

# Adaptation of Infrastructure to Climate Change: What role for the EU?

DG Climate Action, Adaptation Unit (CLIMA/C3)

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## Key Issues

- Development of the EU adaptation Strategy
- Knowledge Base
- Mainstreaming of climate change adaptation into EU policies and financial instruments
- [The International Dimension]\*\*

*\*\* Not covered in this presentation*

- **Strategy:** being developed for 2013; to provide for the strategic framework for the work on developing the EU's response to the impacts of climate change
- **The other key issues:** of immediate importance; will feed into the strategy and represent key building blocks of the strategy.
- **Adaptation Steering Group set up to** assists the Commission in developing its approach to dealing with adaptation.
- Member States and a diverse range of stakeholders. First two meetings held in 9/2010 and 1/2011, next meeting scheduled for June 2011.

- Demand and supply side issues
- Demand side: heating and cooling demand, indirect energy demand related to water scarcity
- Supply side: affecting nuclear and thermal generation efficiency and hydro availability, renewables, transmission infrastructure.
  - Extreme events might pose the greatest adaptation challenge (= investment need)?
- Link between challenges and key issues
  - Fill knowledge gaps (including for the energy sector)!
  - Mainstream adaptation into EU policies and financial instruments (cohesion, energy)



## Build a solid knowledge base on climate change impacts, vulnerabilities and adaptation actions (CC IVA)

For effective policy making, it is essential to have access to key information and knowledge about:

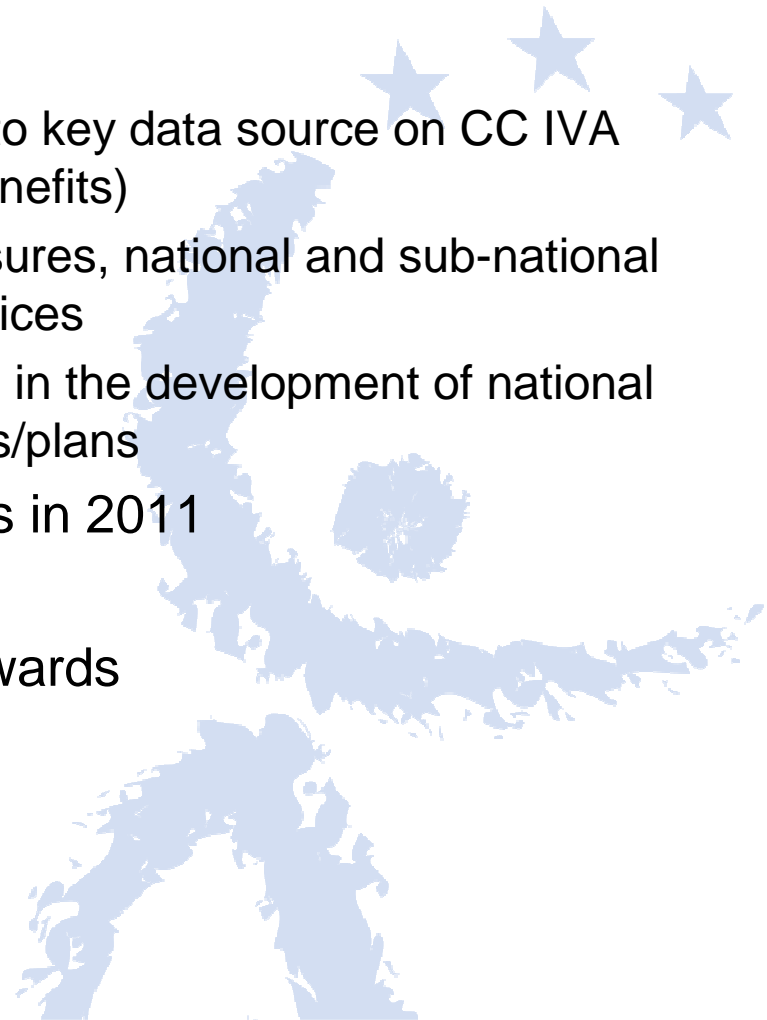
- The likely effects / impacts of climate change;
- An understanding of risks / vulnerabilities for a specific sector/area;
- An analysis of costs and benefits of different adaptation options.

