CEER

Council of European Energy Regulators

Renewable Energy Transition in the EU, with a Case Study on the Irish Market

Andrew Ebrill, Secretary General, CEER

VI CEER-ARIAE Meeting

20 April 2017, Panama

Fostering energy markets, empowering **consumers**.

CEER: Fostering energy markets, empowering consumers

- Independent voice for 35 European NRAs
- Promotes competitive, secure and sustainable markets for consumers
- Champions sound energy regulation with stakeholders, incl. policy-makers
- Supports NRAs and encourages best practices:
  - ▶ Training Academy
  - ▶ Workshops, e.g. international events on security of supply
  - ▶ Papers, reports, benchmarking

Putting consumers at the heart of energy policy: CEER-BEUC 2020 Vision

Agenda

- Context for EU Energy Transition
- Growth and Impact of Renewables in EU
- Relevant CEER Policy Positions
- Case Study of RES and the Irish Electricity Market

EU Energy Transition

Liberalised Markets

- Competition
- Consumer choice
- Demand-side and prosumer growth at DSO level

Renewables Growth

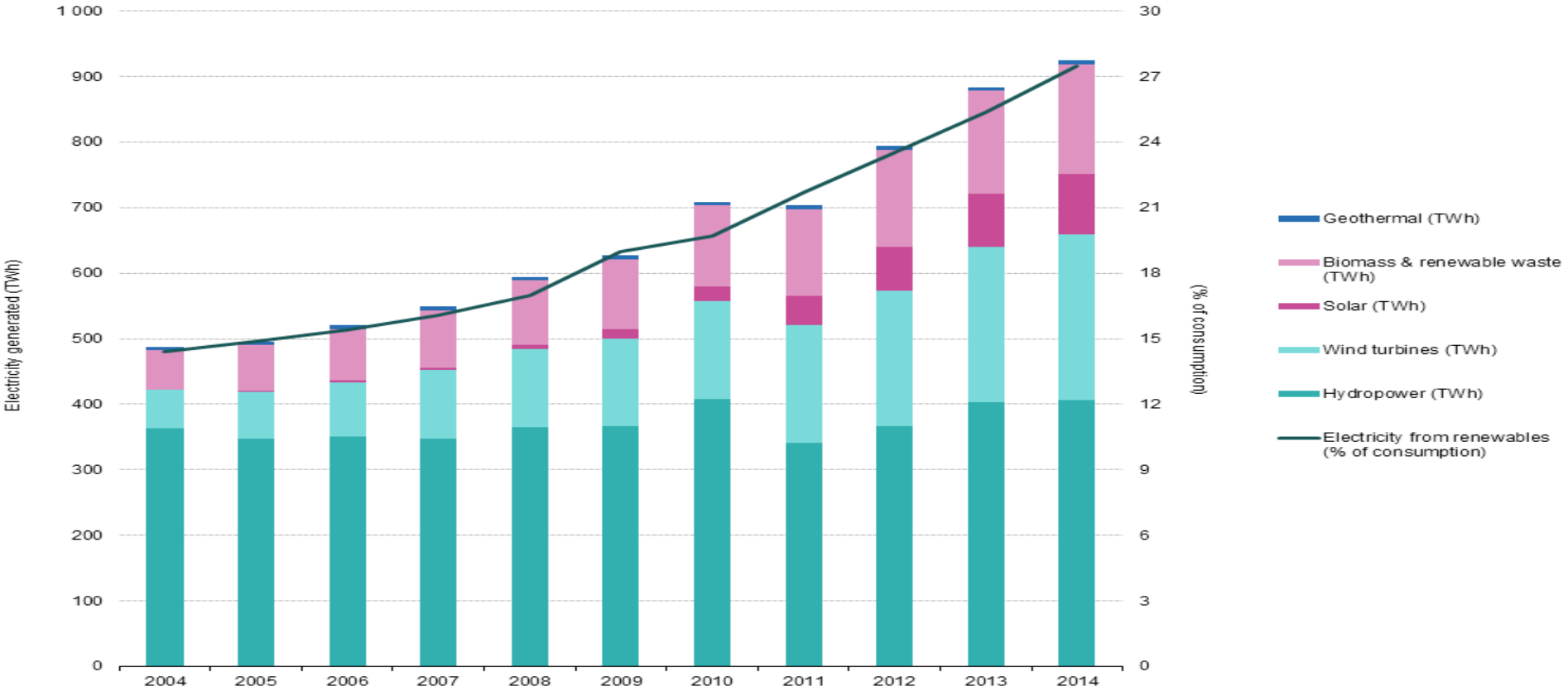
- Dispersed and Variable
- Low marginal cost
- Often small-scale at DSO level

