



World Ports Climate Initiative

&

Rotterdam Climate Initiative

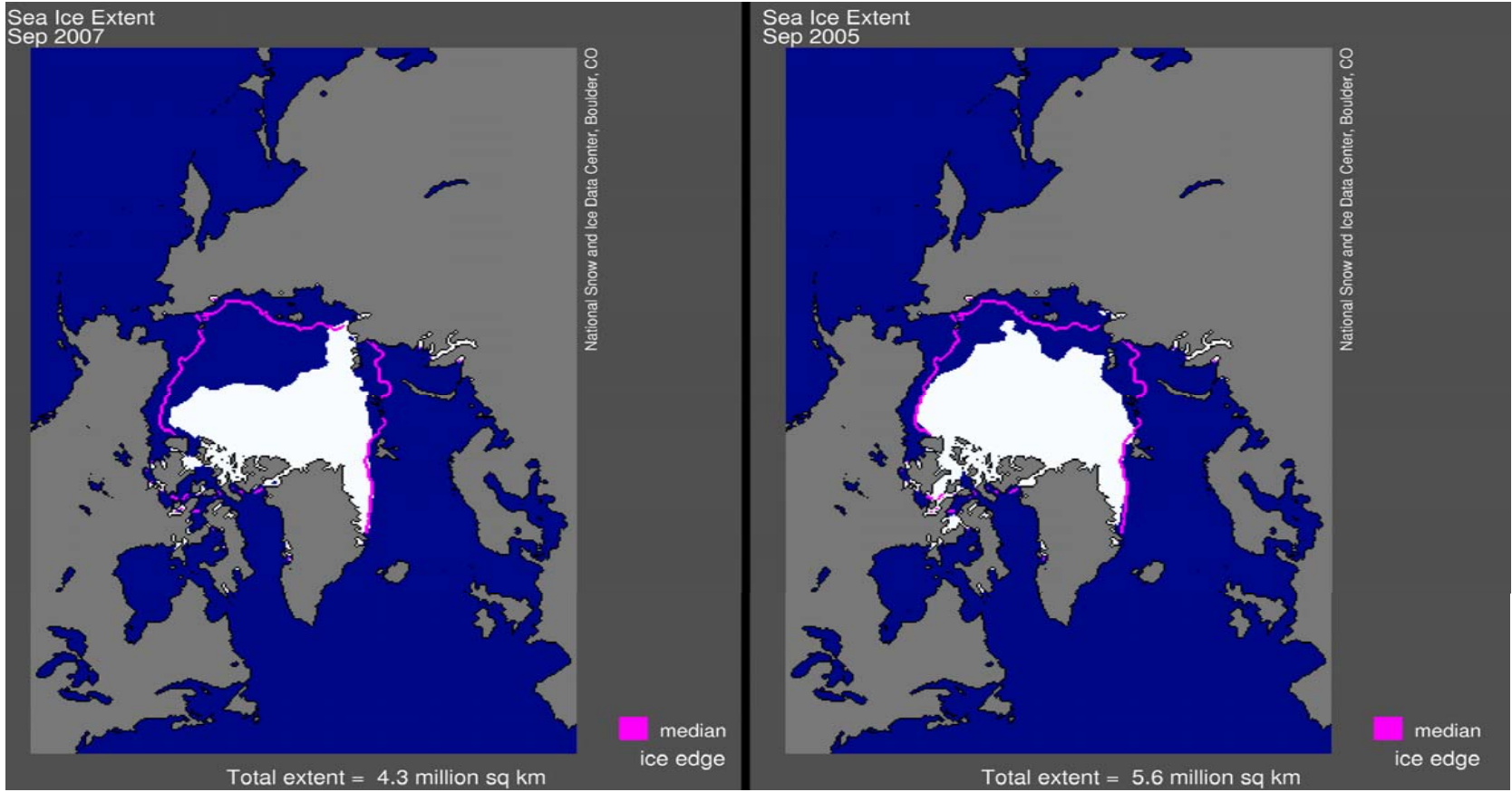
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Content of the presentation

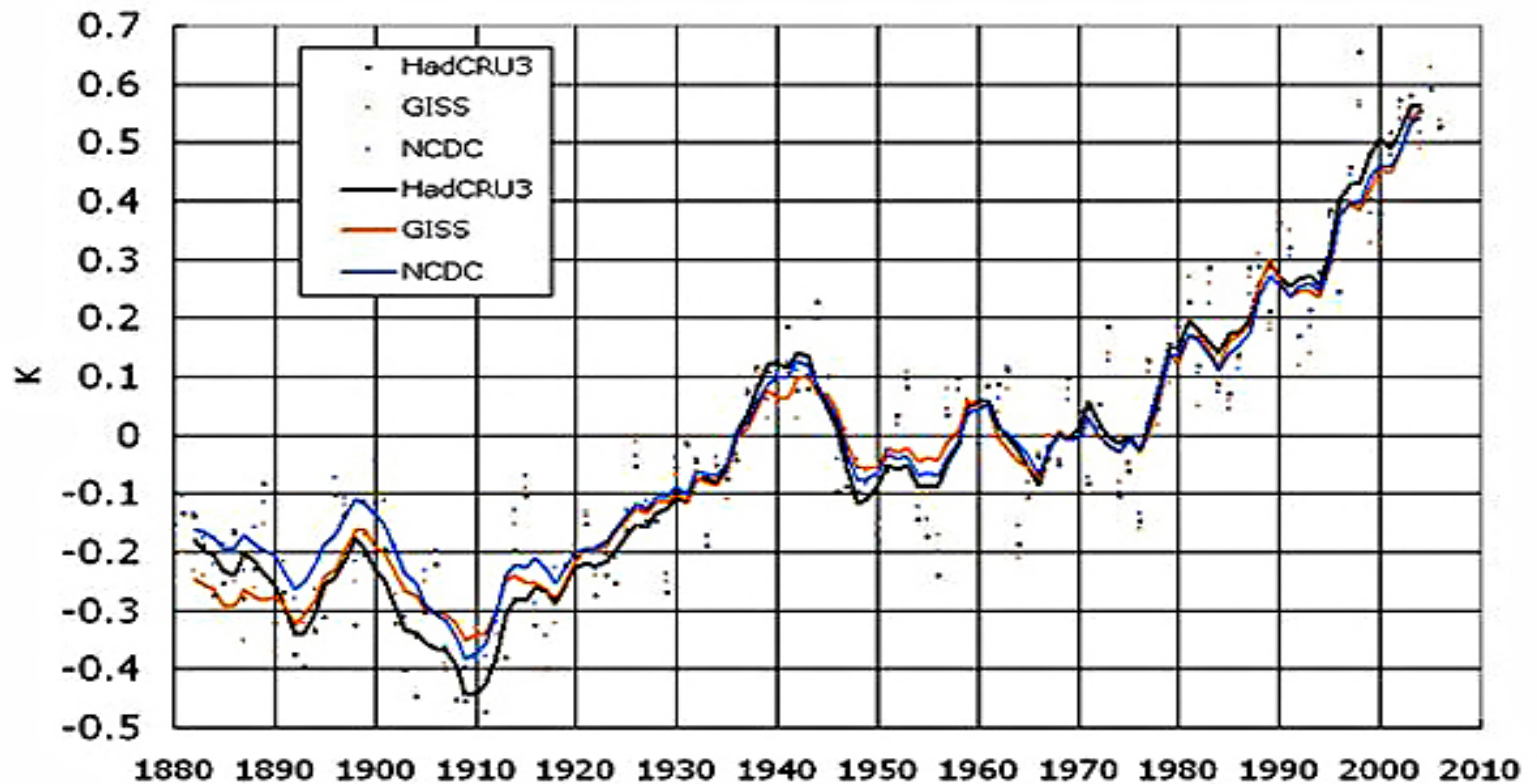
- Global warming / scientific observations
- Clinton Climate Initiative and the C40
- World Ports Climate Declaration
- World Ports Climate Initiative (WPCI)
- WPCI current projects, proposed initiatives and goals
- Rotterdam Climate Initiative

