
- GCoM:
  - to reduce greenhouse gas emissions
  - voluntarily commits to become a resilient city.
- In this context, IBB regularly submits greenhouse gas inventory data to the **CDP (Carbon Disclosure Project)** Cities network, one of GCoM's international reporting channels.



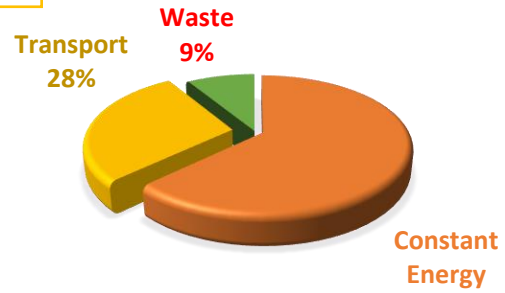
Dear Mayor Ekrem Imamoglu,

On behalf of the partners supporting the Global Covenant of Mayors  
for Climate and Energy (GCoM) in Turkey

**Congratulations!**

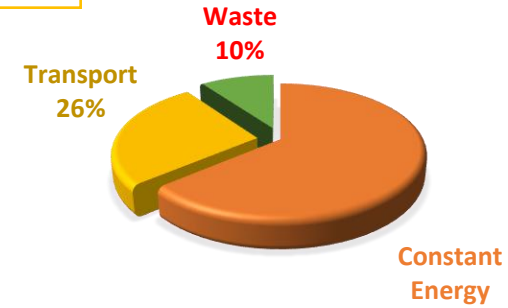


2019



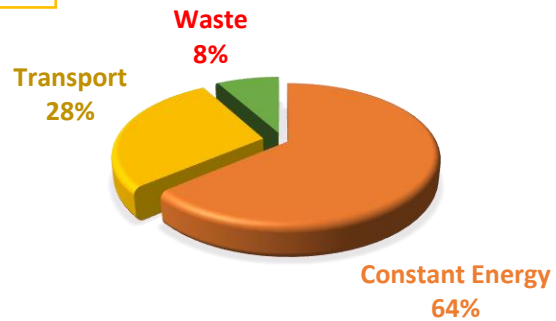
2019 Total Emission	50,888,653 tCO <sub>2</sub> e
Emissions per capita	3.3 tCO <sub>2</sub> e/person <sub>2</sub>

2020



2020 Total Emission	47,880,005 tCO <sub>2</sub> e
Emissions per capita	3.1 tCO <sub>2</sub> e/person <sub>2</sub>

2021



2021 Total Emissions	50,637,989 tCO <sub>2</sub> e
Emissions per capita	3.2 tCO <sub>2</sub> e/person <sub>2</sub>

2022



2022 Total Emission	51,202,666 tCO <sub>2</sub> e
Emissions per capita	3.2 tCO <sub>2</sub> e/person <sub>2</sub>

2023



2023 Total Emission	50,894,956 tCO <sub>2</sub> e
Emissions per capita	3.3 tCO <sub>2</sub> e/person <sub>2</sub>



## SUSTAINABLE ENERGY AND CLIMATE ACTION PLAN (SECAP)

- **PROJECT NAME:** EU for Energy Transition: *EU4 Energy Transition Covenant of Mayors in the Western Balkans and Turkey*
- **PROJECT SCOPE:** Within the scope of the project, applications of municipalities from 7 member countries of the Global Covenant of Mayors have been accepted and **consultancy services, technical assistance and capacity support on SECAP development have been provided to 2 selected municipalities from Turkey, namely **Istanbul Metropolitan Municipality** and **Bağcılar Municipality**.**
- **PROJECT DURATION:** Total duration 48 months (1 March 2021- 28 February 2025)  
2021-2023: Preparation of SECAP  
2023-2025: Implementation of SECAP

## SUSTAINABLE ENERGY AND CLIMATE ACTION PLAN (SECAP)

- SECAP activities were carried out under the coordination of **IBB Department of Environmental Protection and Control Climate Change Branch Directorate** and under the project management of Lithuania-based **Central Project Management Agency (CPMA)**.
- The project is funded by **the European Union** and the **German Federal Ministry for Economic Cooperation and Development**.



## SEİEP (SECAP) REPORTING PROCESS



Preparation of  
Sub-Reports after  
the Workshops  
and Sub-Working  
Group Studies



Sub-Reports are  
merged and  
submitted as  
SIAAP



Control of the  
Draft Report by  
IMM units



Submission of the  
finalised Report  
to the IBB  
Assembly



Submission of the  
SEAP approved  
by the Assembly  
to the GCoM  
platform



### SECAP planının hazırlanması ve onaylanması

SECAP Metodolojisi,  
SECAP şablonu

Uygulama, çalışma grupları,  
alt çalışma grupları

SECAP 'ın İBB Meclisi  
tarafından onaylanması

GCoM'a gönderim



### Kapasite geliştirme

Değerlendirme, kapasite  
geliştirme önlemleri ve  
çalıştaylar

Uygulama ve atölye  
çalışmaları

Değerlendirme



### Koordinasyon ve iletişim faaliyetleri

SECAP Metodolojisi,  
SECAP şablonu

Uygulama, çalışma grupları,  
alt çalışma grupları

SECAP'ın İBB Meclisi  
tarafından onaylanması

GCoM'a gönderim

## SUSTAINABLE ENERGY AND CLIMATE ACTION PLAN (SECAP)

SECAP is based on two conclusions:

- **Basic Greenhouse Gas Emission Inventory**
  1. IBB Corporate Emission Inventory -BEI
  2. Istanbul General Greenhouse Gas Emission Inventory
- **Risk and Vulnerability Assessment - RVA**



## SECAP: CORPORATE EMISSION INVENTORY

- IBB's **first Corporate Greenhouse Gas Emission Inventory** was prepared by our technical staff in 2022 by taking **2019 as the base year** within the scope of SECAP.
- The corporate inventory includes emissions from **all IBB buildings and facilities, 28 subsidiaries and 2 affiliates**.

