

The interlinkages between policy instruments of offshore wind production and nature conservation

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APRAISE project

- Assessment of Policy Interrelationships and Impacts on Sustainability in Europe
- EC FP7 project aiming towards assisting European policymakers to achieve sustainable development objectives under different circumstances, by designing **effective, efficient and efficacious policy mixes**, which are socially acceptable and secure Europe's competitiveness

Partners

JIN – Joint Implementation Network (*The Netherlands*)

JR - Joanneum Research (*Austria*)

Fraunhofer ISI - Fraunhofer Institute for Systems and Innovation Research (*Germany*)

UoS – Science and Technology Policy Research University of Sussex (*United Kingdom*)

NTUA - National Technical University of Athens – Energy Policy Unit (*Greece*)

UPRC - University of Piraeus Research Centre (*Greece*)

CEPS - Centre for European Policy Studies (*Belgium*)

VATT - Government Institute for Economic Research (*Finland*)

UL - Laboratory for Energy Policy, University of Ljubljana (*Slovenia*)

SEIT - Stockholm Environment Institute Tallinn Centre (*Estonia*)



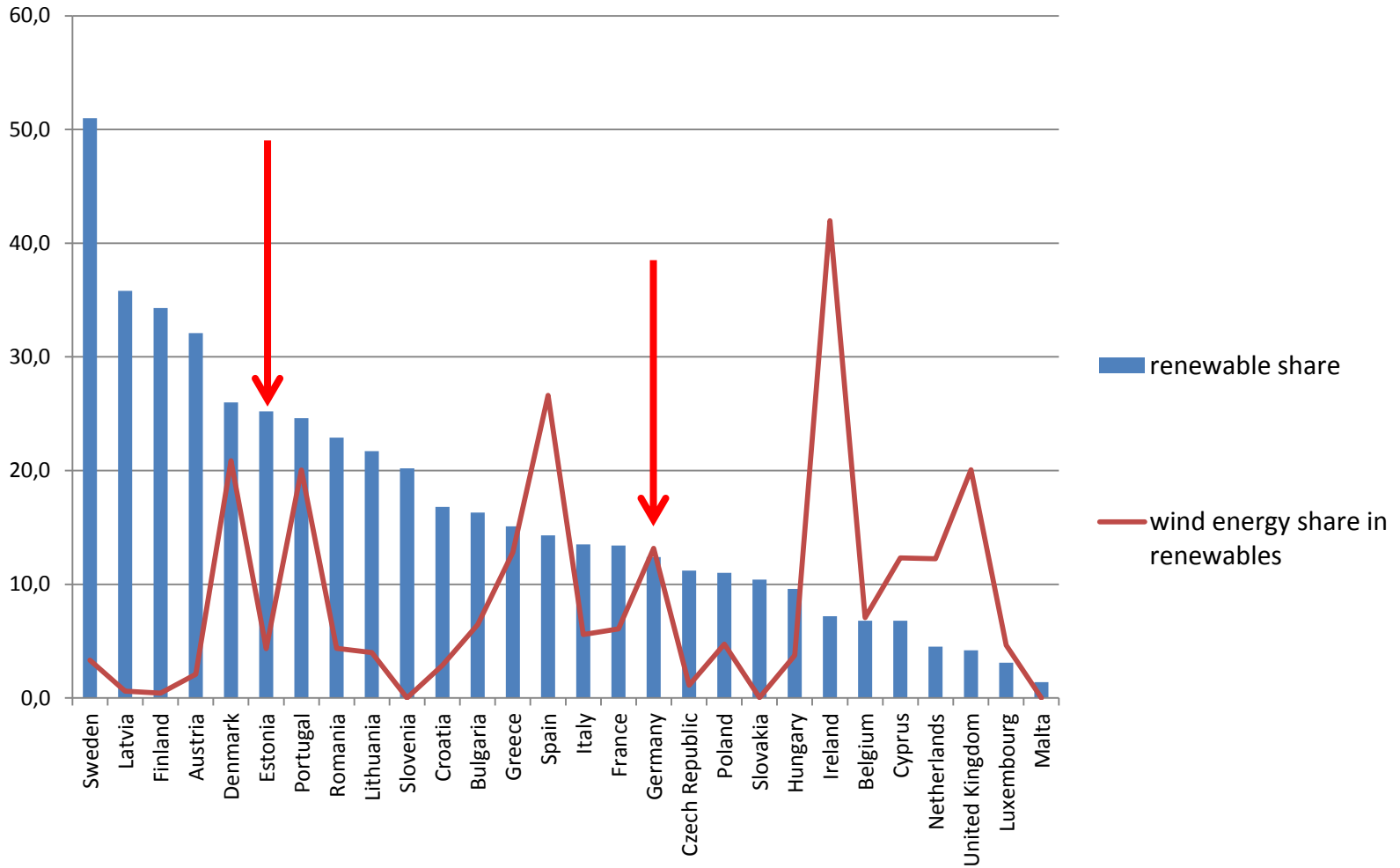
APRAISE case studies

- **The policy interactions of offshore wind energy generation and conserving marine ecosystems (Estonia - Germany)**
- The impact of the EU Renewable Energy Directive (focusing on biofuels for transport) on other environmental objectives (Austria – UK)
- The impact of hydropower generation of river basins (Slovenia – Austria)
- Policy interactions in the fields of sustainable buildings (The Netherlands – Greece)
- Waste management – prevention, reuse and recycling of plastic package material (Germany – The Netherlands)
- Sustainable and EE development – RES E production and EE policy instruments (Greece – Slovenia)

Estonian case study

- Focuses on two environmental policies implemented in the EU:
 - ✓ Renewable energy policy: renewable energy share 20% in final energy consumption by 2020 (Roadmap 2050; Renewable Energy Directive)
 - ✓ Nature conservation policy: to halt the loss of biodiversity by 2020 (EU Biodiversity Strategy 2020; Birds Directive and Habitats Directive)
- Policy instruments selected on single policy area, the interlinkages not considered
- The hierarchy of policy documents / legislation

Renewable energy and wind energy in EU28, 2012



Relevant policy instruments

- **Renewable energy support**
- **Designated Natura 2000 sites**
- Environmental Impact Assessment and Environmental Management Systems Act
- Grid Code
- Planning Act
- Water Act

3E method

- **Effectiveness** – whether the effect can be achieved by the measure
- **Efficiency** – whether the output can be achieved with fewer resources
- **Efficacy** – anticipated regulatory, administrative and institutional potential to produce a desired effect