2007 - The worst two years on record - 2005



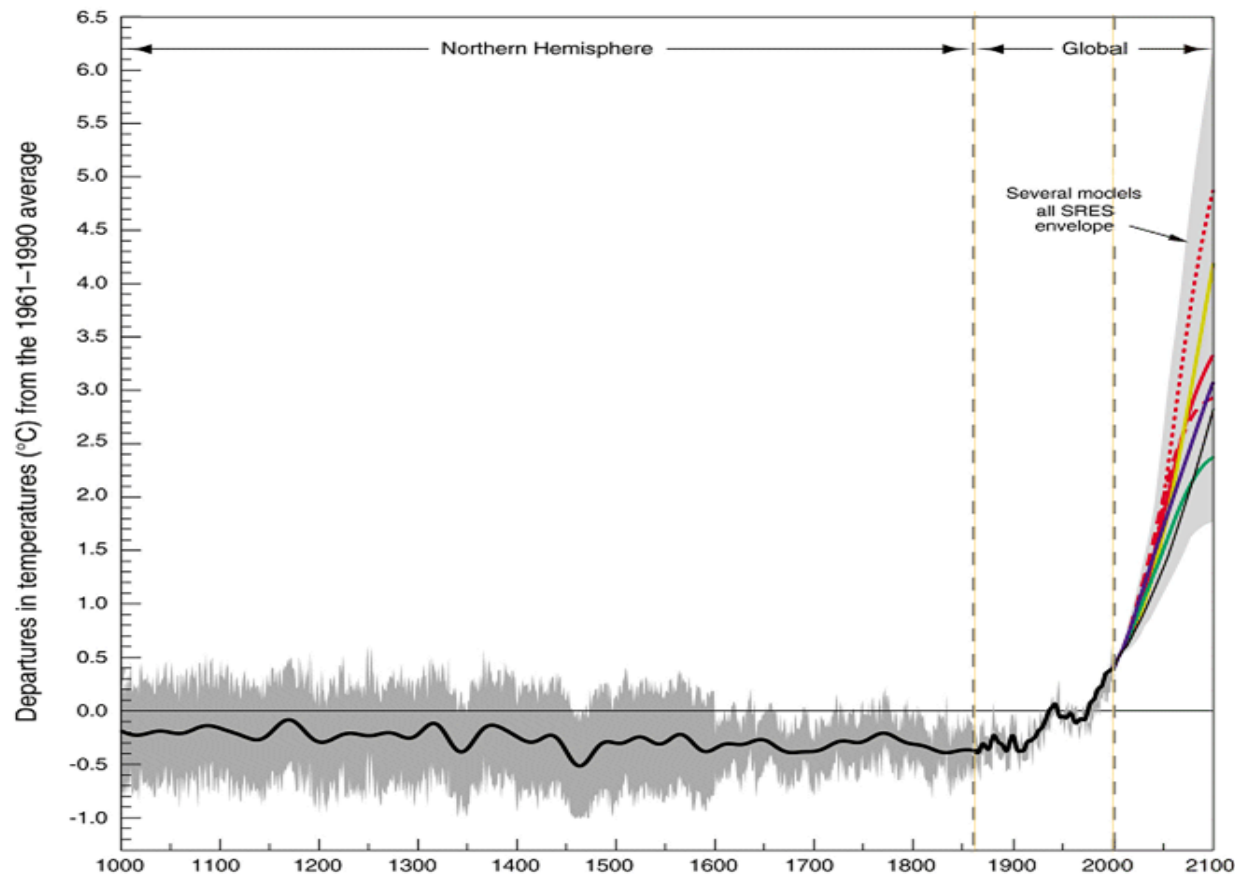
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Global warming