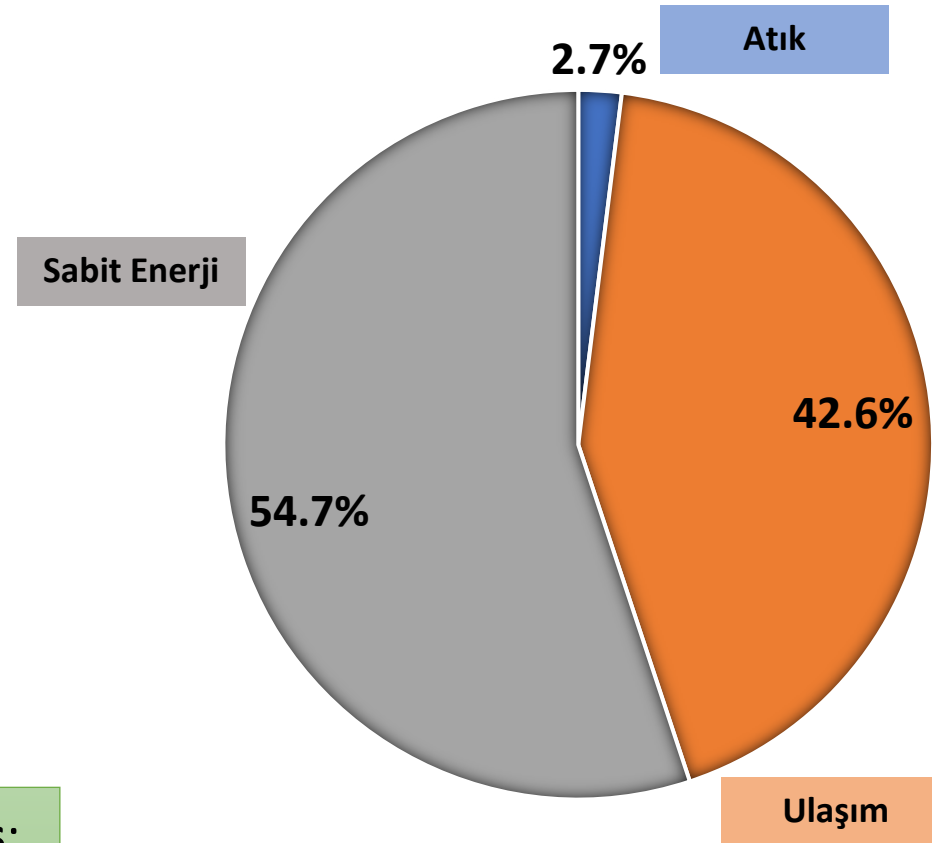
IBB's corporate greenhouse gas emission amount is **3%** of the total greenhouse gas emission amount of Istanbul.

