



Policy Integration, Trade Offs with other Policies and Markets

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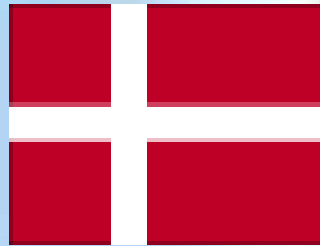
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Harmonisation and Coordination of European RES-E Support Mechanisms

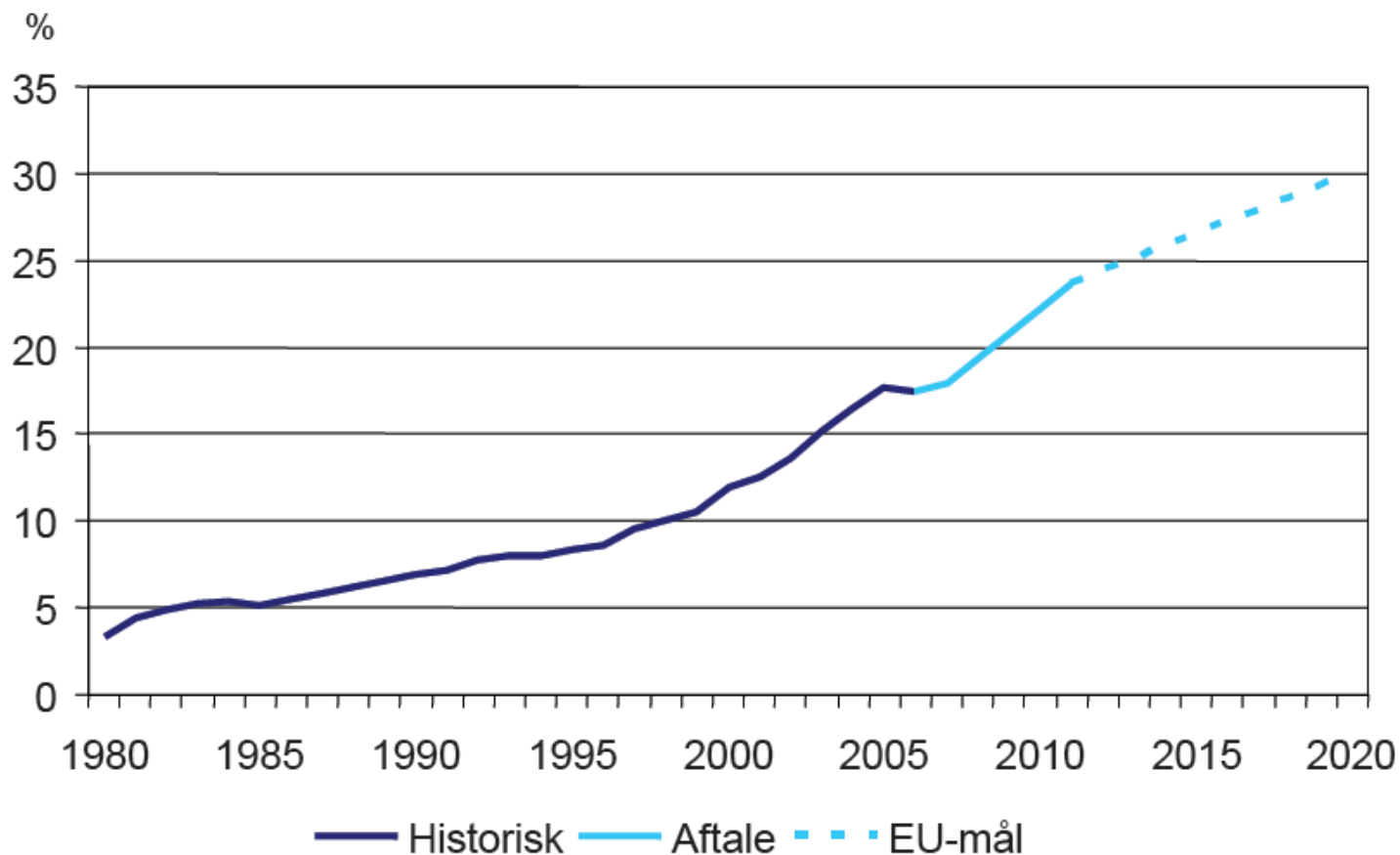
Vilnius, 4. March 2008

Renewable Energy in Denmark



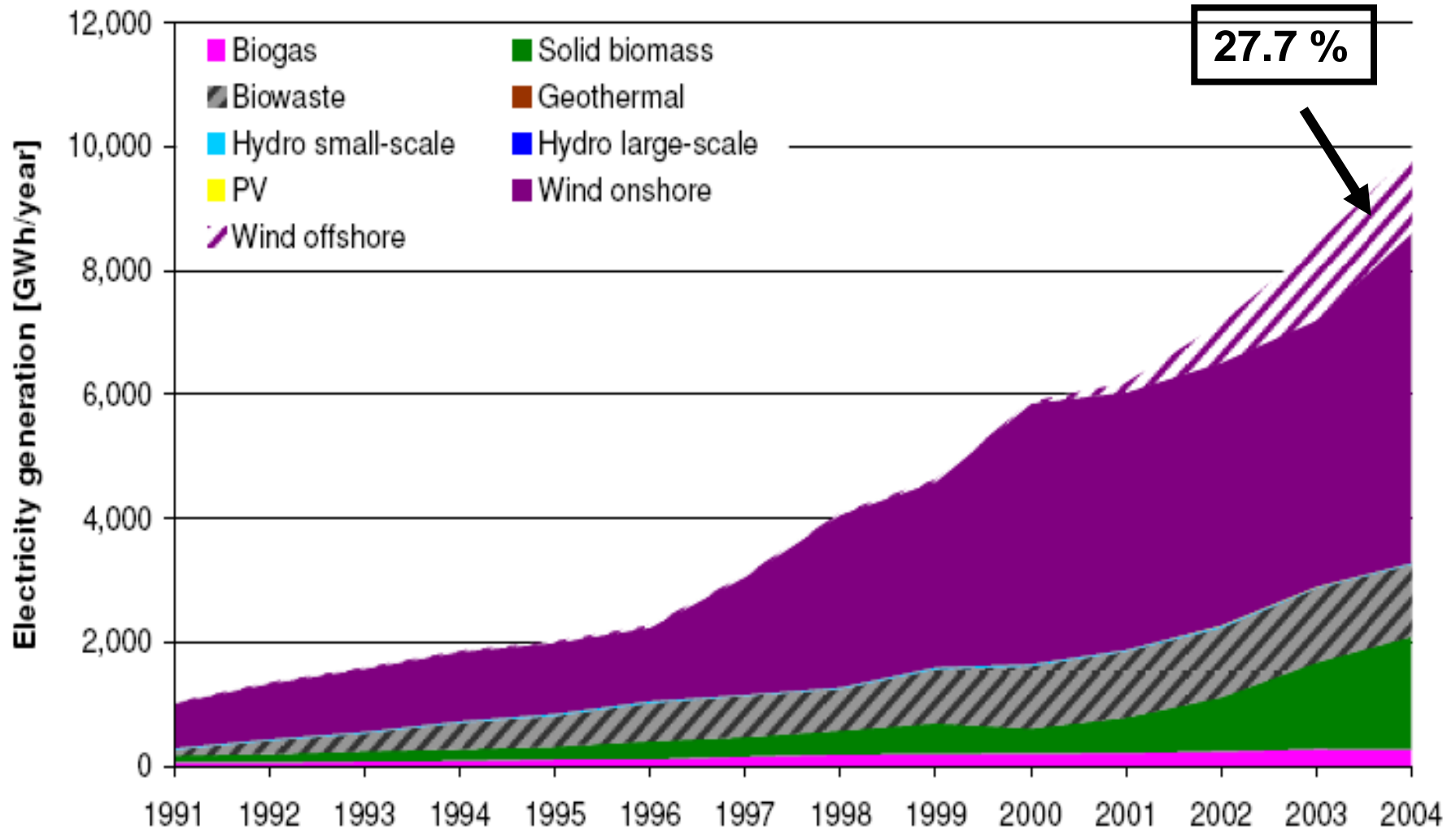
Status on RES in Denmark

- **Goal: 30 % (2005=17%)**



Source: Danish Climate and Energy Ministry

Electricity Generation from RES



Danish Energy Policy 2008-2011 - Targets

- **New Danish Political Agreement (21.02.2008)**
- **Complies with the EU Directive proposal**
- **Renewable Energy**
 - 20% RES in 2011 (EU-DK Interim Target: 20 % in 2012)
- **Energy Savings**
 - Decrease in energy use: 2% in 2011 and 4% in 2020