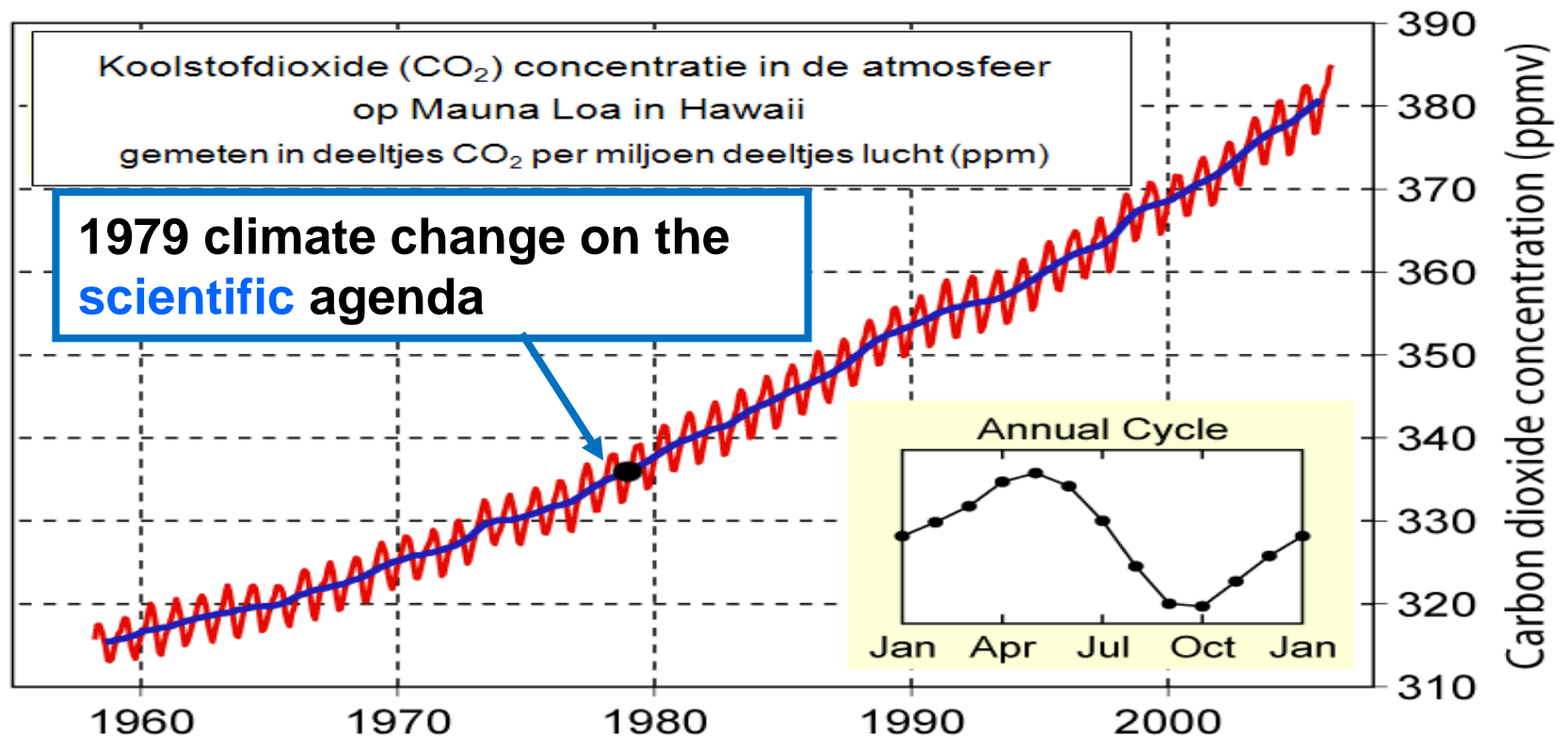
Source: KNMI

Average global temperature



Summary results
IPCC (2007)

Concentration CO₂ in the atmosphere (Hawaii)



Source: www.globalwarmingart.com



IPCC, 2007

- *The good news:* it is technically and economically feasible to avoid most of projected climate change
- *The bad news:* there is only limited time to stop the growth of global emissions and it requires major efforts



The challenge – what science tells us

Global GHG emissions

- Must be reduced 50-85% by 2050
- To limit global warming to +2°C

Source: IPCC (2007)



GHG Emissions

– how are we doing?

- Global emissions 1970-2004: +70%
 1990-2004: + 25%
- Business as usual 2000-2030: +25-90%

Source: IPCC



	<i>Change</i>	<i>Total</i>
Europe 15	-0.6%	4.2 bln tCO ₂ eq
Japan	+6.5%	1.3 bln tCO ₂ eq
USA	+16%	7.1 bln tCO ₂ eq
Australia	+25%	0.5 bln tCO ₂ eq

