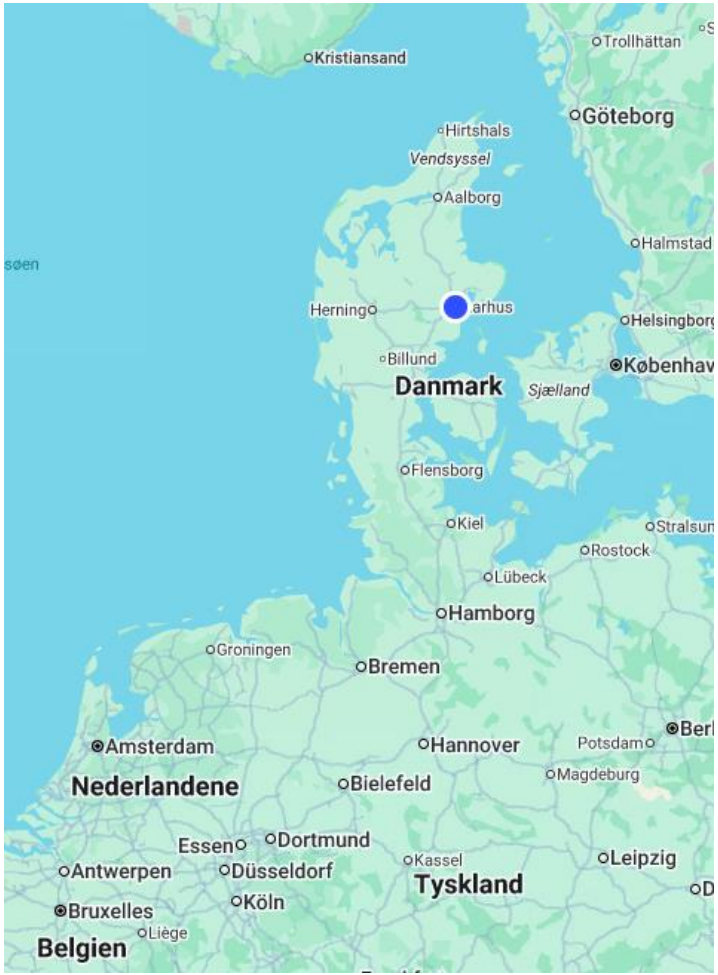
The City of Aarhus

A brief look upon the climate





Quick facts

Population: 375.000

Second largest City of Denmark

Aarhus includes both urban and rural areas

Aarhus has had climate goals since 2008

C40 certified Climate Action Plan

Young city, roughly 50.000 students

Current emissions

	Territorial	Corporate
Scope 1 & 2	764.000 tons CO_2e	24.000 tons CO_2e
Scope 3	2.000.000 - 2.500.000 tons CO_2e	300.000 - 350.000 tons CO_2e

Climate ambitions

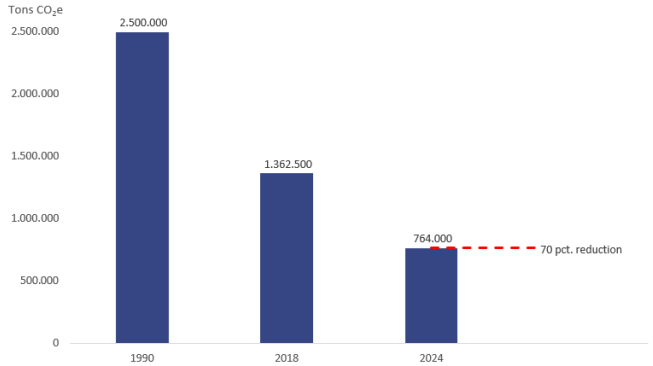
	Territorial	Corporate
Scope 1 & 2	85-90 % reduction in 2030 and Climate positive in 2035	90 % reduction in 2030 and Climate positive in 2035
Scope 3	No specific targets (yet)	50 % reduction in 2035 (excluding construction)

Progress so far?