Danish Energy Policy 2008-2011 - Mechanisms

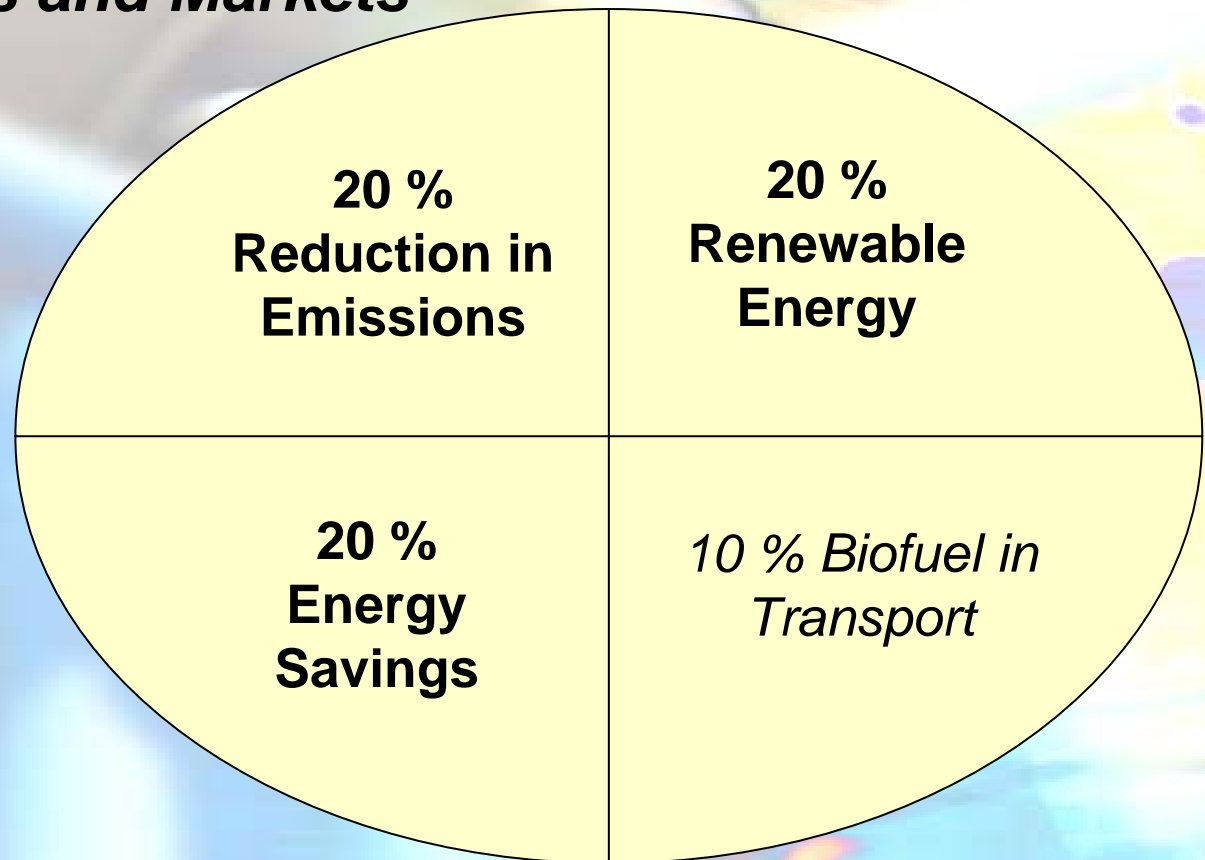
- **Taxes and support**

- Onshore: 33 Euro/MWh (premium)+ 3 Euro/MWh (balancing cost)
- Offshore: Tendering of additional 400 MW in 2012
- Biomass: 20 Euro/MWh (premium)
- Biogas: 100 Euro/MWh (feed-in)
- CO₂-tax: Non-ETS: 20 Euro/ton
- NO_x-tax: 0.7 Euro/kg after 2010