Kyoto objective -8% 1990-2012



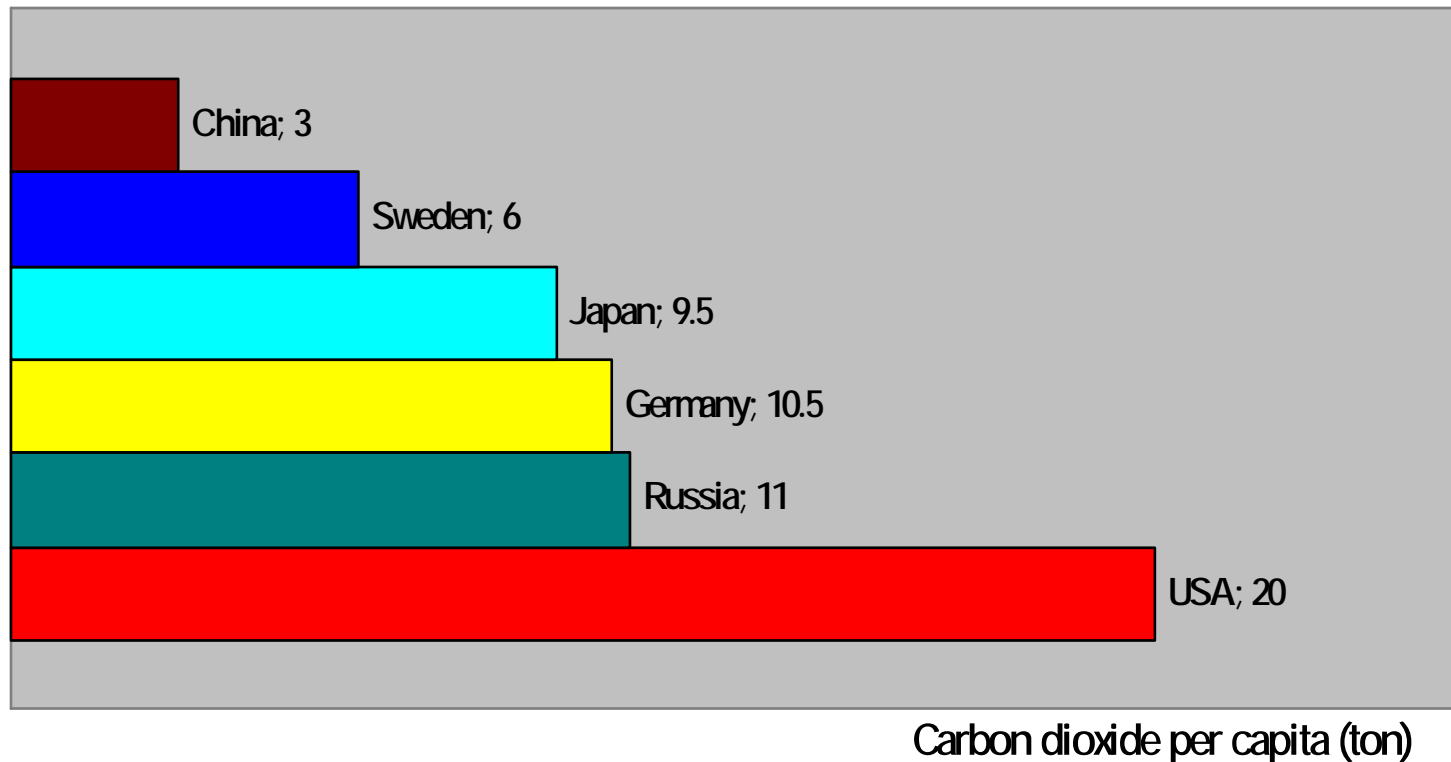
GHG Emissions Europe: 1990-2005

Germany	-18.7%
UK	-15.7%
Sweden	-7.4%
Italy	+12.1%
Ireland	+25.4%
Spain	+52.3%

Source: EEA (2007)

CO₂-emissions per person

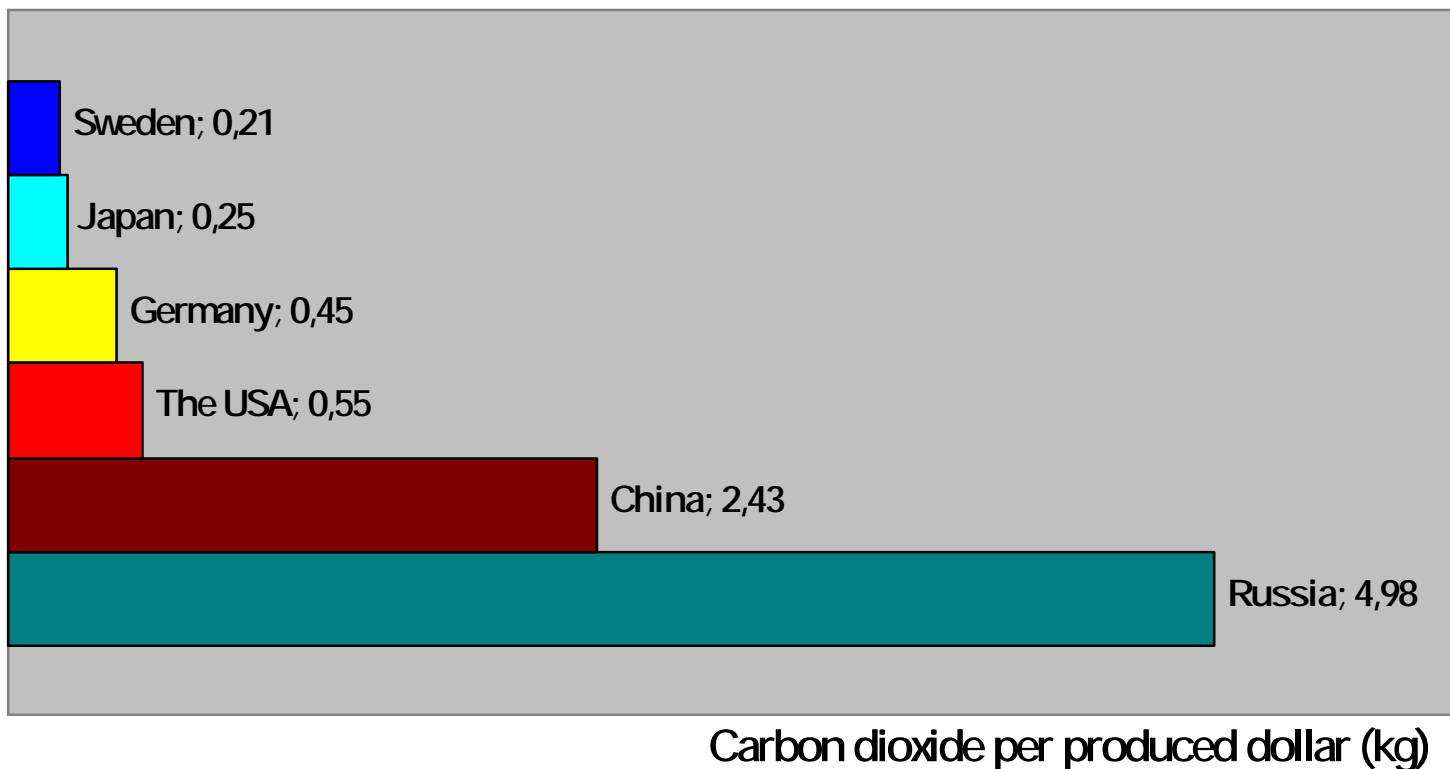
The USA discards the most per person...



