

DRIVING CLIMATE CHANGE ACTION THROUGH OPEN MARKETS

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Statkraft
PURE ENERGY

A MARKET BASED SOLUTION?

Fundamental issues:



Market based solutions enables a split of physical and financial obligations

An aerial photograph of a coastline with mountains and water. The text is overlaid on the image.

REDUCING EMISSIONS

INCREASING RENEWABLES

**GIVING CONSUMERS
A GREEN CHOICE**

THE KYOTO MECHANISMS

- > Under Kyoto, countries must meet their targets **primarily through national measures.**

- > Additional options:
 - **Emission trading (ETS)**, or *cap-and-trade*
 - *European Union most prominent example*

 - **Clean development mechanism (CDM)**
 - *Booming industry in China and India*

 - **Joint Implementation (JI)**



EU: EMISSION TRADING SCHEME..

Experience from EU ETS I and II:
Need to improve economic efficiency

*” experience so far has shown that **greater harmonisation** within the EU ETS is imperative”*

”widely different national methods for allocating allowances to installations threatens fair competition”



...ETS PHASE III (2013-2020)

- > ...extended to more sectors and gases, including industrial sectors
- > ...no national allocation plans
- > ... power sector to cover emission costs through buying allowances
- > ... emissions in 2020 reduced with 21% compared to 2005
- > ...introduces 71% emission reduction in 2050 from the sectors covered compared to 1990



US: WAXMAN-MARKEY BILL

US House of Representatives in June 2009 passed American Clean Energy and Security Act (ACES):

By 2020:

...cut 17% of US emissions from 2005 levels

...national cap-and trade system

...12 % of power from renewable sources and 8 percent in energy efficiency savings

...performance standards on new-built coal fired power, including \$ 1 bn/y in CCS funding

BOXER-KERRY BILL (US SENATE)

...cap-and-trade, cutting 20% by 2020

...(even) more focus on domestic offsets



**Reducing
83% of US
emissions
by 2050**

REFLECTIONS ON CAP-AND-TRADE

- > Caps delivers targets
 - ...but requires proper monitoring, reporting and verification processes
- > All "special circumstances" distorts economic efficiency
 - National Allocation Plans in EU
 - Duty to pass on "free allowances" to end consumer in US
 - Regional vs global: Industrial policy
- > "Polluter pays principle" turns into huge revenues
 - EU ETS will give governments annual revenues of >20 bn euros



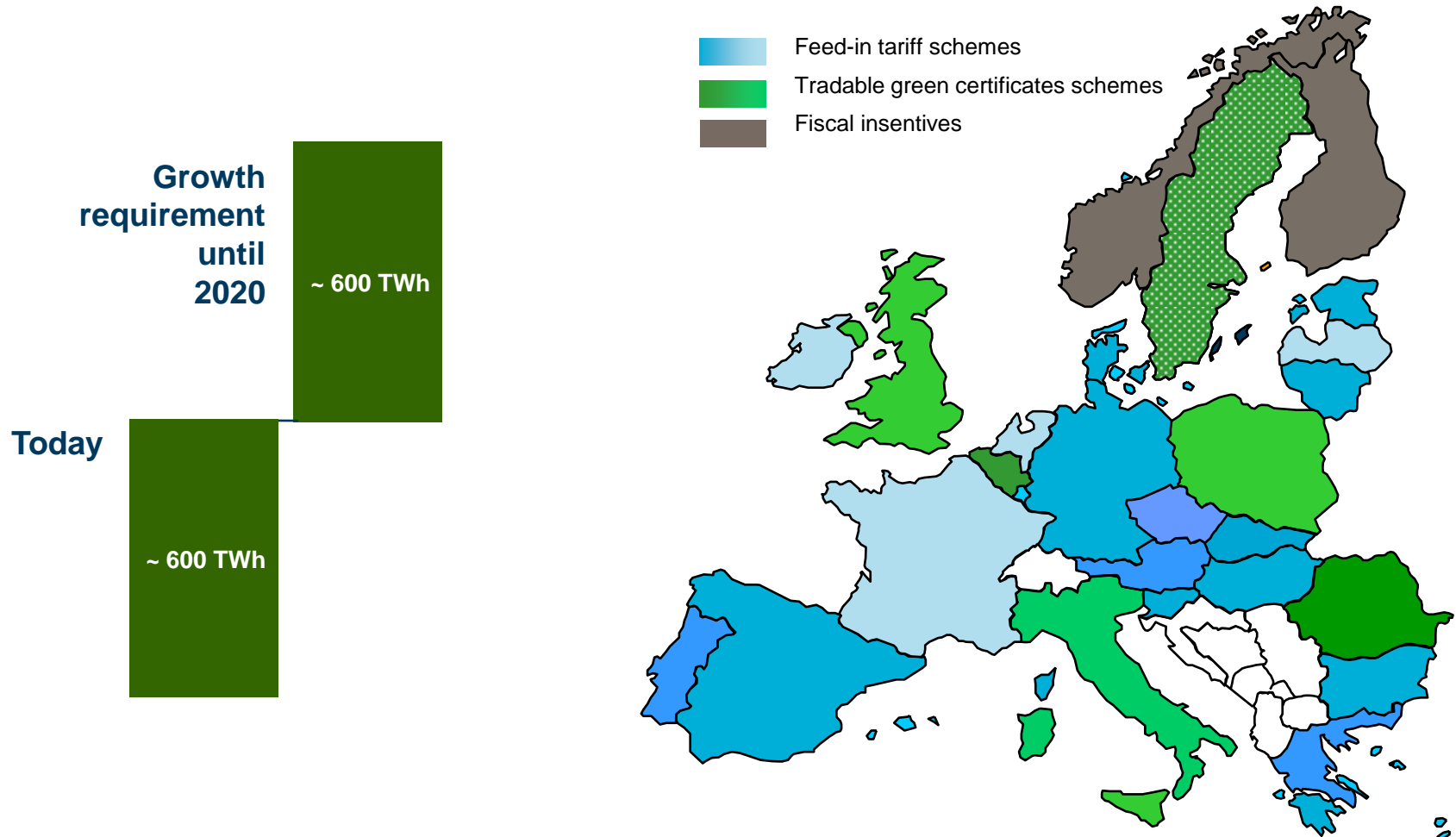
An aerial photograph of a coastline with mountains and water. The water is a deep blue, and the mountains are a lighter blue-grey. The sky is a pale, hazy blue. The text is overlaid on the image.