Approaches (besides the clearing house mechanism):

- Mainstreaming of CC IVA into EU research, dedicated EU research projects (most of which include an energy component/work package)
- Dedicated calls for tender commissioned by DG CLIMA, including ongoing studies on climate proofing key EU policies, economic/market instruments for adaptation; planned calls for tender in 2011 (incl. on cohesion implementation)

## CORE TASK - Development of the EU Clearinghouse Mechanism

- Main functions:
  - from a single point, provide access to key data source on CC IVA (including spatial maps, cost and benefits)
  - extensive library of adaptation measures, national and sub-national adaptation strategies and best practices
  - a wizard-tool to guide policy-makers in the development of national or sub-national adaptation strategies/plans
- Development and evaluation phases in 2011
- Will go “live” in March 2012
- Host and update EEA from then onwards





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Adaptation Clearinghouse

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## Climate change adaptation in Europe

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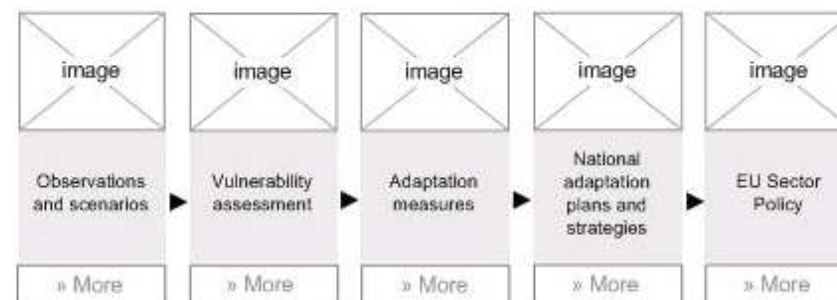
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### CC IVA Elements:

- Observations and Scenarios
- Vulnerability Assessment
- National Adaptation plans and strategies
- EU Sector Policies



## Adaptation guidance



Use the Adaptation support tool  
to find out what YOU can do »

### Publications (Opens New Window)

Disasters in Europe: more frequent and causing more damage (Opens New Window)

1/12/11 5:25 PM

Marie Jaegly

### Agenda (Opens New Window)

5th PCF World Summit [Zurich, Switzerland] (Opens New Window)

Sixth International Symposium on non-CO2 Greenhouse Gases (NCGG-6) -

### Adaptation sectors



#### Agriculture

With farmers managing almost half of the EU's land area, the agricultural sector is a major source of pressure on Europe's environment.

[Read more](#)

#### Energy

- Context:

- Communication on Budget Review October 2010 identifies areas where improvements could be made and broad lines for the future budget (entry into force from 1 January 2014)
- EU budget can and must play a key part in delivering the Europe 2020 strategy, including its headline targets related to climate change

- Mainstreaming of policies and financial instruments at EU-level:

- Discussions about financial instruments in future post 2013 EU policies: Common Agricultural Policy (CAP), Cohesion, Research & Innovation, LIFE+, external cooperation, TEN-E and TEN-T
- Mainstreaming into legal proposals (regulations, communications, etc.)



- Support for mainstreaming at implementation level:
  - Technical assistance programmes
  - Guidance for CAP & Cohesion implementation/investment level to be developed in 2011/12 (related calls for tender)
  - Strategy development and related capacity building in cities (related call for tender)
  - Use of innovative market based instruments – insurance and financial products & services. Study launched in January 2011
- Focus of this presentation on two key policy areas for energy infrastructure: cohesion & regional policy and energy policy

### ○ Design:

- Alignment with the Europe 2020 strategy, incl. climate change
- To be achieved through:
  - Thematic priorities
  - Conditionalities
  - Indicators and monitoring
  - Incentives

### ○ Key features

- Require that investments are climate proofed
- Adequate funding for adaptation to (and mitigation of) climate change
- All Member States to use Cohesion Policy for Climate Action



- On 17 November 2010, the Commission published a communication on energy infrastructure priorities for 2020 and beyond. It outlines our strategy for this new infrastructure policy and presents a toolbox to ensure timely implementation of projects of European interest.
- In 2011, the tools necessary for implementation will be proposed under a new European energy security and infrastructure instrument, as requested from the Commission by the Council in its March 2009 conclusions.

- Objectives

1. Achieving an energy-efficient Europe;
2. Building a truly pan-European integrated energy market;
3. Empowering consumers and achieving the highest level of safety and security;
4. Extending Europe's leadership in energy technology and innovation;
5. Strengthening the external dimension of the EU energy market.