International Energy Agency 2005
(Fokus, September 1-8th 2006)

CO₂-emissions per dollar produced

... But Russia and China waste the most carbon dioxide



International Energy Agency 2005
(Fokus, September 1-8th 2006)



Emissions – targets & commitments

EU27:	20%	2020 (1990)
Germany:	36%	2020 (1990)
UK:	26%	2020 (1990)
France:	25%	2020 (1990)
Sweden:	30%	2020 (1990)
Japan:	6%	2012 (1990)
China:	20%	2012 (2007) efficiency



Emissions – targets & commitments

California:	25%	2020 (1990)
London:	30%	2025 (1990)
New York City:	30%	2030 (2007)
Paris:	75%	2050 (2004)
Stockholm:	60-80%	2050 (1990)
Tokyo:	25%	2020 (2000)
Rotterdam:	50%	2025 (1990)



The future

To be created...
... not to be predicted

Climate Change

“A global problem that requires local action”

William J. Clinton



**“practical and measurable steps to
reduce greenhouse gas emissions”**





Background

- C40 Cities formed by Ken Livingstone
- Supported & assisted by the Clinton Climate Initiative
- In 2008 three main subjects: aviation, ports and road congestion
- Los Angeles: aviation. London: road congestion. Rotterdam: ports





From C40 to WPCI (1)

- C40 Large Cities Climate Summit held in New York in May 2007
- Rotterdam host for 'C40 World Ports Climate Conference' (July 2008)
- Follow up under umbrella 'International Association of Ports and Harbors' (IAPH) → World Ports Climate Initiative



World Ports Climate Declaration

- Reduction of greenhouse gas emissions from ocean-going shipping.
- Reduction of greenhouse gas emissions from port operations and development.
- Reduction of greenhouse gas emissions from hinterland transport.
- Enhancement of the use of renewable energy.
- Development and auditing of CO₂ inventories.

July 2008: 55 World Ports endorsed the Climate Declaration as a guide to take action



From C40 to WPCI (2)

- Los Angeles November 2008 at the IAPH Port Environment Committee Symposium → World Port Climate Initiative (WPCI)
- WPCI Organization and Cooperation



World Ports Climate Conference



55 Supporting Ports

Regional port branch organizations

American Association of Ports Authorities
European Sea Ports Organization
Pan African Port Corporation

IAPH Toolbox Expansion
Los Angeles

Cargo-handling Equipment
New York / New Jersey

Intermodal Transport
Amsterdam

Thematic Approach!

Carbon Footprinting
Los Angeles

Lease Agreement Template
Montreal

Environmental Ship Index
Rotterdam

On-shore Power Supply
Gothenburg

WPCI Mission Statement



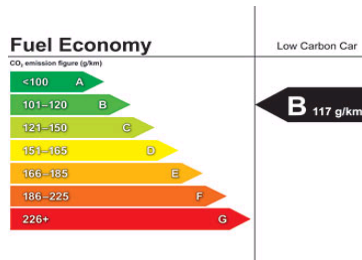
The mission of the World Ports Climate Initiative is to:

- Raise awareness in the port community of need for action
- Initiate studies, strategies and actions to reduce GHG emissions and improve air quality
- Provide a platform for the maritime port sector for the exchange of information thereon
- Make available information on the effects of climate change on the maritime port environment and measures for its mitigation

WPCI Current Projects



- Low Emission Yard Equipment
- On-shore Power Supply
- Carbon Foot Print
- Environmental Ship Index
- Intermodal Transport
- Sustainability in Lease Agreements





WPCI - Proposed New Initiatives



- Low carbon fuels / fuel based approaches
- Alternative power (wind, solar, ...)
- Adaptation strategies
- Cost benefit analyses
-



Environmental Ship Index (ESI) (1)

- A tool that will assist ports and other parties to promote clean shipping
- Use is on a voluntary basis
- Maximum responsibility with the ship owner



Environmental Ship Index (ESI) (2)

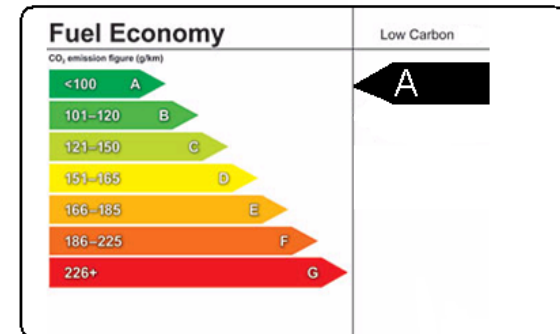
ESI measures ship's performance regarding

- Pollutants: NO_x, SO_x and indirectly PM
- Greenhouse gas: CO₂



Environmental Ship Index (ESI) (3)