REDUCING EMISSIONS

INCREASING RENEWABLES

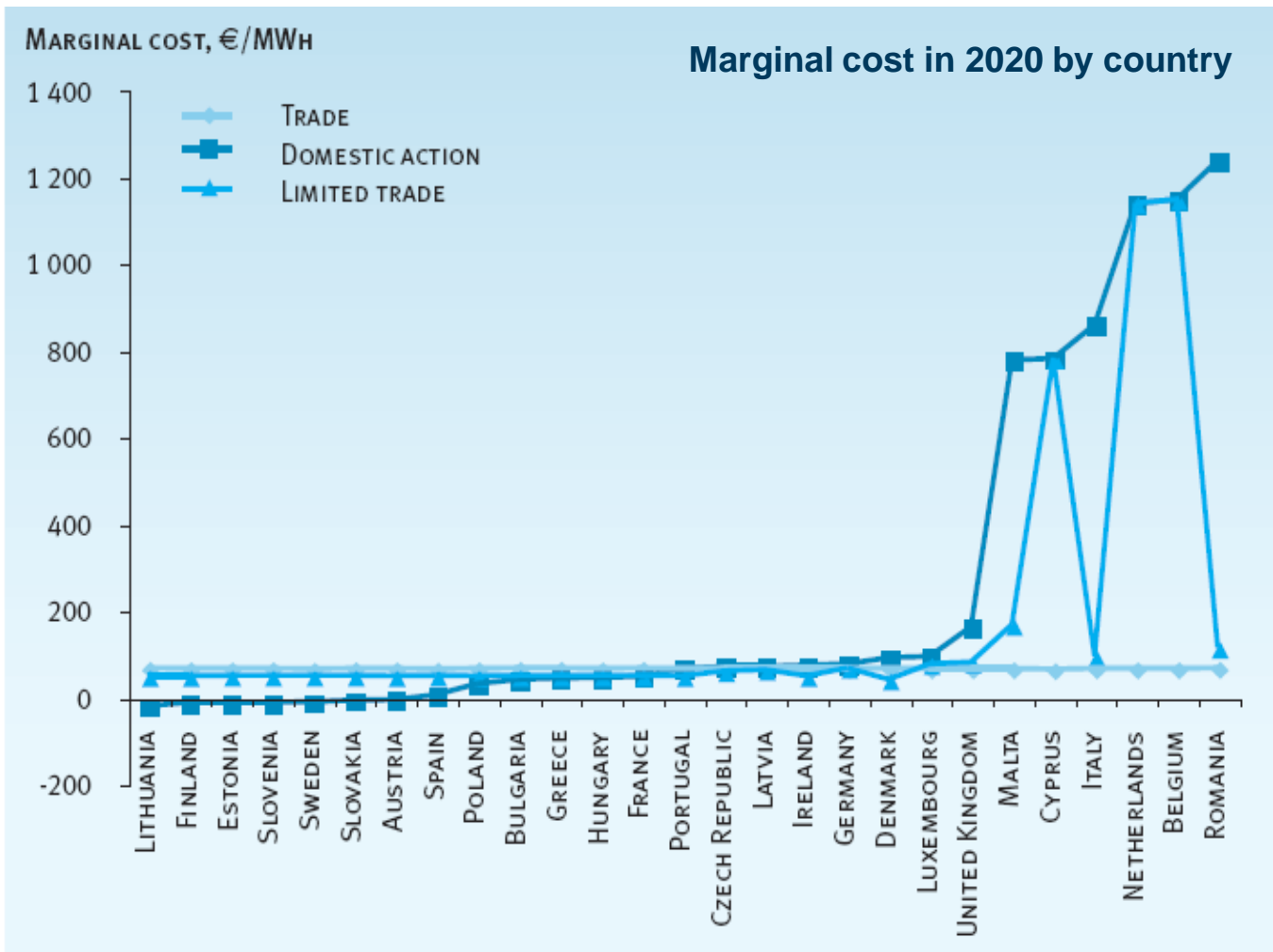
**GIVING CONSUMERS
A GREEN CHOICE**

30 DIFFERENT SUPPORT SCHEMES



Is this the best foundation for many hundred billion euros of investments