### Total amount of emissions:

**1,544,908 tCO<sub>2</sub><sub>e</sub>**

### Emissions per capita:

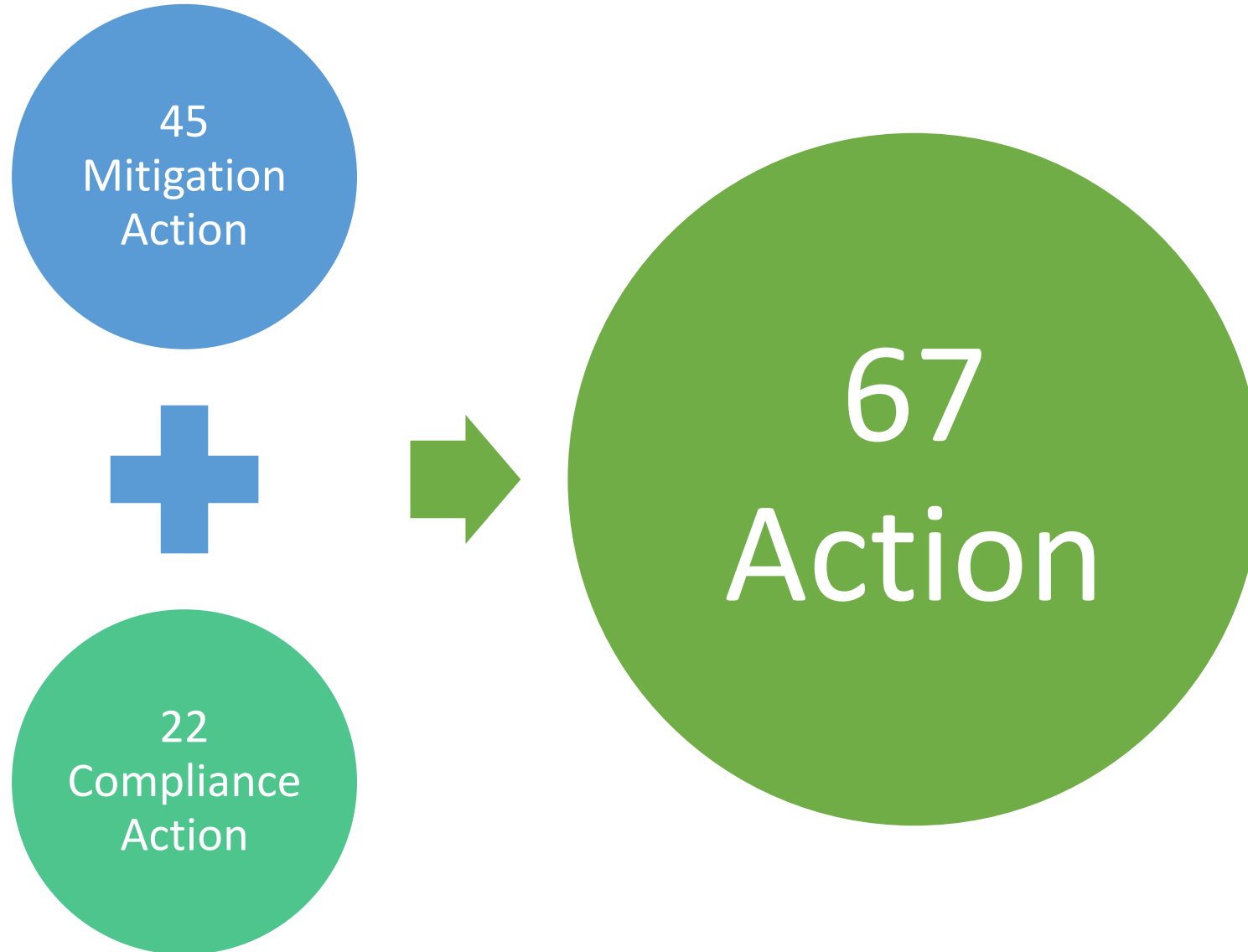
**20.1 tCO<sub>2</sub><sub>e</sub>**

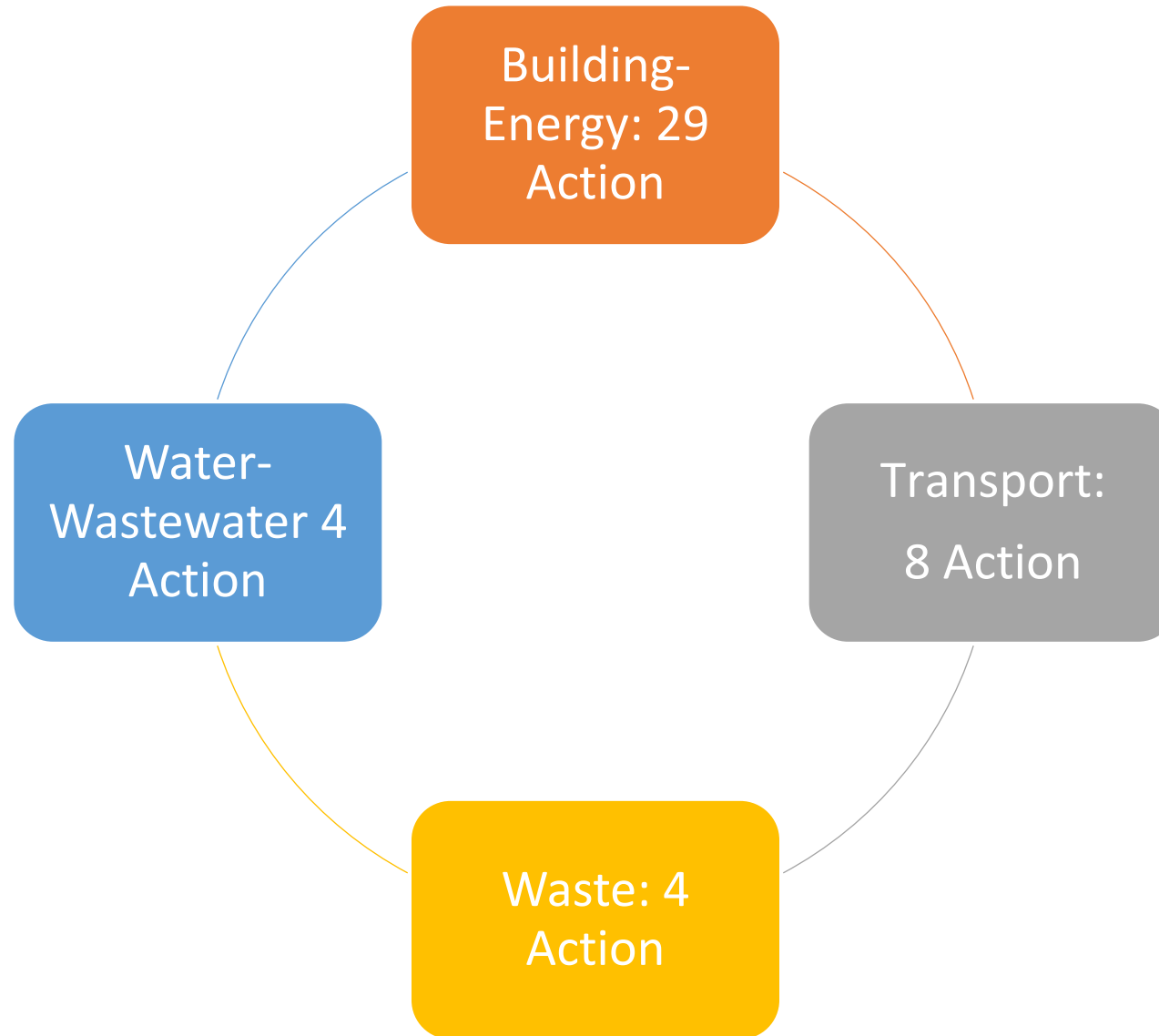