New Technology

- Smart Meters
- Smart Grids
- Smart Heating
- Electric Vehicles
- Internet of Things
- Data Management
- Cybersecurity

Growth of Renewables

- Renewable generation is now central, at over 28% of European electricity demand
- Growth driven by EU 2020 RES 20% energy target and support schemes

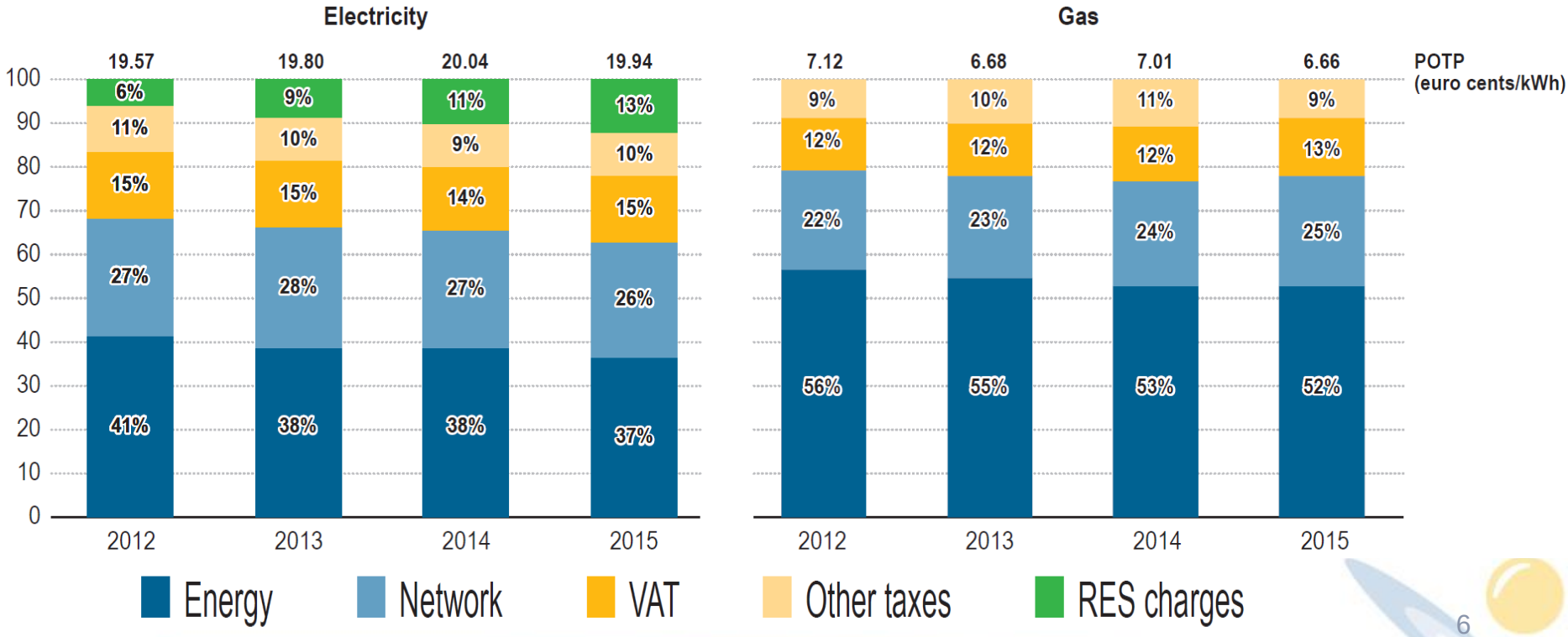


Source: Eurostat (online data codes: nrg_105a and tsdcc330)