- Simple
- Transparent
- Easy to determine, use and verify

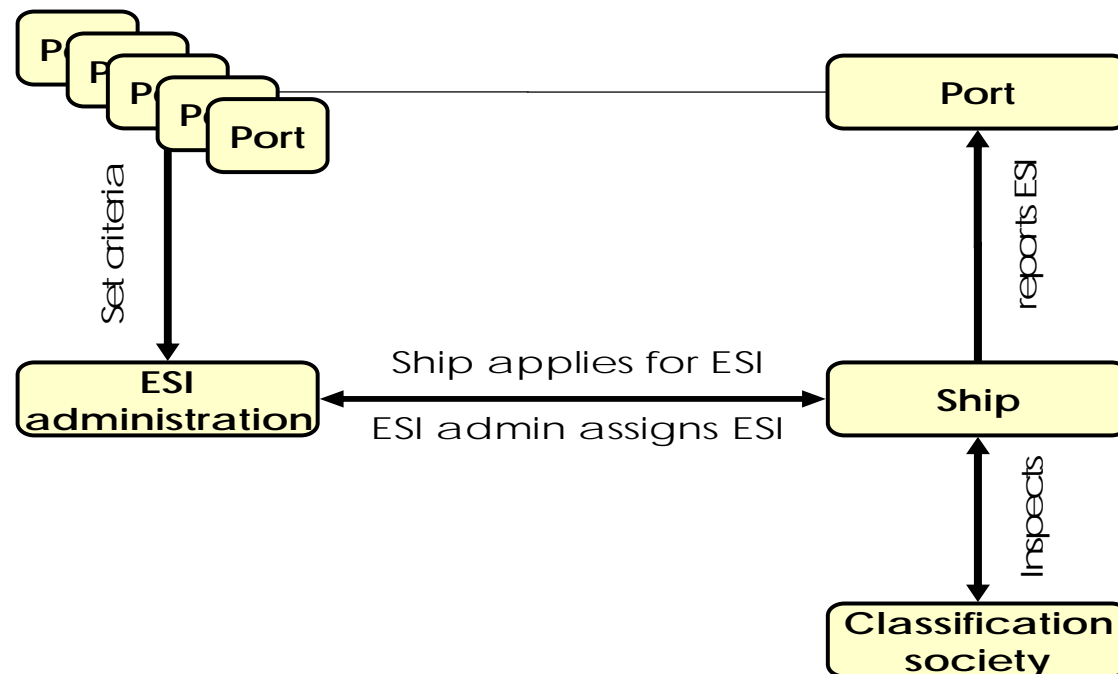




ESI calculation

- Weighted score on NO_x performance of the engines
- Weighted score on the sulphur content of fuels used
- Bonus for monitoring and reporting of CO₂

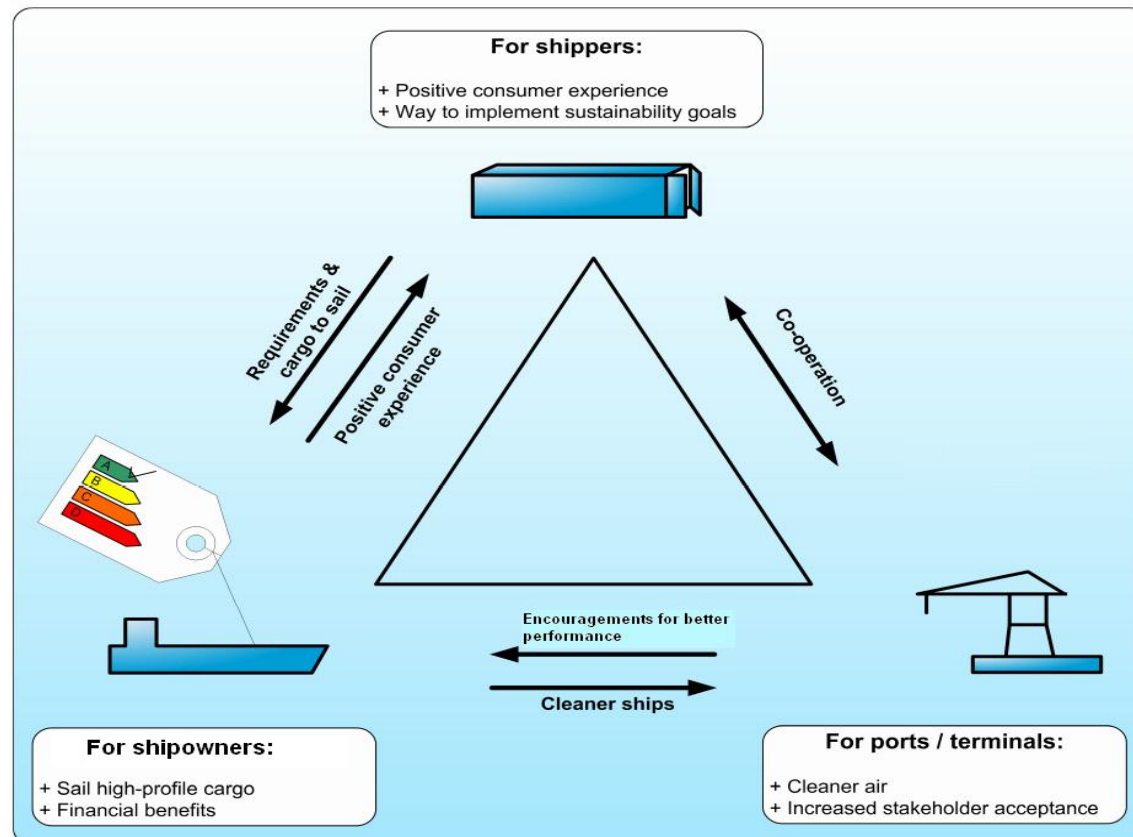
ESI organisation and verification



ESI status at present

- Overall (relatively simple) ESI formula established
- Formula is being tested on (different) ship types
- ESI administration to be further specified
- Consultation with stakeholders
- Ready for use: 2010