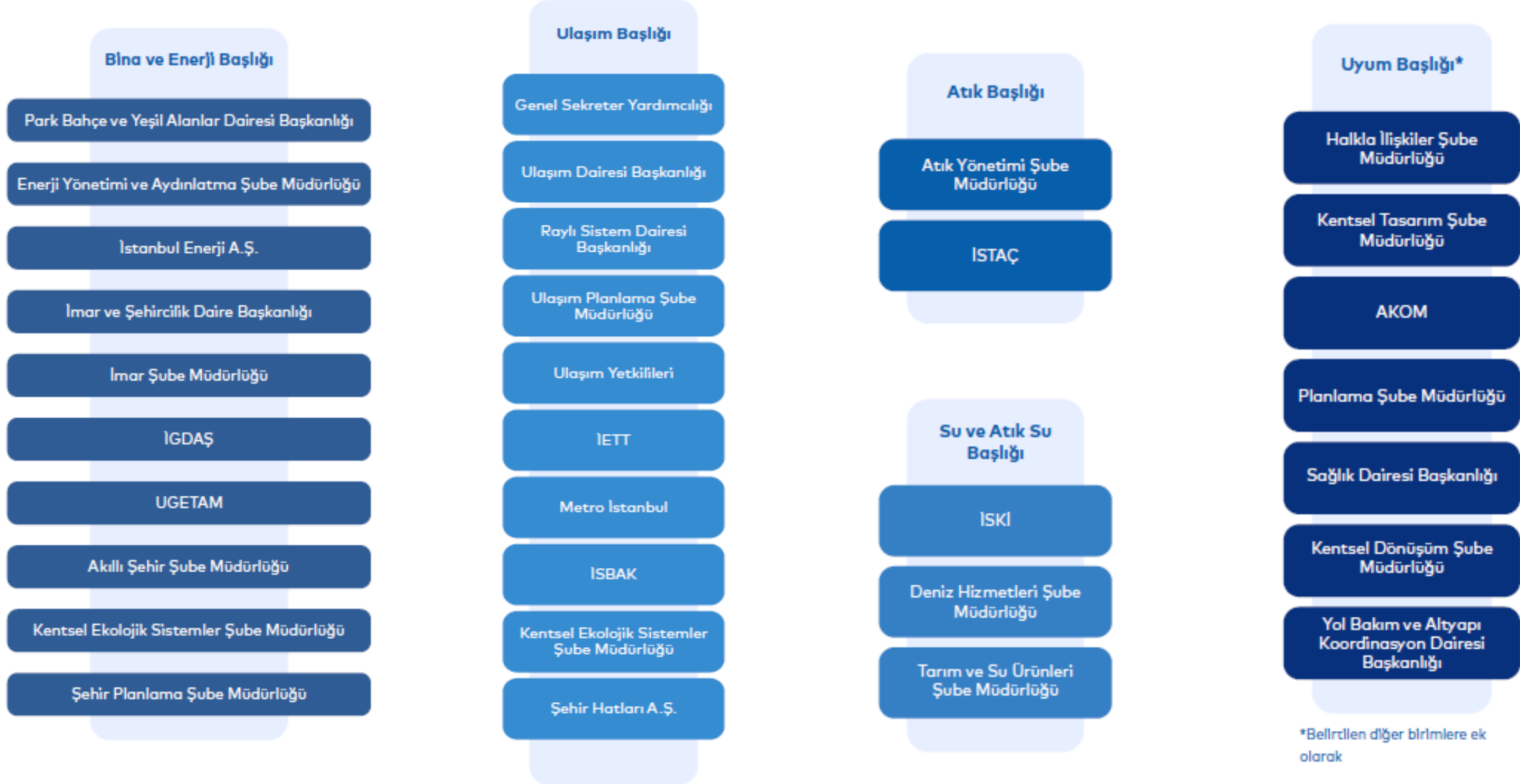


## 7 Subsidiaries and Affiliates with the Highest Energy Consumption











Sürdürülebilir Enerji ve İklim Eylem Planı Hedefi	2030
2019 baz yılına kıyasla sera gazı emisyon miktarının azaltılması	40%