in renewable power over the next 11 years?

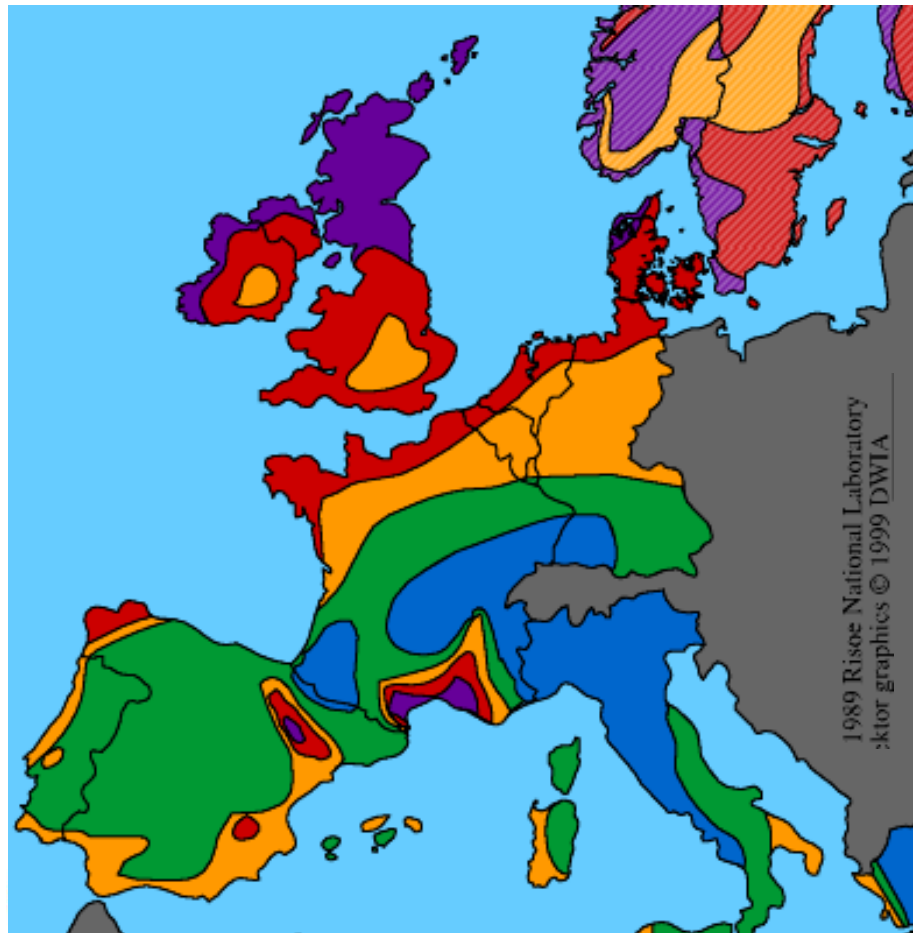
SEVERAL COUNTRIES ARE SHORT



Source: Euren model output, Pöyry Energy Consulting team analysis

SUPPORTING WIND POWER WHERE THE WIND BLOWS?