In close cooperation with stakeholders





Goals WPCI

- Increase the number of WPCI ports
- Enlarge the number of projects
- Set up and implement communication structure
- Maximize the number of WPCI ports engaged in CO₂- footprint inventory and management
- Maximize the support for ESI, when established (ports, shipping lines, shippers, service providers)
- Organize global support from regional and global organizations
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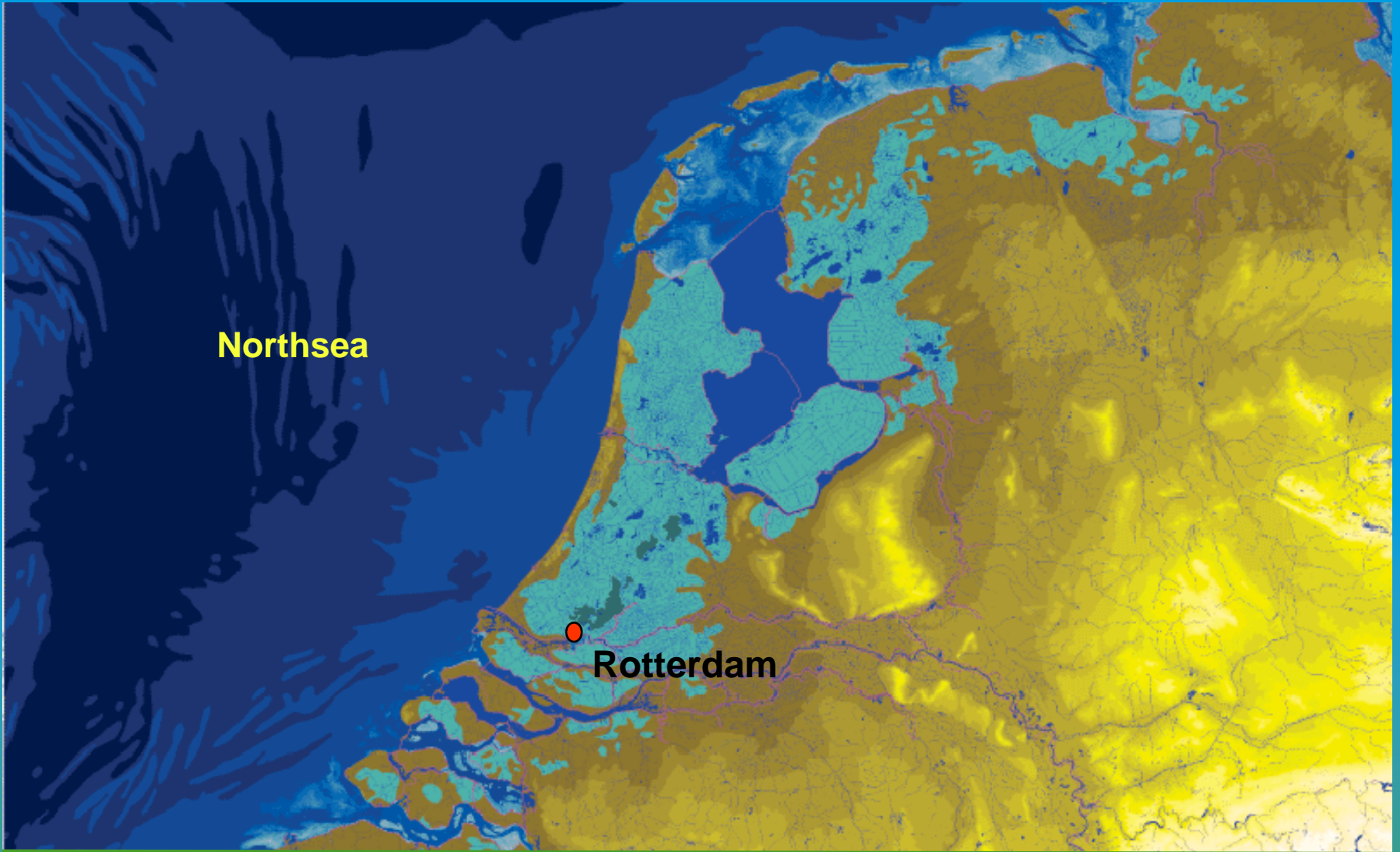




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ROTTERDAM CLIMATE INITIATIVE

The new Rotterdam

50% CO₂ reduction 100% climate proof



ROTTERDAM.**CLIMATE**.INITIATIVE

The ambition

- + 50% reduction of CO₂ emissions by 2025 as compared with 1990
- + 100% climate proof by 2025

In combination with:

- + Strengthening of the Rotterdam economy



Approach

CO₂ reduction

- + Sustainable city
- + Energy port
- + Sustainable traffic and transport
- + Energizing City
- + Innovation lab



Approach

Climate proof

- + Flood safety
- + Accessibility
- + Adaptive building
- + Urban water system
- + City climate



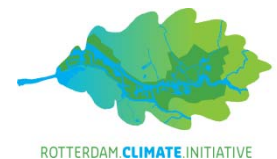
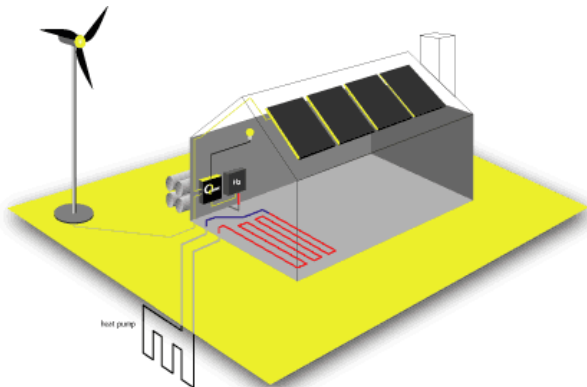
CO₂ reduction – Sustainable City

Target:

Residential and corporate buildings have 50% less CO₂ emission in 2025

How:

- Decrease energy demand
- Stimulate use of sustainable energy
- Stimulate private energy production



CO₂ reduction – Sustainable traffic and transport

Target:

50% reduction of CO₂ emission and air pollution in 2025.

How:

- Promotion of alternative fuel usage
- Technological developments
- Optimize travel behavior
- Motivate the use of public transport
- Agreements on the reduction of ship emissions



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CO₂ reduction – Rotterdam Energy Port

Target:

- Leading energy port on energy efficiency
- Rotterdam as a CO₂-hub for NW-Europe