Territorial

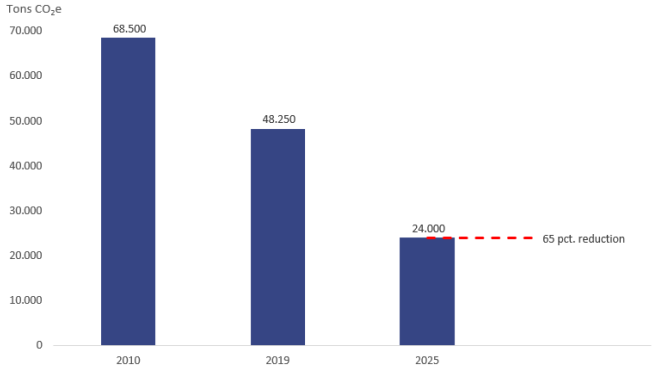
Scope 1 & 2 emission reduced by 70 %

More reductions to come
- Electric vehicles
- Electricity based production



Corporate

Corporate emissions reduced by 65 %



Governance structure

The City Council sets climate goals and initiates new projects.

A Steering Committee of executives is responsible for overseeing the overall direction.

The Climate Secretariat monitors the many climate projects and provides progress updates, knowledge and analysis.

Project leads are responsible for their specific climate actions.

Yearly process

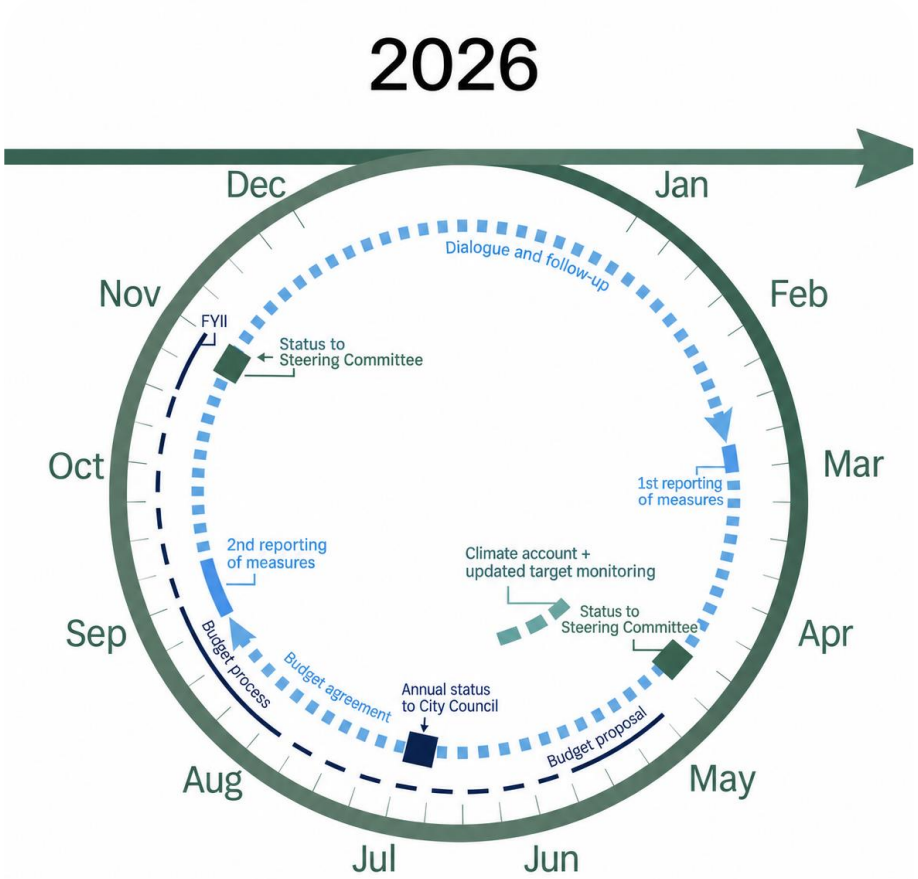
The city budget

Yearly climate status prior to budget process

Aim is to provide the best basis for political negotiations

Administrative monitoring

We monitor progress and spendings twice a year



A data driven approach

Climate inventories

Track emissions in different scopes

Track activities
- Electric vehicles
- Forestry
- Production of renewable energy

Climate Forecast

Assess future emissions

Are we going to reach our goal?