- European infrastructures priorities – beyond 2020

- Electricity highways
- European CO<sub>2</sub> transport infrastructure

# Energy Infrastructure challenges and drivers

## Electricity:

- Increasing demand
- Growing share of RES
- Smart grid applications
- Large-scale storage
- Higher voltage - long-distance transmission

## Gas:

- Stable share, growing import dependency
- Role as back-up fuel – need for more flexibility
- Single-source dependency in Eastern Europe – need for diversification

## CO2 transmission:

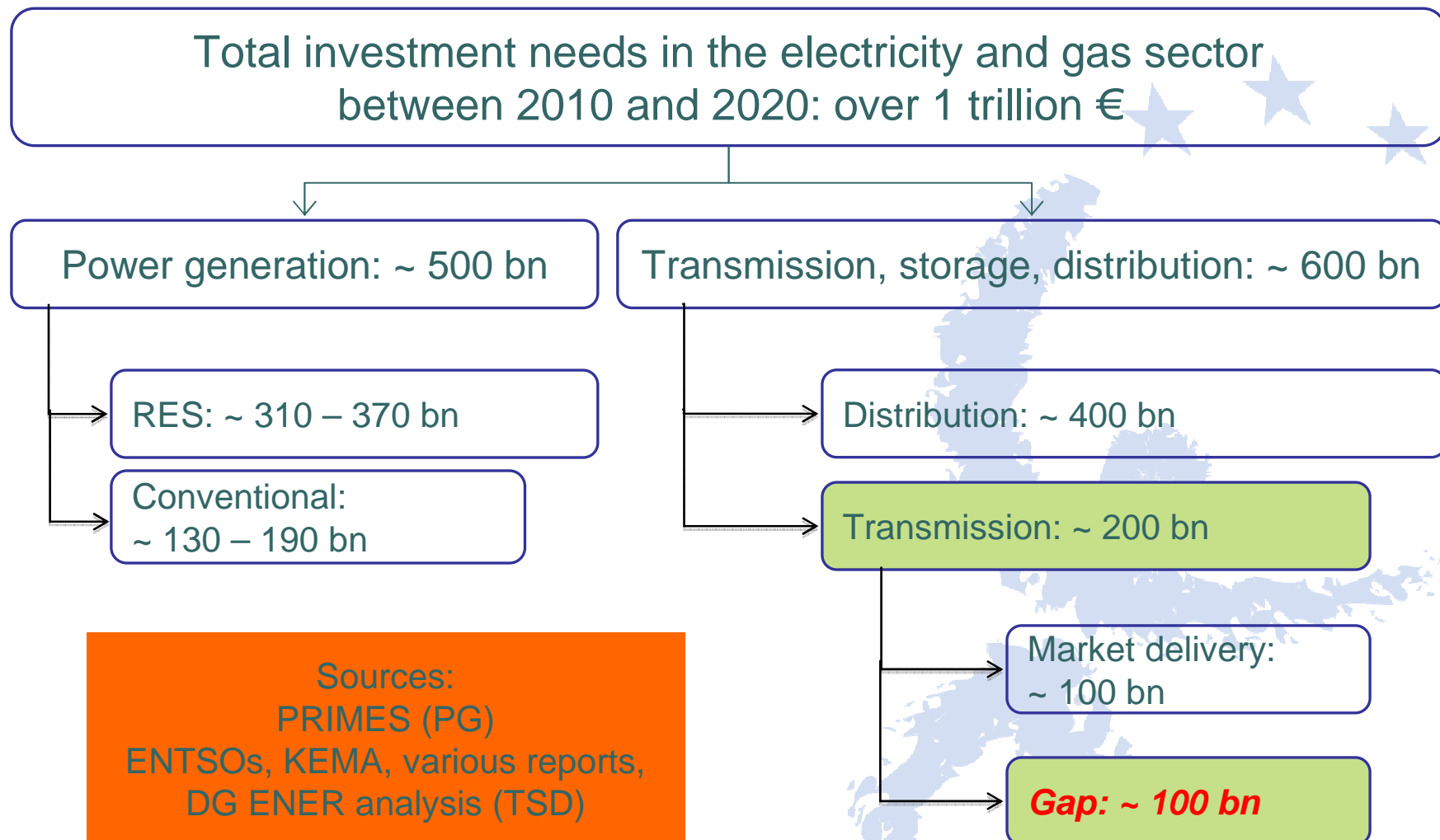
Co-ordinated planning for future optimised deployment