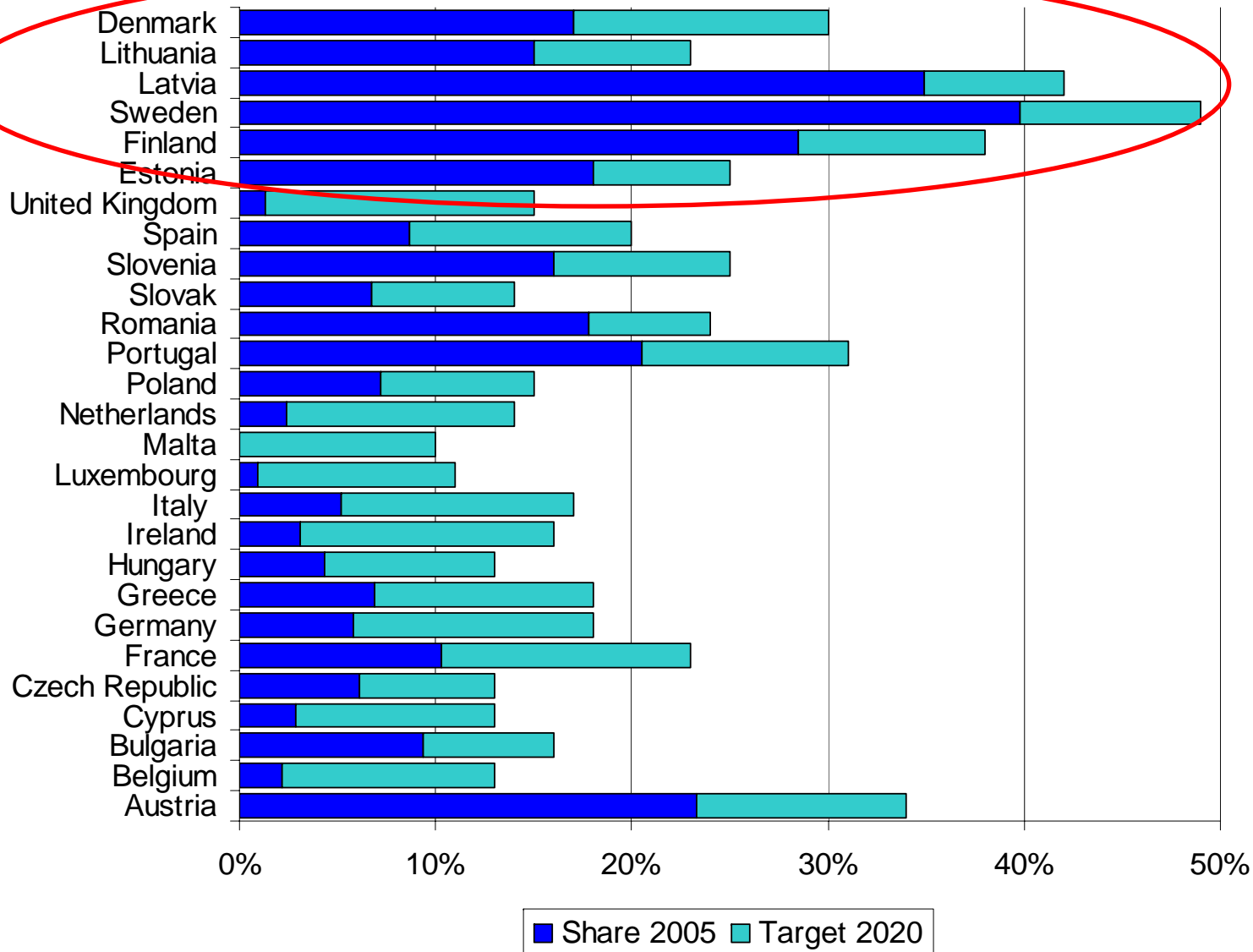
- **Transport**

- Tax exemption
- Discussion of plug-in-hybrid

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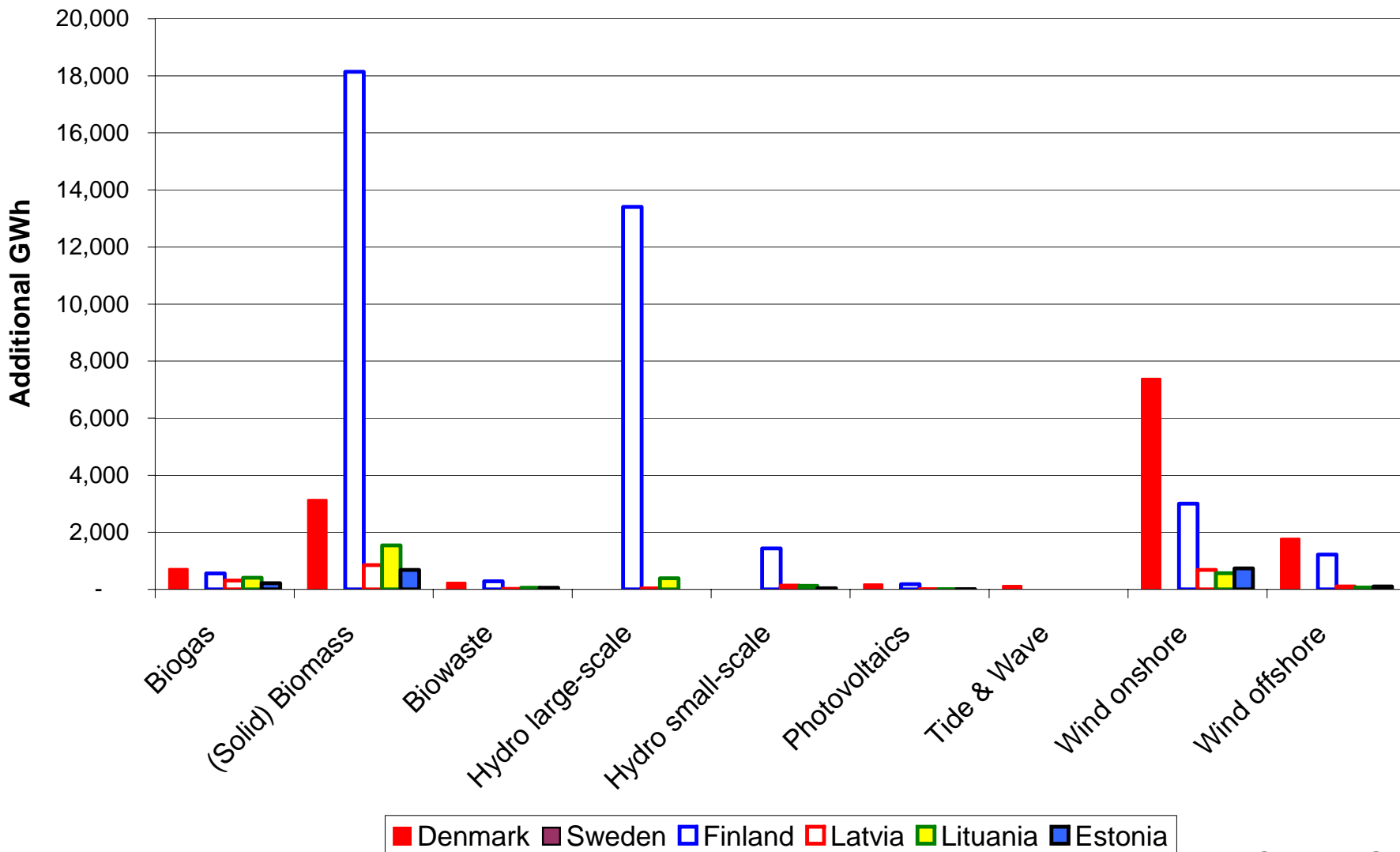
National RES Target