How are activities going to change in the future?

Climate actions

What behavior is the climate actions meant to change?

What is the estimated impact of this action?

Climate economic policy

How do we present cost-effectiveness for decision makers?

We use the discounted cost per reduced CO_2e

This requires estimating the CO_2e impacts off alle actions

$$\textit{Discounted price per tons of } CO_2e\text{:}$$

$$\frac{\sum_{t=0}^{T} \frac{X_t}{(1+r)^t}}{\sum_{t=0}^{T} \frac{\Delta CO_2e_t}{(1+r)^t}}$$

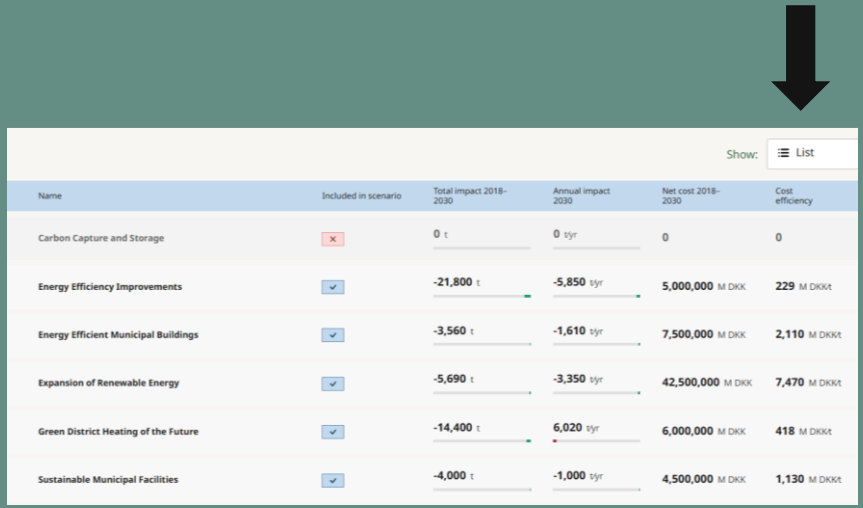
$$\frac{\textit{Sum of discounted costs}}{\textit{Sum of discounted reductions}}$$

Climate economic policy

Compare the cost efficiency for all actions

However!
- Use with caution
- Only includes CO_2e not health, water quality, biodiversity…
- Only includes our municipal spending

We suggest using broad ranges
- Do not overinterpret small changes in results



Name	Included in scenario	Total impact 2018–2030	Annual impact 2030	Net cost 2018–2030	Cost efficiency
Carbon Capture and Storage	✗	0 t	0 t/yr	0	0
Energy Efficiency Improvements	✓	-21,800 t	-5,850 t/yr	5,000,000 M DKK	229 M DKK/t
Energy Efficient Municipal Buildings	✓	-3,560 t	-1,610 t/yr	7,500,000 M DKK	2,110 M DKK/t
Expansion of Renewable Energy	✓	-5,690 t	-3,350 t/yr	42,500,000 M DKK	7,470 M DKK/t
Green District Heating of the Future	✓	-14,400 t	6,020 t/yr	6,000,000 M DKK	418 M DKK/t
Sustainable Municipal Facilities	✓	-4,000 t	-1,000 t/yr	4,500,000 M DKK	1,130 M DKK/t

Climate considerations in political proposals

How we introduce climate in more decision





Climate in budget proposals

The yearly budget negotiations provides the opportunity for new climate initiatives

Therefore, we aim to add estimated climate effects to relevant budget proposals

This should be relevant for all scopes of emissions

Climate in planning

Political decisions can impact future climate emissions
→ Especially the planning processes

The development and expansion of the city carries a big carbon impact

We therefore add an estimated CO_2e emission to all new districtplans for the city council

This puts a spotlight on the emissions we allow