Effectiveness and efficiency

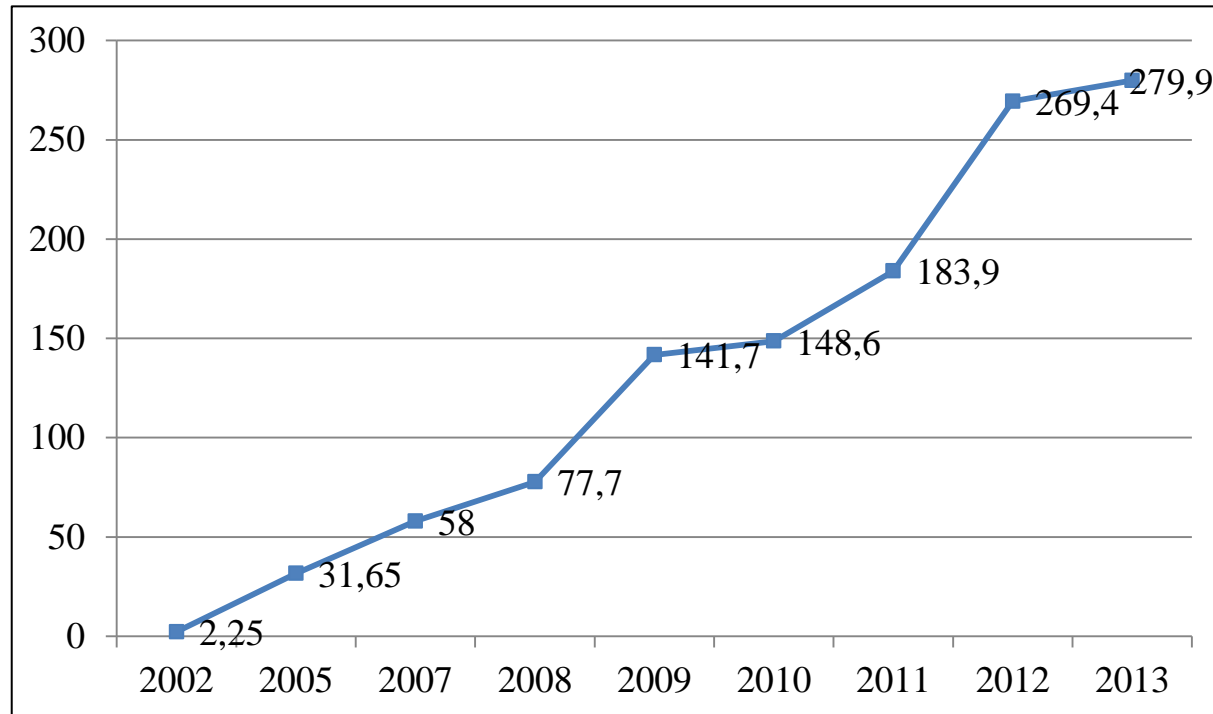
Renewable energy support

- General target for renewable energy: 25% of final energy consumption
 - accomplished in 2011, no motivation for utilizing offshore wind
- Anticipated wind energy targets

	2010	2012	2014	2016	2018	2020