Impact of Renewables

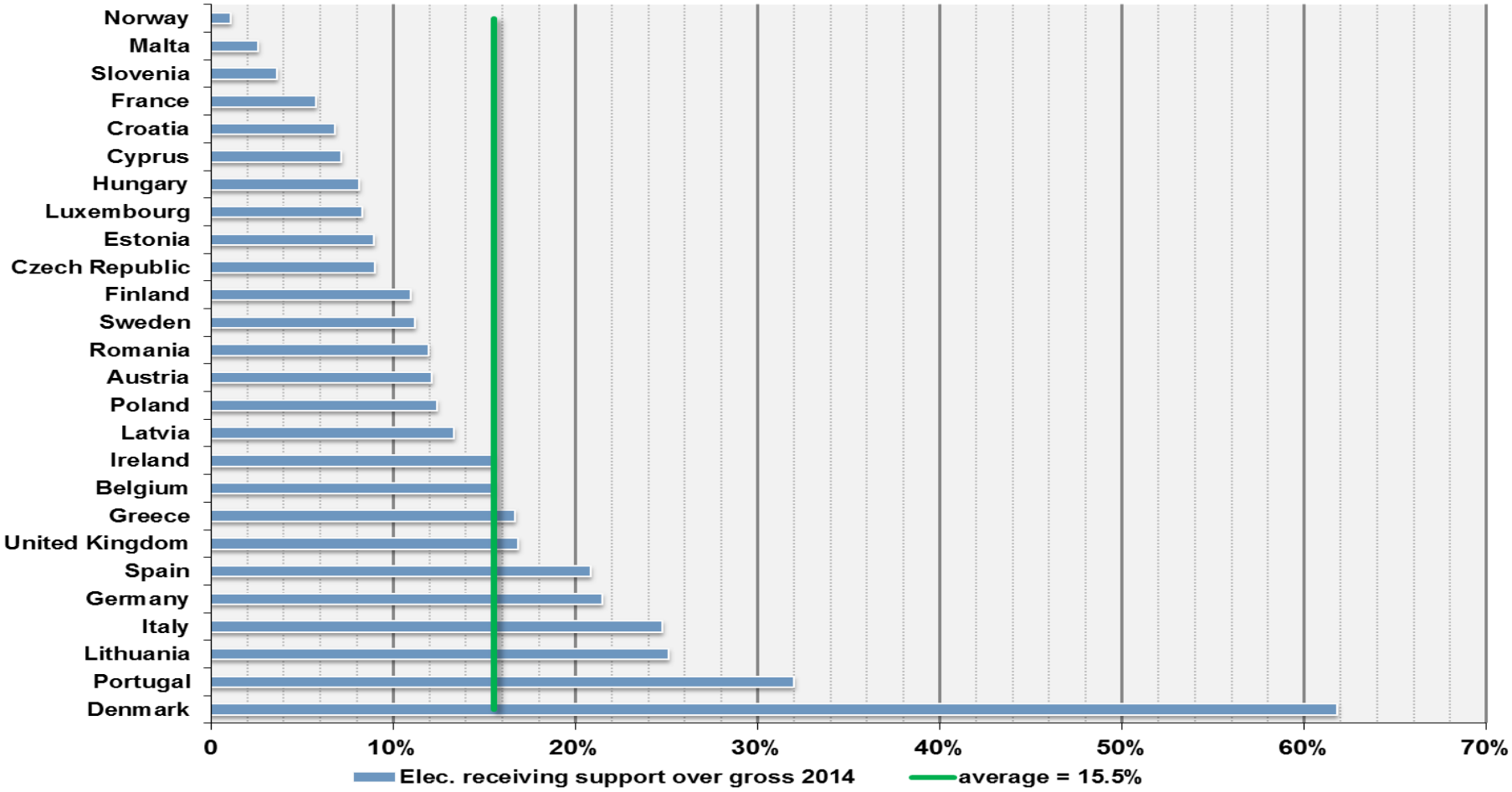
- RES is driving impacts across wholesale and retail:
  - Lowers wholesale prices, feeding into consumer bills
  - But, subsidies have risen, also squeezing competition