Ölçüm	Hedefler	2030
Enerji Verimliliği	Binalarda enerji tüketimini azaltmak	40%
Yenilenebilir Enerji	Binalarda yenilenebilir enerji üretimini artırmak	55%
Neredeyse Sıfır Enerjili Bina	Binalarda yenilenebilir enerji kullanımını artırmak	50%
Farkındalık	Enerji kullanımı ve verimliliği hakkında farkındalık sağlamak amacıyla ulaşılan kişi sayısını artırmak	Sınırsız

## SECAP HARMONISATION

### STUDIES: Internal and External Stakeholder Workshops:

- Risks and vulnerabilities of Istanbul in terms of adaptation to climate change,
- measures to be taken to minimise the negative effects of these risks have been determined.



- As a result of the studies, '**Istanbul Risk and Fragility Sub-Report**' was prepared.



## SECAP HARMONISATION STUDIES: VULNERABILITY

### MAPPING

- Within the scope of SECAP, regional risk maps were prepared for Istanbul on four different vulnerabilities with the InVEST model.

- Urban Flooding
- Coastal Flooding
- Habitat Degradation
- Heat Islands

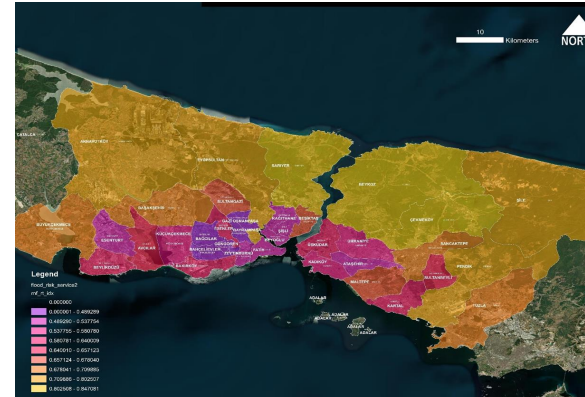


Figure 1: Figure 1: Flood Vulnerability Map

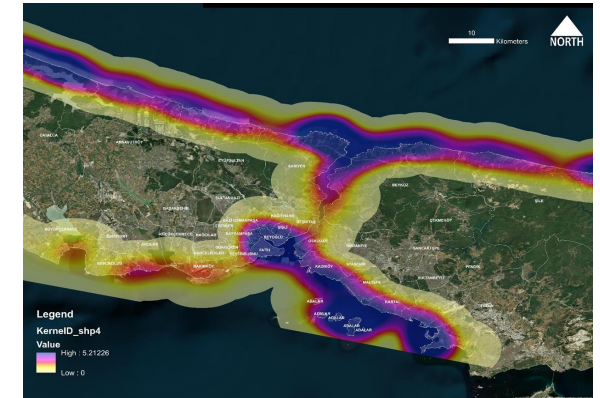


Figure 2: Coastal Fragility Map

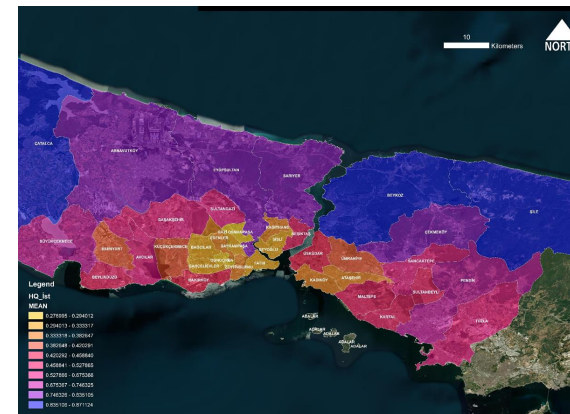


Figure 3: Habitat Quality

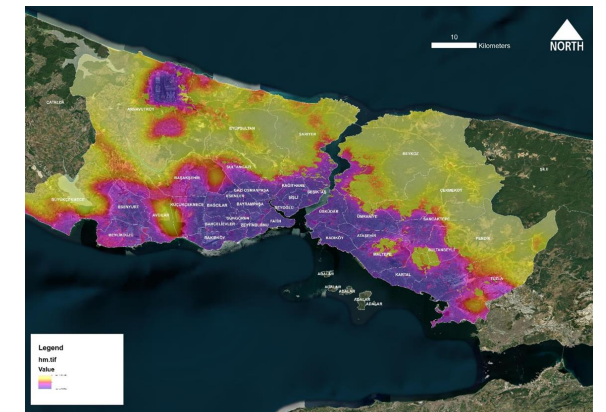


Figure 4: Heat Mitigation Index (HMI)