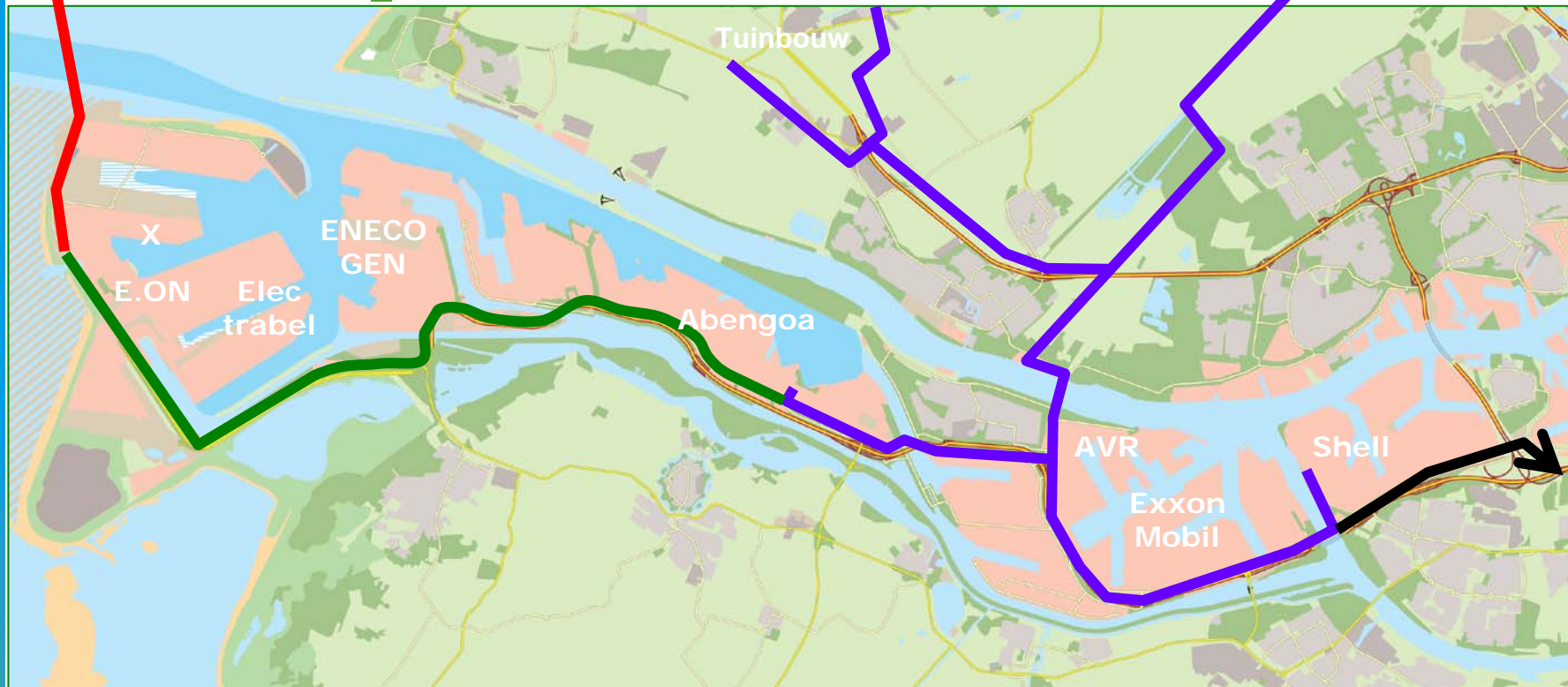
How:

- Carbon Capture, Use and Storage
- Increase energy efficiency in the port of Rotterdam
- Use of sustainable resources and energy



ROTTERDAM CLIMATE INITIATIVE

CCS - CO₂-infrastructure Rotterdam port



existing CO2-network from Pernis to Amsterdam



new: Maasvlakte-Europoort – 2008-2010



new: Barendrecht-Moerdijk-Antwerpen 2008-2010



new: to offshore storagefields 2012-2015



ROTTERDAM CLIMATE INITIATIVE

Ocap – CO₂ From the industry to the horticulture

ocap
CO₂ voor de tuinbouw



ROTTERDAM CLIMATE INITIATIVE

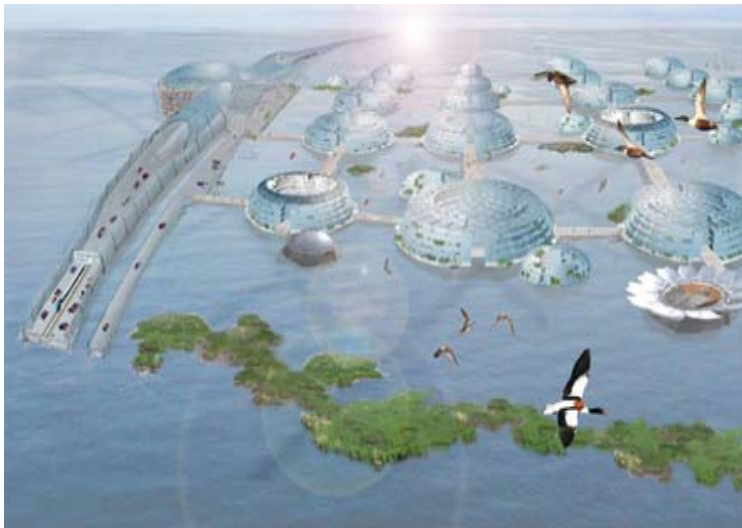
CO₂ reduction – Rotterdam Innovation lab

Target:

Mobilize groups of people to show the possibilities of CO₂ reduction.

How:

- Innovation funds
- RDM area as innovation centre
- Cooperate with knowledge institutes to develop knowledge
- Rotterdam Climate Campus



ROTTERDAM CLIMATE INITIATIVE

Climate proof – Flood safety



The Rotterdam delta is safe and should remain safe, regardless of changing climate conditions.

Together with our partners we will therefore ensure, for instance, that all water defenses will be sufficiently strong by 2025.

Climate proof – Accessibility



This is important to attract new businesses to the region as well as for freight transport and passenger transport.

If water is assigned a more significant role in spatial planning (in terms of more floating homes and offices), transport should respond to this development.

Our aim is to realize a climate change resilient transport infrastructure for both the city and the port.



ROTTERDAM CLIMATE INITIATIVE

Climate proof – Adaptive building



In the Rotterdam region, we have a lot of knowledge on climate proof and flood-proof building.

By 2025, the existing areas outside the levees (including the waterfront and port area) will be flood-proof, and new construction will be restricted to adaptive building. Part of the area called 'Stadshavengebied' will consist of floating districts.



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Connecting Delta Cities

Connecting Delta Cities unites those Delta Cities who strive to make their cities climate proof. They join forces in their quest for innovative adaptation strategies, sharing knowledge and best practices.

Connecting Delta Cities virtually combines the knowledge, experience and connections of Rotterdam, Tokyo, Jakarta, Hong Kong, Shanghai, New York, London and others.

New York London Rotterdam Shanghai Hong Kong Tokyo Jakarta

C40 CITIES

CLIMATE LEADERSHIP GROUP



CLINTON
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Thank you for your attention!