## Oil:

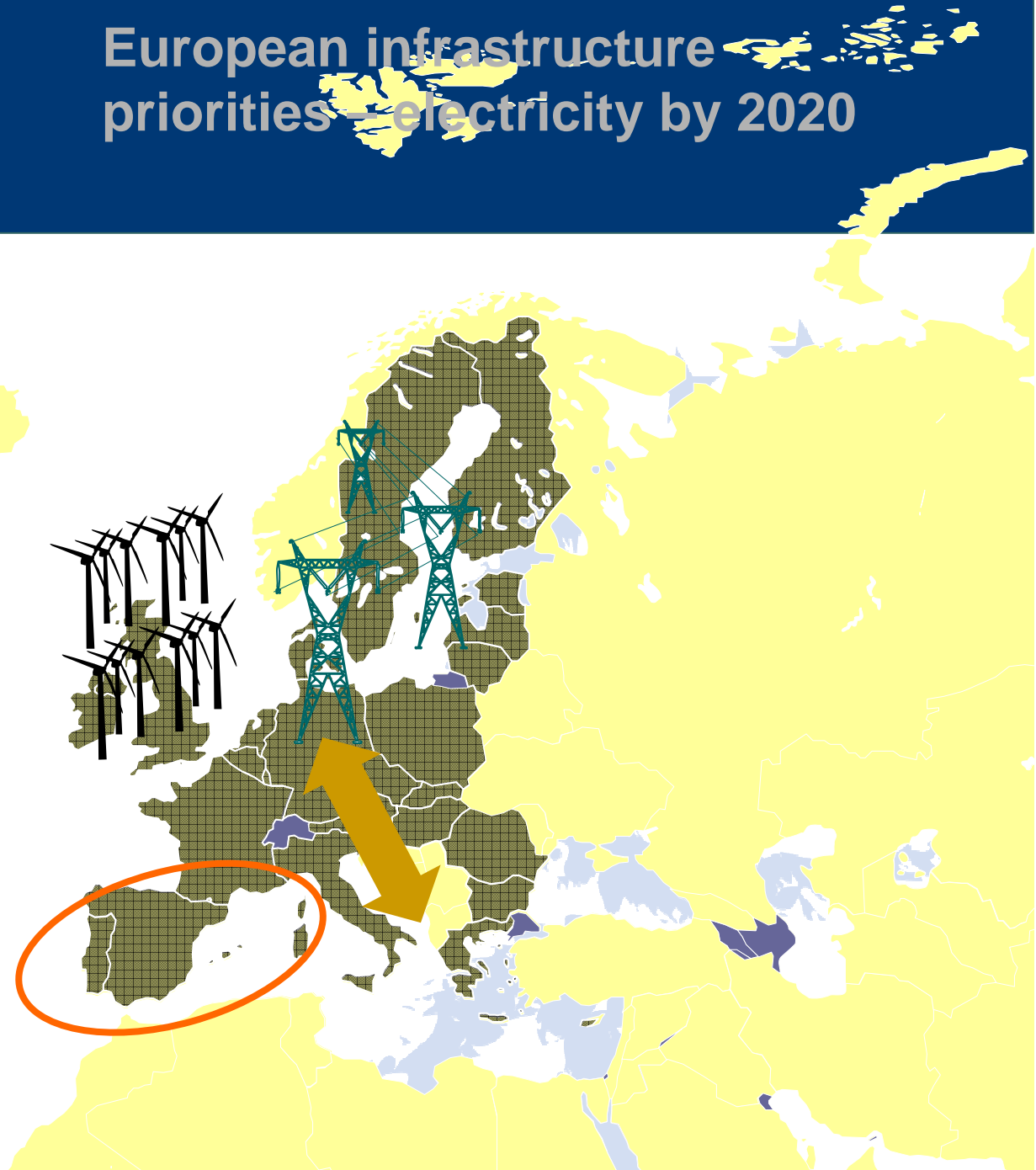
Security of supply of land-locked countries in Central-Eastern Europe

*In addition, the modernisation of **district heating and cooling** networks can enhance energy efficiency.*