## Urban Flooding

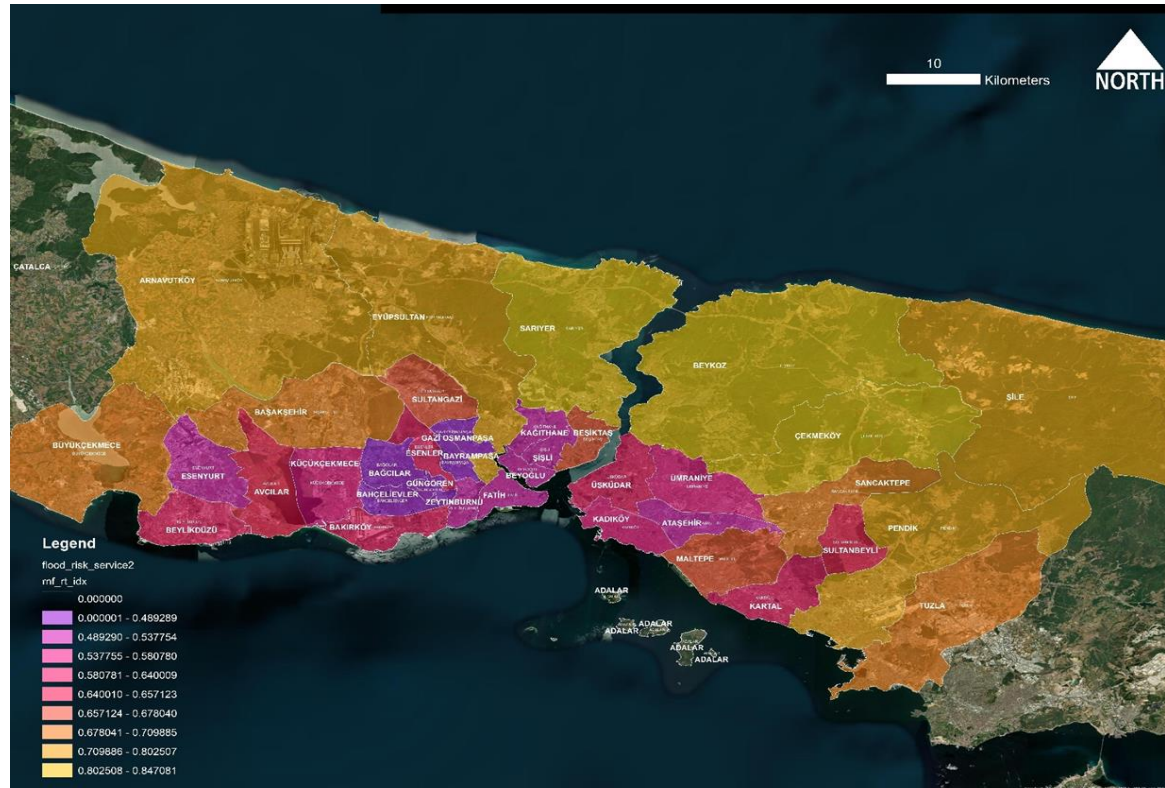


Figure 1: Flood Vulnerability Map

## Coastal Flood

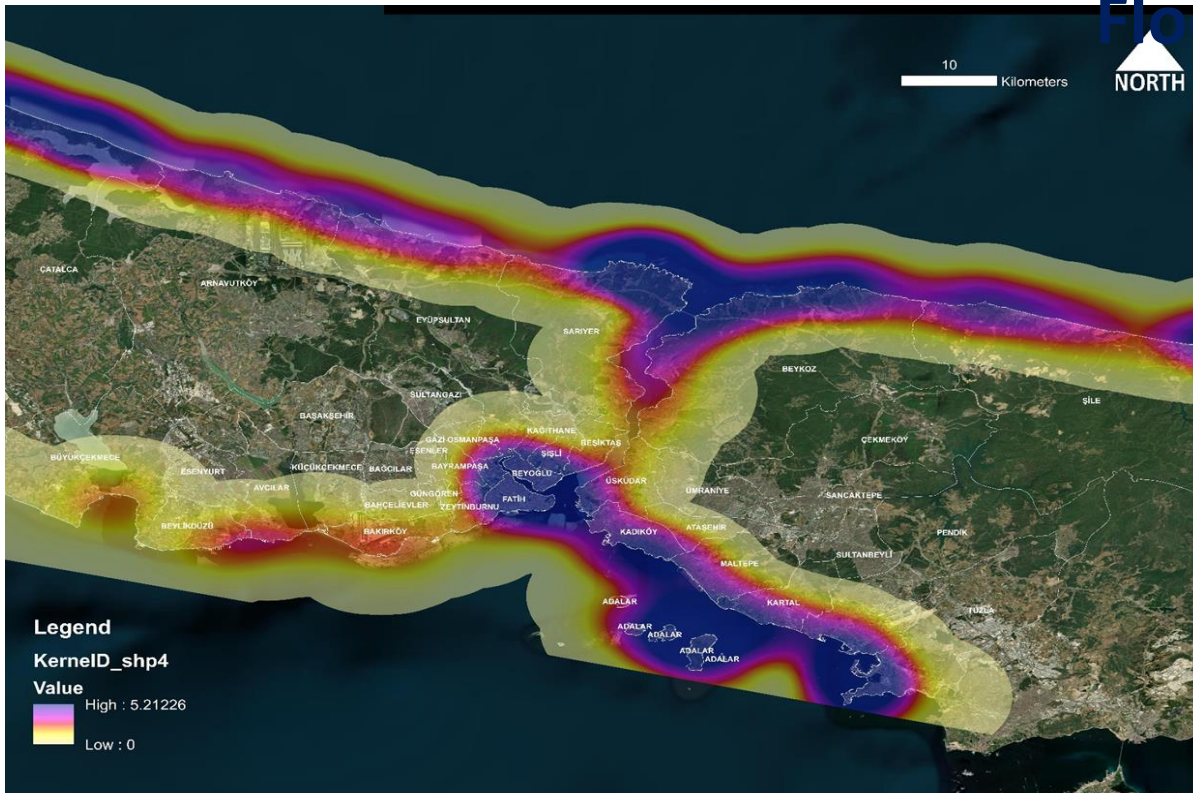