Anticipated wind energy (MWh)	147	311	400	500	550	650
including onshore wind	147	311	400	400	400	400
including offshore wind	-	-	-	100	150	250
Actual wind(MWh), onshore	149	270				

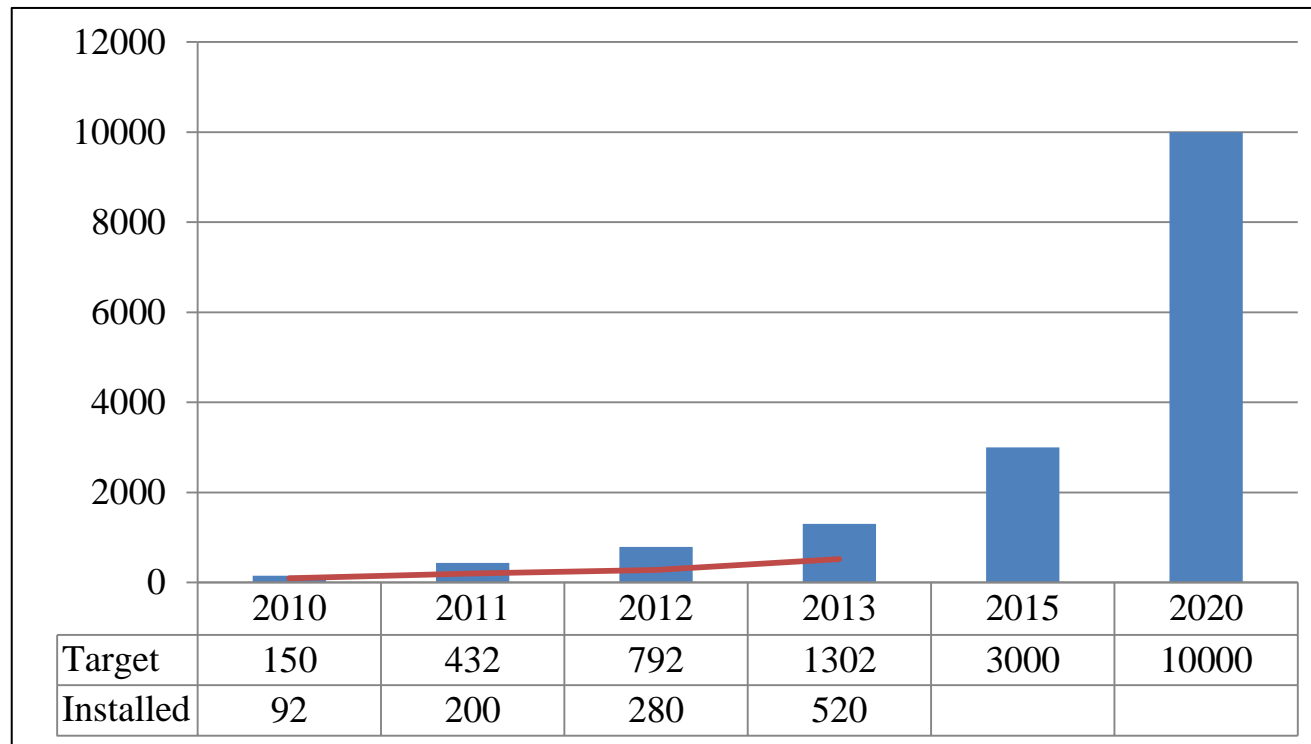
- Offshore wind more expensive than onshore
- Has the renewable energy support rate been too high?