North East European Countries

- **Latvia** 
 - Hydro and wind
 - TGC
- **Finland** 
 - Biomass and hydro
 - Tax and investment subsidies
- **Sweden** 
 - Hydro, biomass, and wind
 - TGC and feed-in premium
- **Denmark** 
 - Wind and biomass
 - Feed-in premium, tendering, and fixed feed-in
- **Estonia** 
 - Biomass, hydro, and wind
 - Obligations and voluntary TGC
- **Lithuania** 
 - Hydro, wind, and biomass
 - Feed-in

Best Practices 2020



Political Framework

National



- CO2
 - CO2-reduction in transport, farming, and heating with oil and gas.

- Renewable Energy
 - Support
 - Physical planning

- Energy Savings
 - National targets
 - All initiatives

- National Policy Design

EU



- CO2
 - National targets
 - CO2-reductions in the energy sector and industry

- Renewable Energy
 - National targets

- Energy Savings
 - Standardisation

Interacting Policies

- **Goals**

- An efficient power supply with low prices for the consumers
- Security of supply
- Low Emissions

- **Markets**

- Physical power
- Renewable Energy
- Environmental
- Savings

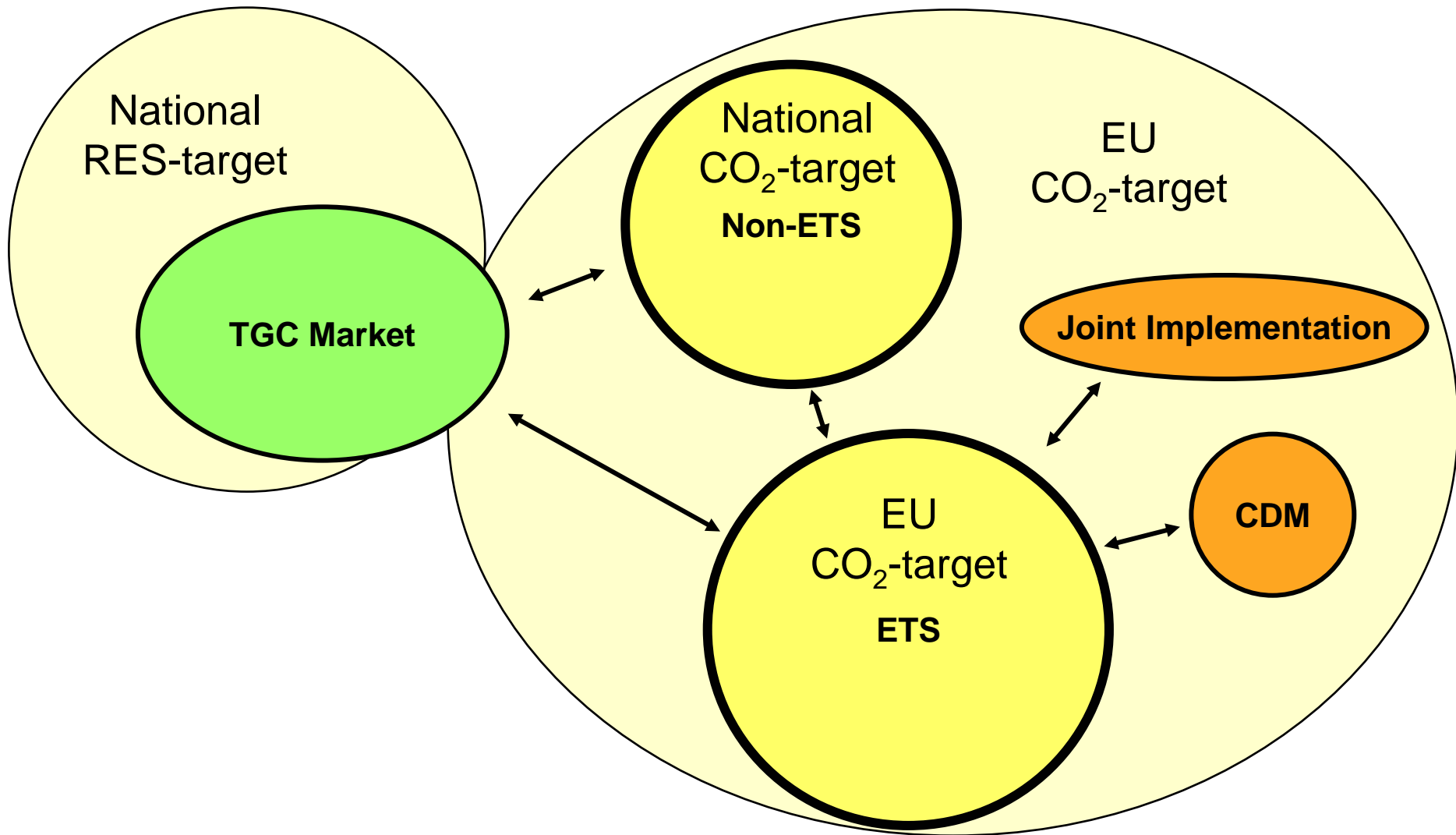
- **Instruments**

- Feed-in
- TGC
- Tendering
- ETS

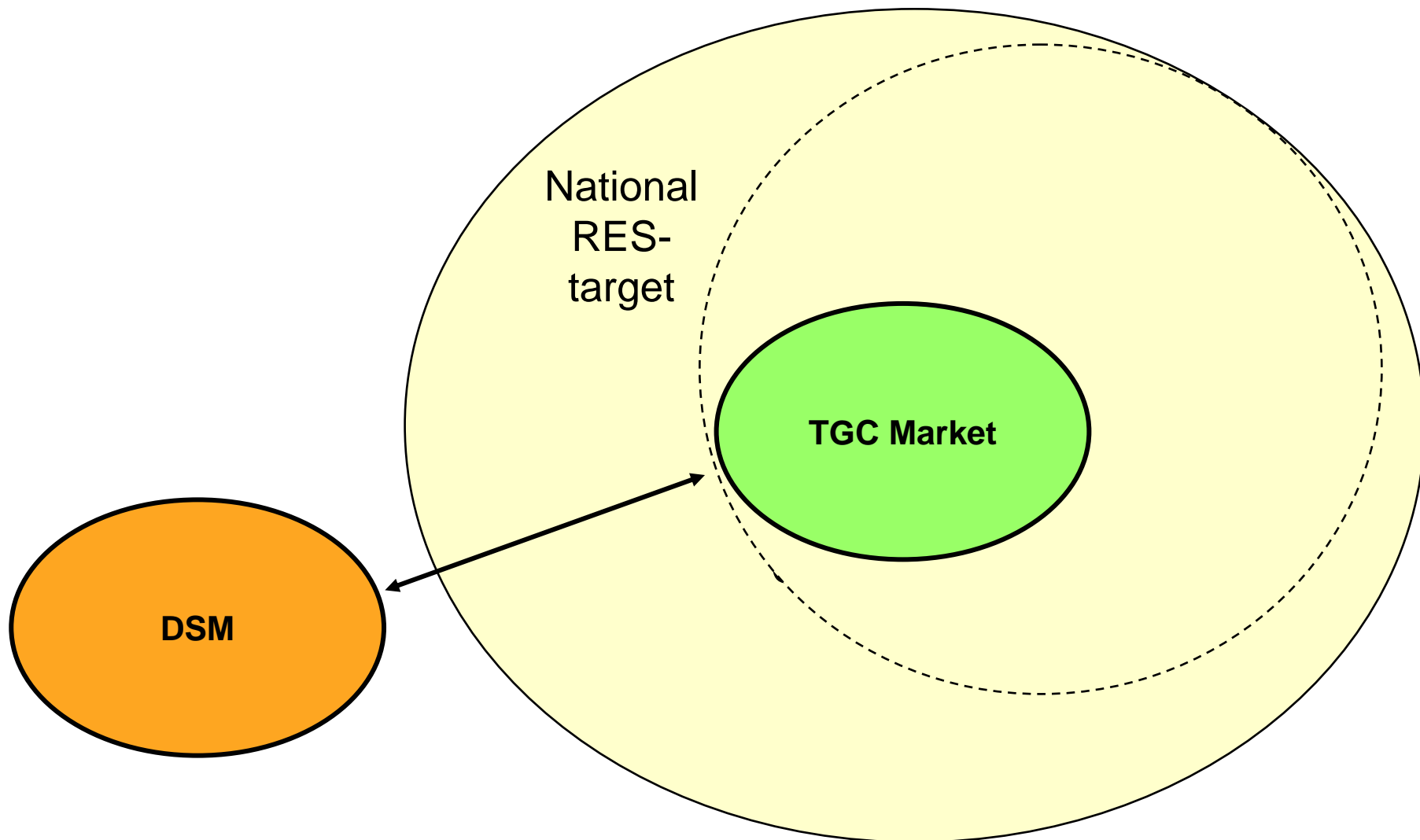
- **Technologies**

- RES-E
- CHP
- DSM

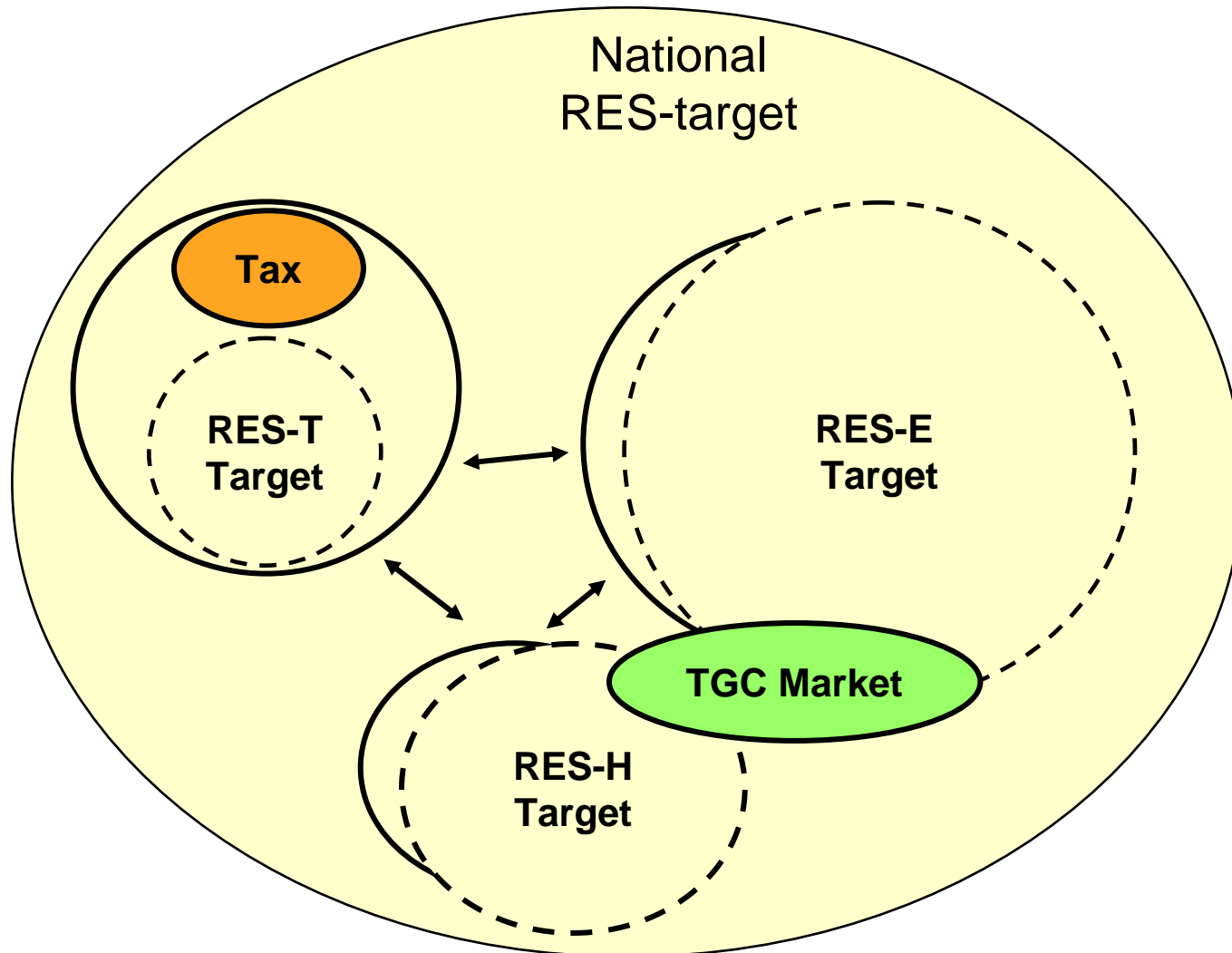
RES-E and CO₂



RES-E and DSM



RES-E, Transport, and Heat



RES-E and Power Market

- **Power Market Design**
- **Transmission**
 - Pricing mechanism
 - Planning of investments
 - Network access rules
- **Ownership Structure**
 - Unbundling
- **Balancing**
 - Pricing mechanism
 - Costs
 - TSO coordination