# Energy system investment needs and gap



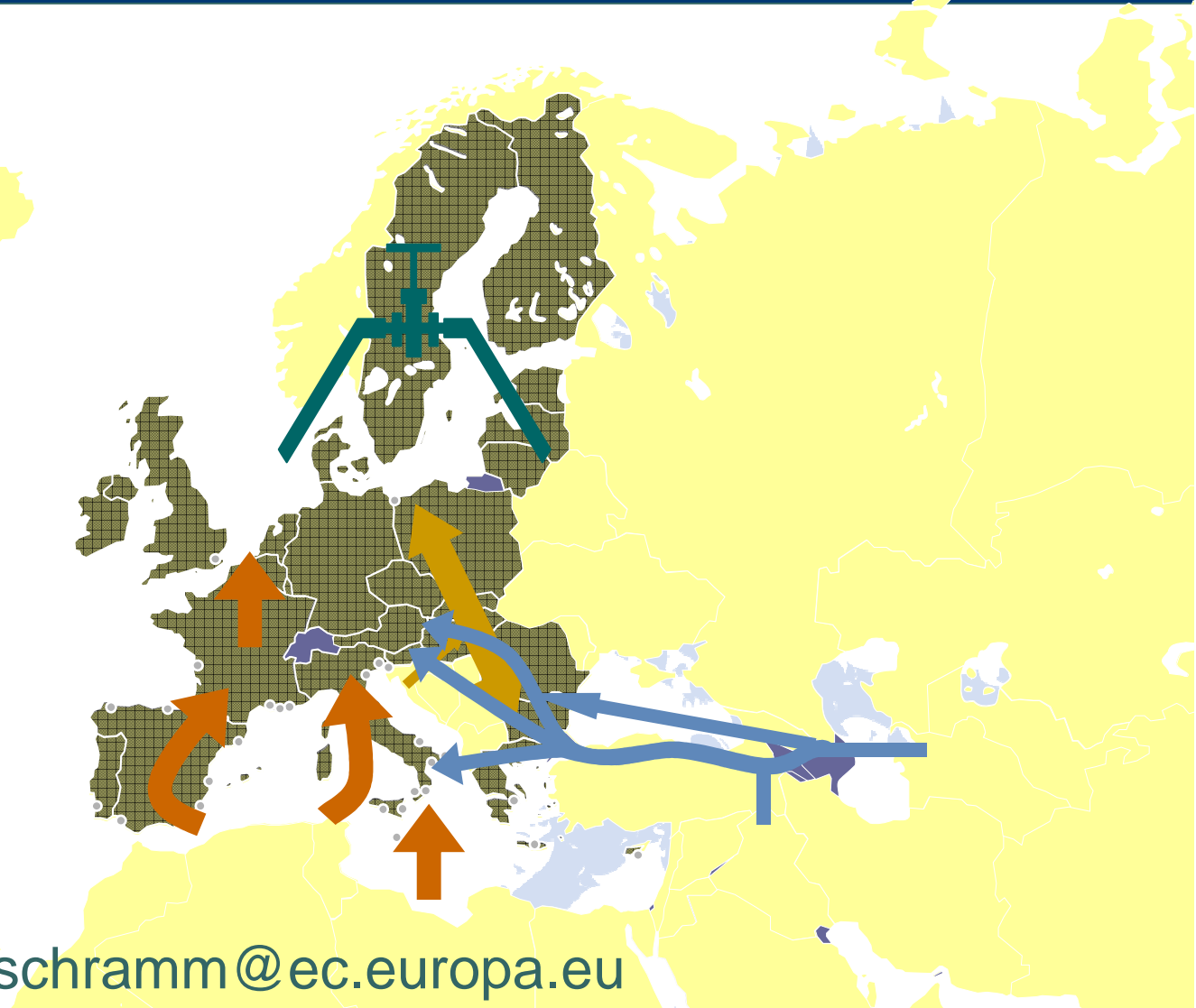
- Baltic energy market inter-connection plan
- Interconnections in South West Europe
- Interconnections in Central-South East Europe
- Offshore grid in the Northern Seas and connection to Northern and Central Europe
- Smart grids in the EU





## European infrastructures priorities – gas and oil by 2020

- Southern gas corridor
- Baltic energy market inter-connection plan
- South-North gas interconnections in Western Europe
- North south gas & oil interconnections in Central & South East Europe



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- Knowledge generation and sharing
- Mainstreaming of climate change adaptation into EU policies:
  - Energy policy, cohesions and regional policy
  - Climate proofing of EU investments and financial instruments
  - Support with the implementation of EU policies
- Support of national (and local/urban) adaptation strategies and related institutional/legal frameworks in all EU member states
  - Awareness raising, capacity building, training
  - Facilitation of the exchange of best practice
- Stimulation of the role of the private sector



<http://ec.europa.eu/clima/sites/change/>

Thank you!



- <http://www.climatecost.cc/>
- <http://www.climsave.eu/climsave/index.html>
- <http://www.mediation-project.eu/>
- <http://www.adamproject.eu/>
- <http://www.responsesproject.eu/>