Figure 2: Coastal Fragility Map

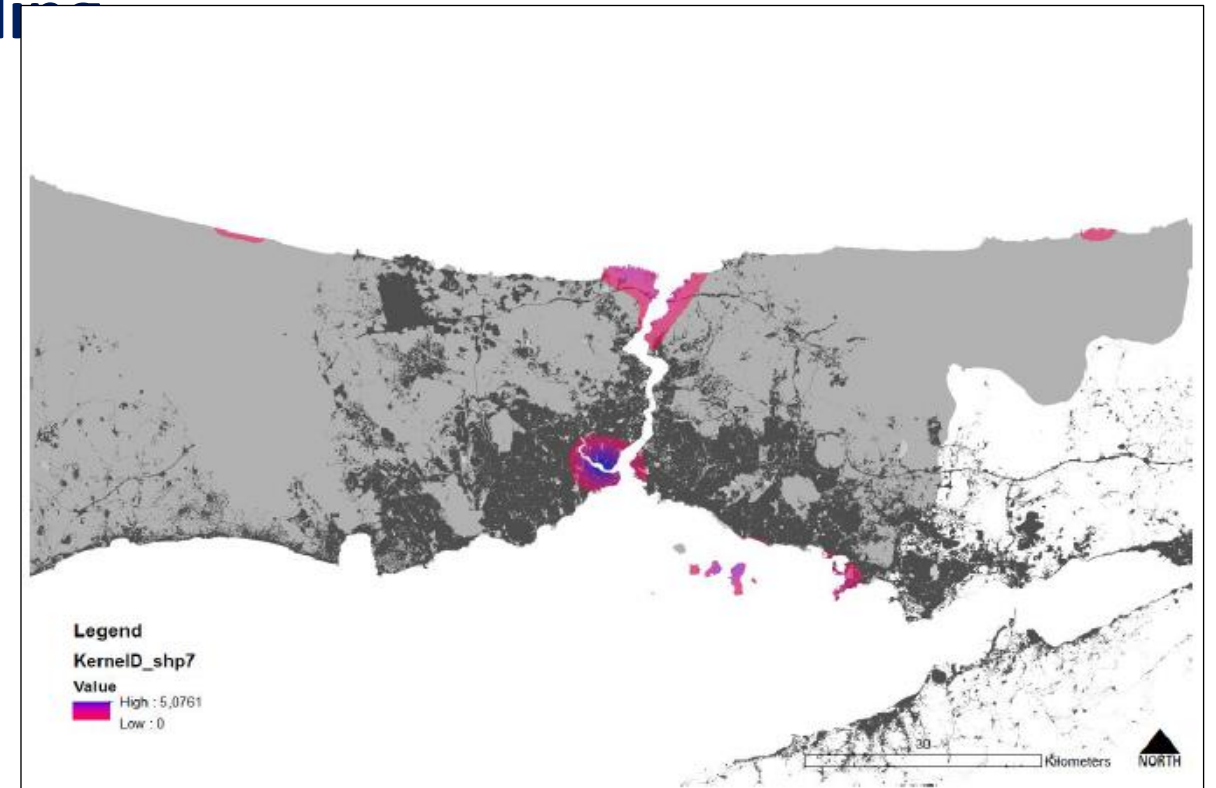
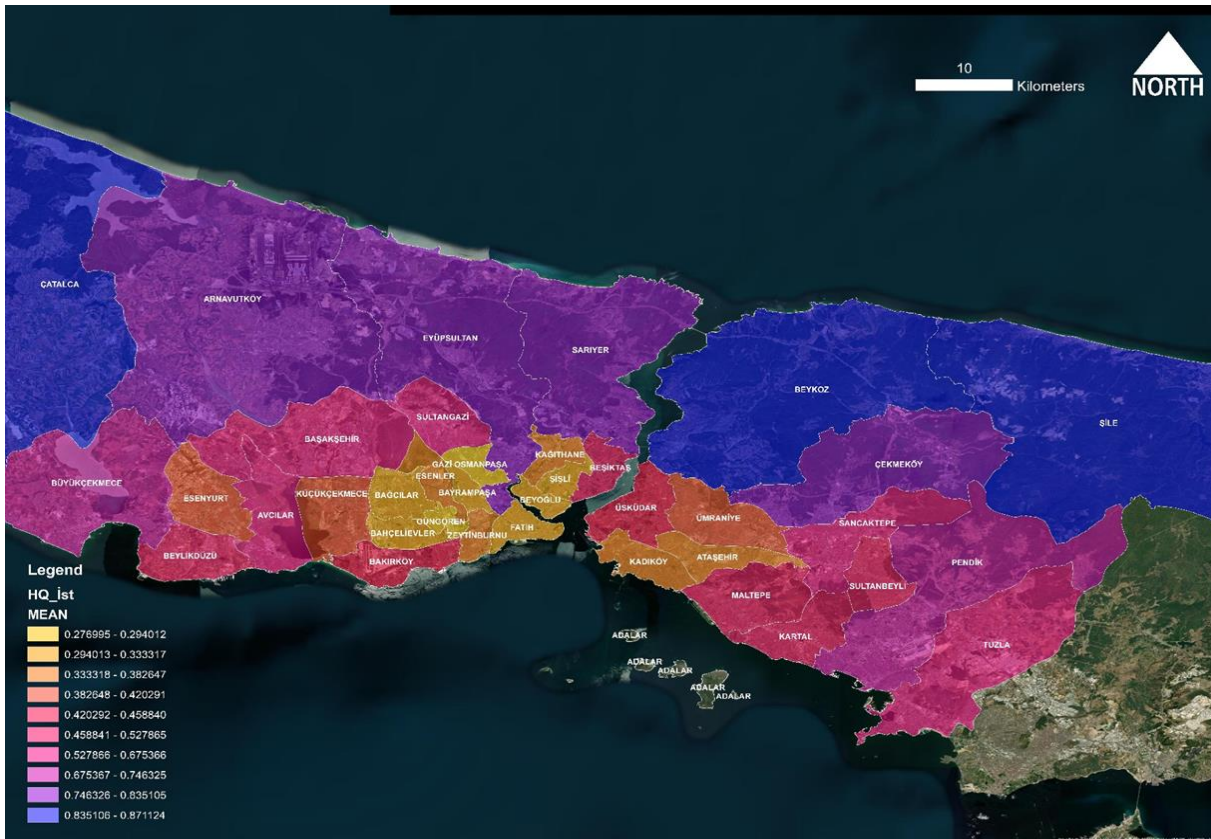
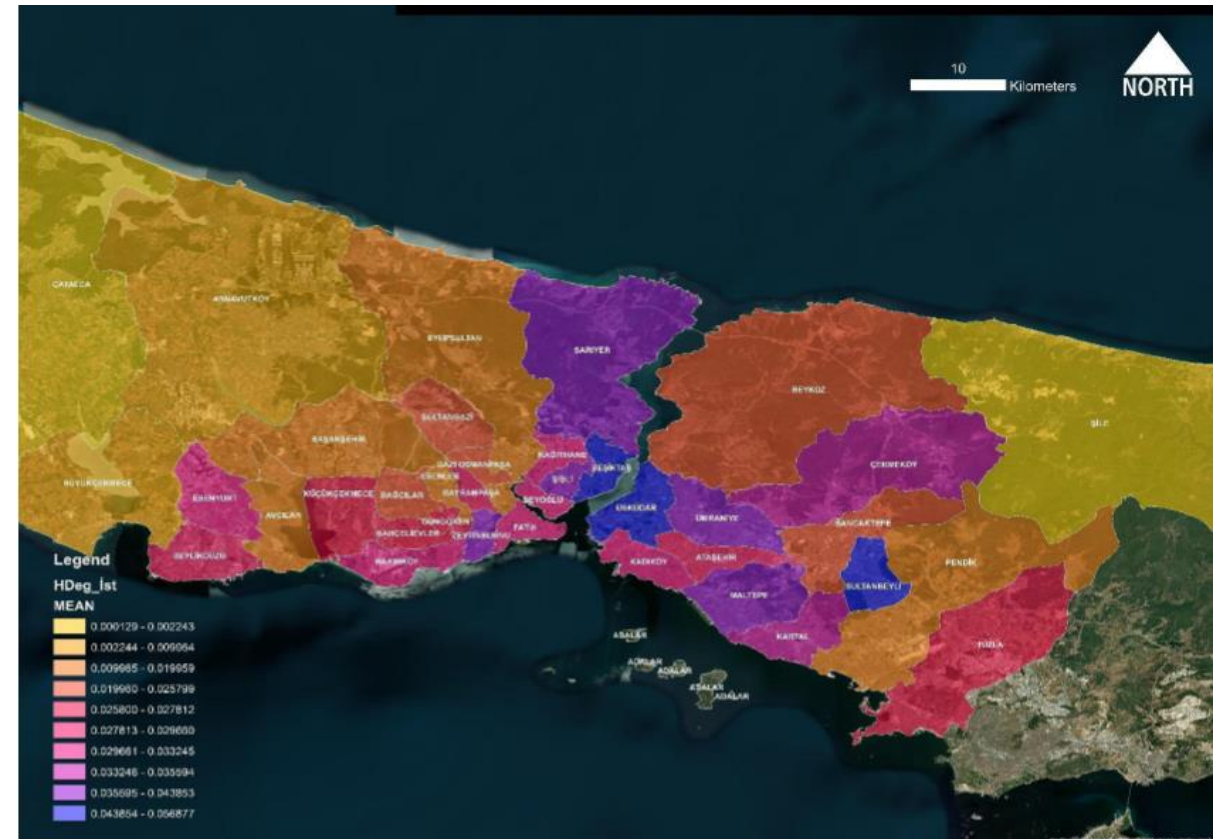