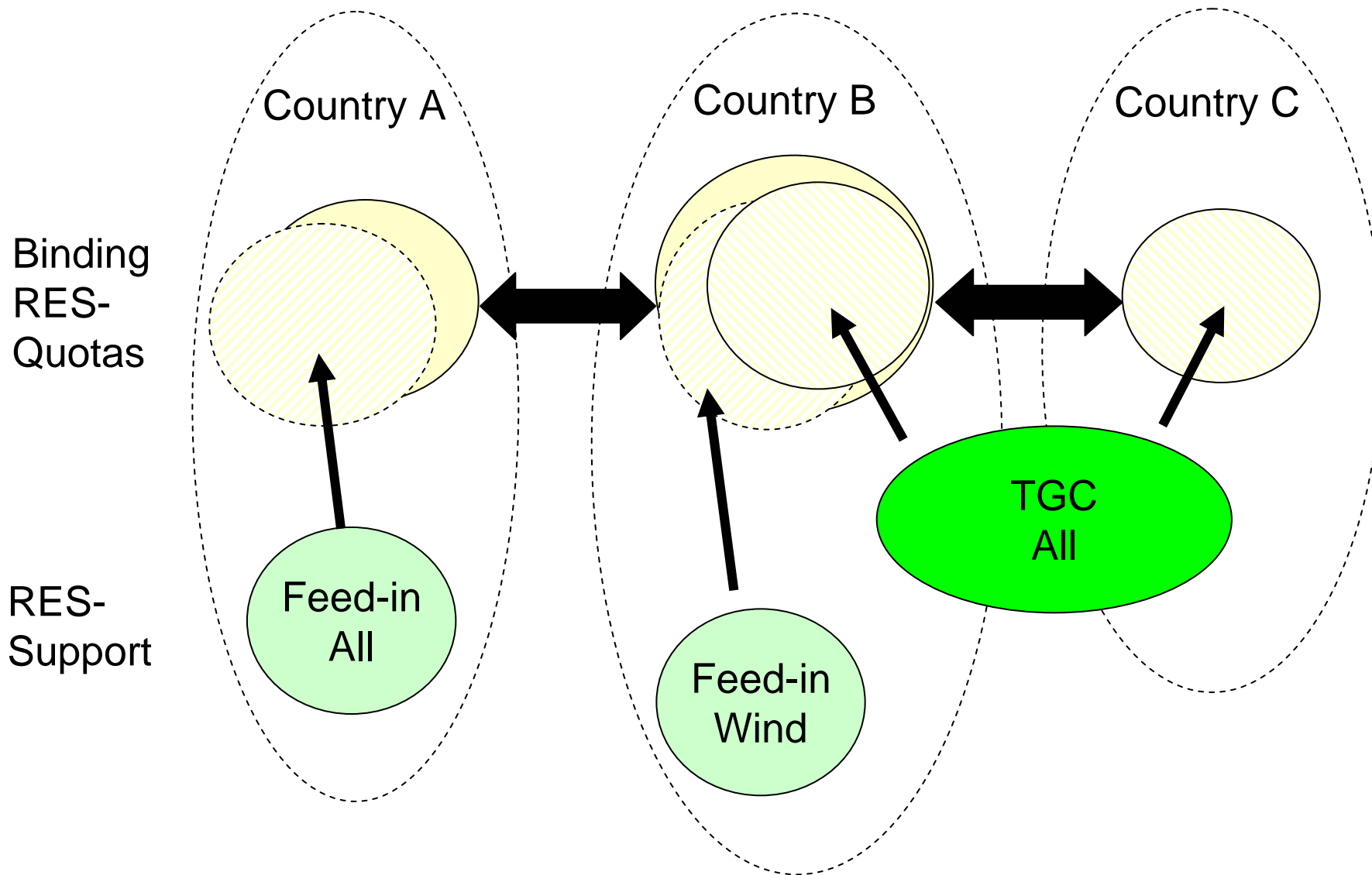
Important Aspects in Policy Integration

- **Reasons for Cooperation**
 - Target is burden sharing
 - Optimal use of resources
 - Improvement of functionality in power markets
- **How different markets, instruments and technologies affect each other**
 - Do we have synergetic effects?
 - Do we see barriers?
 - Can the promotion of different technologies go hand in hand?
 - Which instruments should be used and at what level?



It is not always optimal to harmonise support schemes when other policies are taken into consideration

How Can We Cooperate on RES-E Policy?



Conclusions

- In a well-functioning liberalised power market we will always achieve the full efficiency gain by harmonising renewable support systems
- In Separate power markets the outcome depends on the initial conditions of the power system
- But we often want more than efficiency!
 - Importance of industrial development and local employment should not be understated!
- Be aware of lock-in consequences
 - Grandfathering is heavily subsidising new fossil fuel plants
 - The present market design might not be the best one to facilitate a large scale deployment of renewables