Wind resourcesand installed capacity



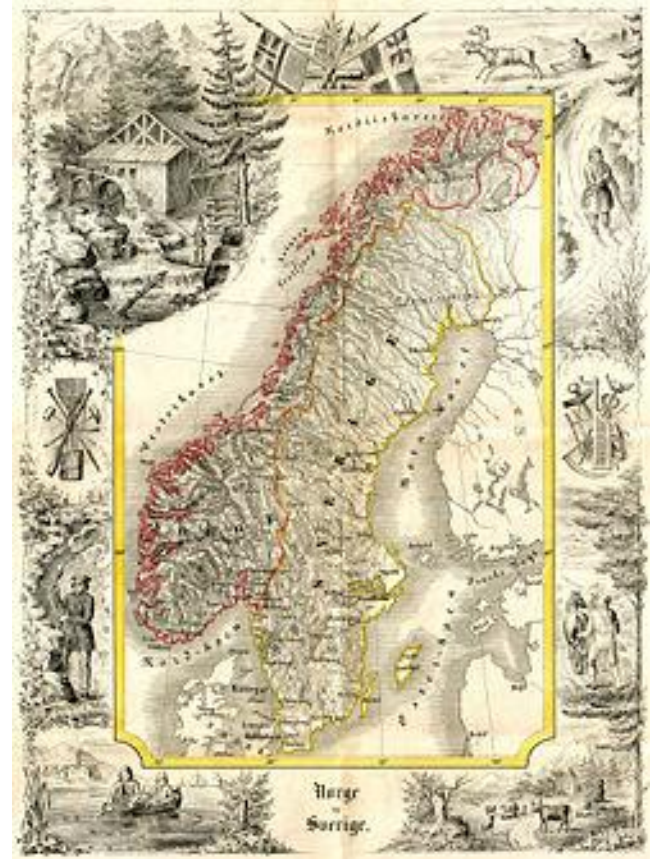
Source: www.gei.org: Risoe Nat Lab/DWIA



Source: EWEA

A SWEDISH-NORWEGIAN JOINT CERTIFICATE MARKET

- > Agreement in principle of establishing a common Norwegian-Swedish certificate market from 2012
- > Will be governed by framework in The Renewables Directive
- > Technology-neutral approach, implying hydropower of all sizes
- > Agreement on equal burden sharing in TWh obligation per country, approx 25 TWh in total
- > Huge uncertainty on transition rules until 2012 in Norway
- > A common certificate market would be the first in Europe between two countries bound by the RES Directive



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REDUCING EMISSIONS

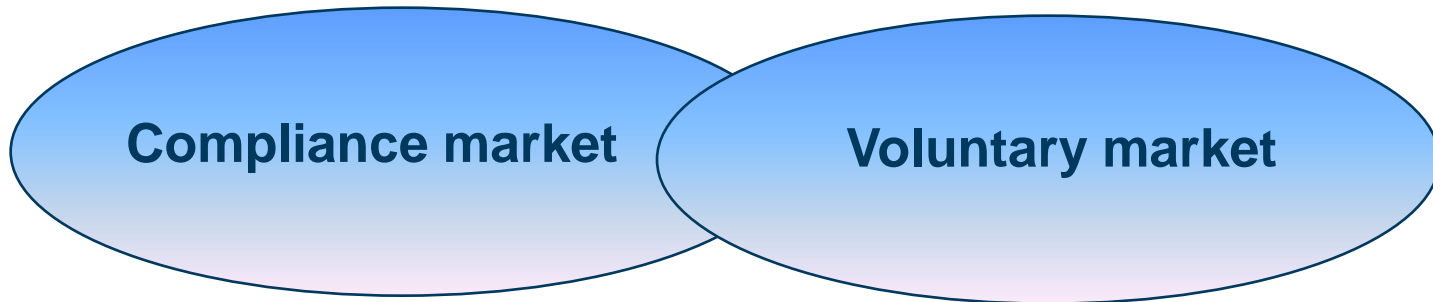
INCREASING RENEWABLES

**GIVING CONSUMERS
A GREEN CHOICE**

CONSUMER CHOICE: CARBON

**Nations through
Kyoto Protocol**

**Consumer
and businesses**



CONSUMER CHOICE: GREEN POWER

Guarantees of Origin (GoO)
separate from renewable obligation:

- > Challenge to improve fuel mix disclosure calculations
- > Need for European platform to handle import and exports between countries
- > Member States with option to include additionality criterias



STATKRAFT CAPABILITIES

REDUCING EMISSIONS

- Carbon compliance management
- Sourcing of primary CERs through support of renewables CDM projects in developing countries
- Trading partner in EUAs, CERs, ERUs and other traded emission allowances.

INCREASING RENEWABLES

- Trading partner in green certificates and other traded renewables products

GIVING CONSUMERS A GREEN CHOICE

- Guarantees of Origin
- Voluntary offsets to consumer market

**Strong
commercial
teams
in Oslo and
Amsterdam**

DRIVING CLIMATE CHANGE ACTION THROUGH OPEN MARKETS

**Market based instruments well suited
to meet global challenge of climate
change – it fits well with how
business do their business**

**Important to maintain and develop
flexible mechanisms both in
European and global carbon trading
and renewables policies**



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