Installed wind energy capacity in Estonia (MW), onshore



Effects of annual ceiling on wind energy support (600 GWh), in 2013 already 515 GWh was produced from wind energy

Installed wind energy capacity in Germany (MW), offshore



Natura 2000 sites (Estonia)

- Inventories of marine ecosystems are under way, specifically in inland sea and territorial waters, not the economic zone
- Information is insufficient, the developers of offshore wind parks carry out complementary research
- Spatial plans for marine area in some counties are under way

Context factors

System Context Factors

Economic / Ecologic / Social / Technological

Policy Instrument Context Factors

Policy Coherence / Policy Consistency /
Implementability / Political and Social
Acceptance

NB! Different factors have been selected for countries, which play an important role in effectiveness

Impact of context factors on effectiveness of policy instruments

Positive

Negative



The most important system context factors

Estonia	Germany
Business investment	Annual GDP growth / financial crisis
Price of electricity	Steel prices
Share of renewable energy in final energy consumption	
Number of designated Natura 2000 areas at sea	Sufficiency of sites designated under the EU Habitats directive
Final energy consumption	Employment in offshore wind industry

The most important policy context factors

Estonia	Germany
PI consistency with Sustainable Development targets	PI consistency with Sustainable Development targets
Existence of suitable infrastructure	Motivation to invest
Familiarity with sea habitats	Coordination and management among institutions
Equity of the planning process	Administrative setup and feasibility
Equity of support system	

Policy interactions

Policy interactions	Impact	Impact on effectiveness key PIs
<p>Policy Interaction 1 (renewable energy support and designated Natura areas)</p>	<p>State is not interested in offshore wind energy as RE target has been reached, but do not claim so directly, but let the offshore wind developers conduct additional research about impacts on species, habitats, so far no permissions have been granted.</p>	<p>(Highly negative)</p>
<p>Policy Interaction 2 (renewable energy support, designated Natura areas, EIA process)</p>	<p>The potential conflict between offshore wind energy development and nature conservation is prevented via SEA spatial plans of marine areas and EIAs of concrete projects</p>	<p>(Slightly positive)</p>
<p>Policy Interaction 3 (renewable energy support and Grid Code)</p>	<p>Development of offshore wind parks is directly related to the availability of transmission infrastructure and grid capacity, which is not in favour of offshore wind energy production.</p>	<p>(Slightly negative)</p>

Conclusions (for Estonia)

- The RE target has been reached, new targets have not been set yet
- National policies (at least in the example of Estonia) have much shorter time perspective than the ones at EU level, increasing uncertainty for investors and other stakeholders
- Lack of clear plans is also contributing to increasing uncertainty (Natura 2000 sites have not been designated in EEZ)
- Impact assessment of policies is useful to avoid policy conflicts and maintain policy coherence

Thank you for the attention!

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