Figure 3: Sea Level Rise Vulnerability Map

## Habitat Quality



*Figure 4: Habitat Quality Map*



*Figure 5: Habitat Degradation Map*



# Heat Island

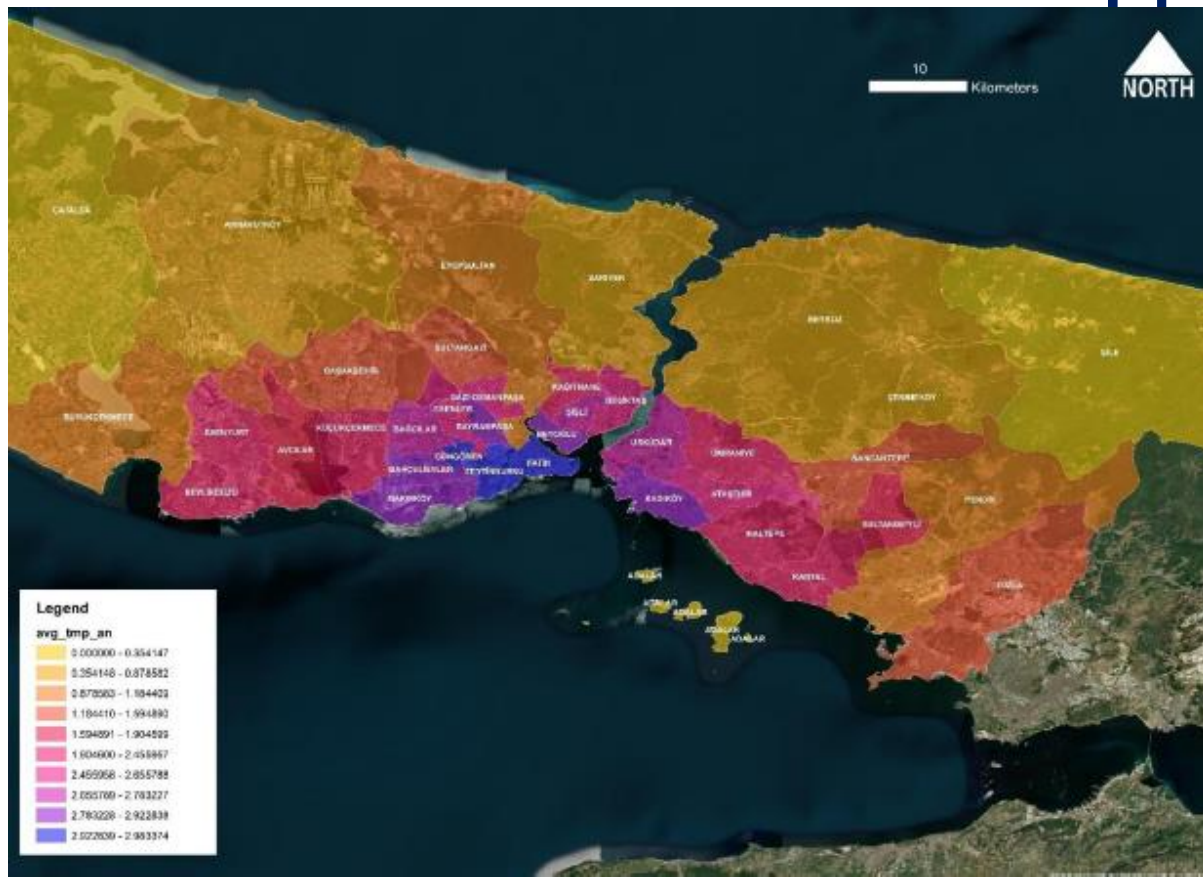


Figure 6: Average Temperature Anomaly

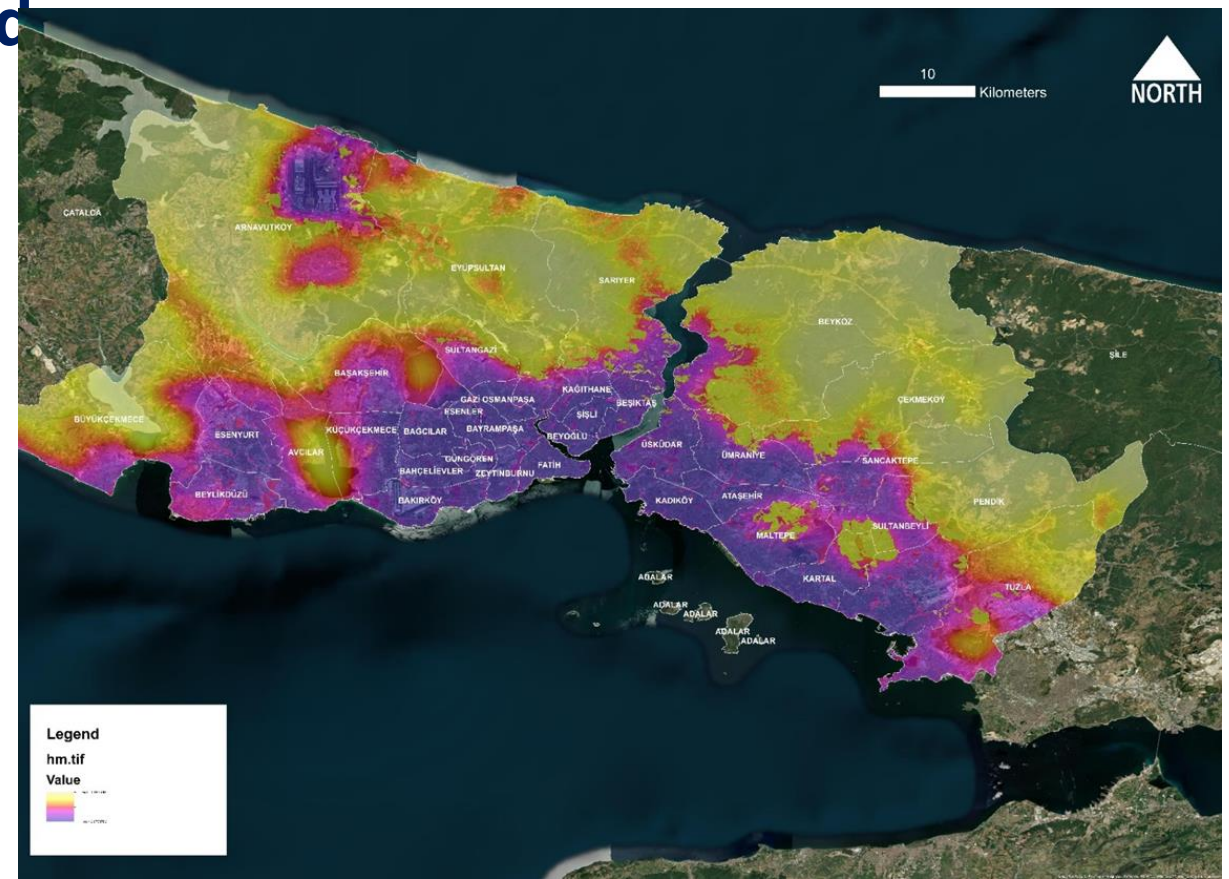


Figure 7: Heat Mitigation Index (HMI)





## SUSTAINABLE ENERGY AND CLIMATE ACTION PLAN - MONITORING PROCESS

- After the SECAP was prepared and publicised, **the implementation and monitoring process** started.
- The inputs and outputs of the monitoring process will be carried out through a web portal called '**Istanbul SECAP Monitoring Tool**' developed by the project coordinators.
- Currently, IBB Team is in the process of **identifying SECAP actions** for this web portal **and collecting/analysing data for the relevant actions**.
- Login to the portal will be completed very soon and meetings will be held with *the responsible units of the actions* to use the portal and manage the monitoring process.



# Istanbul SECAP Monitoring Tool

Actions

Type

Mitigation

Adaptation

Energy Poverty

Category

Please select...

Responsible party

Please select...

Timeline

Short Term (2024-2025)

Mid Term (2026-2028)

Long Term (2029-2030)

Status

Not-started

going

Initiating field applications for energy efficiency and less energy use in residences and providing technical support

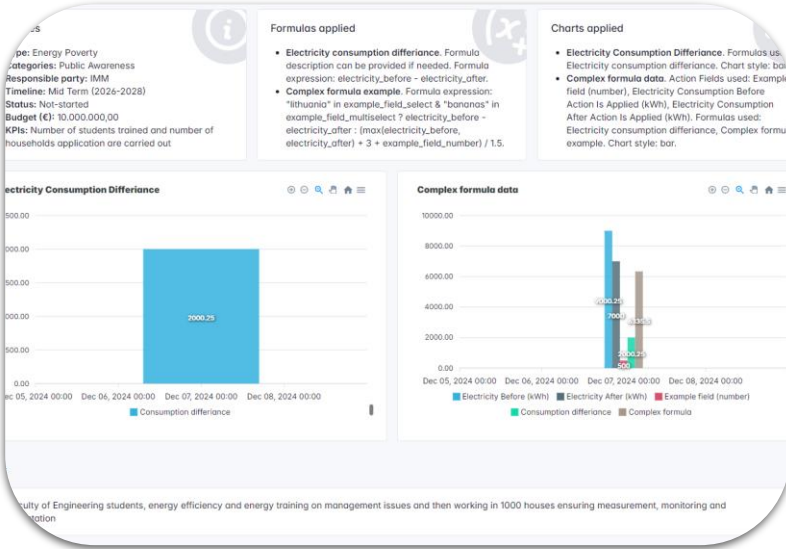
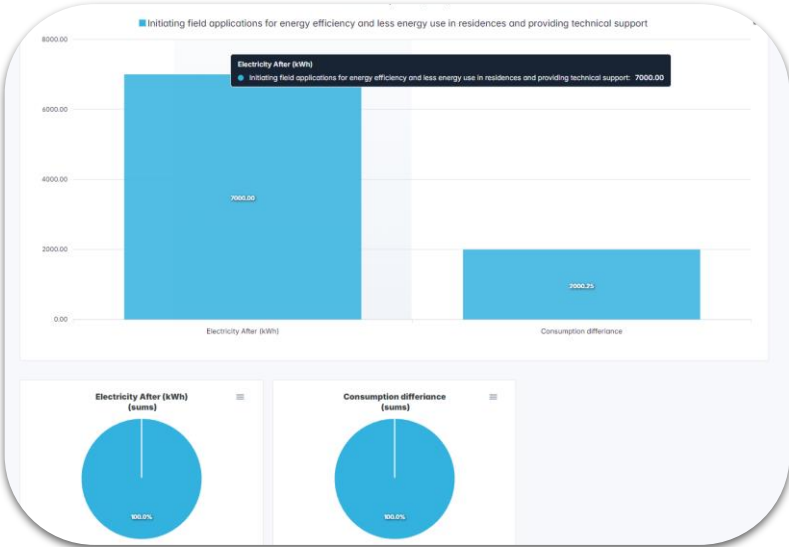
Energy Poverty · IMM · Mid Term (2026-2028) · Not-started

Permeable pavements

Adaptation · IMM · Short Term (2024-2025) · Not-started

Heating and cooling systems revision

Mitigation · İSTAÇ · Mid Term (2026-2028) · Not-started



Defining SECAP Actions

Comparison Mathematical and graphical comparison of the action

Report Generation Section including actions, mathematical formulae/parameters used for monitoring and graphs of changes of these parameters at certain time intervals



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THANK YOU

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