Household Energy Bill Composition, ACER/CEER MMR



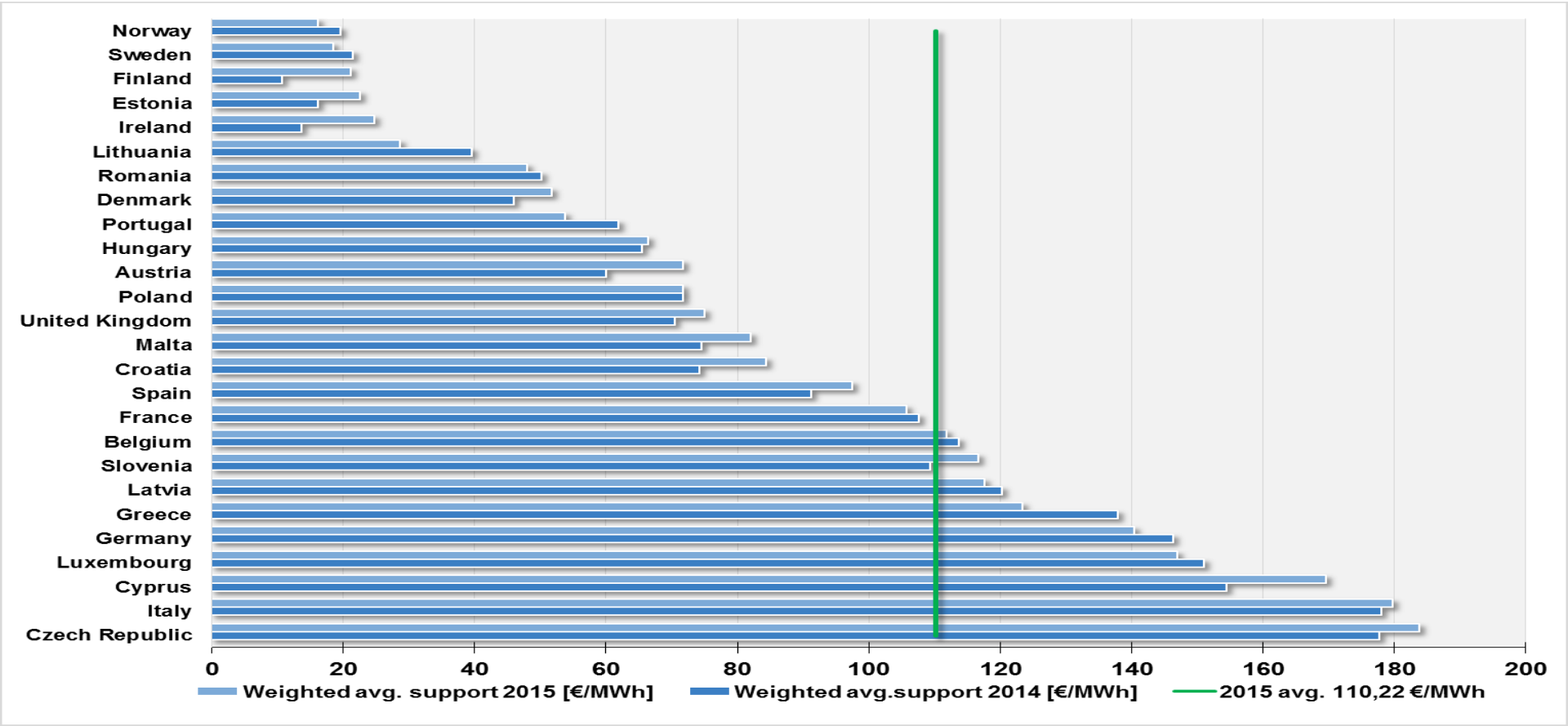
Impact of Renewables

- CEER RES Report April 2017:
  - Different support schemes, wide variety of coverage



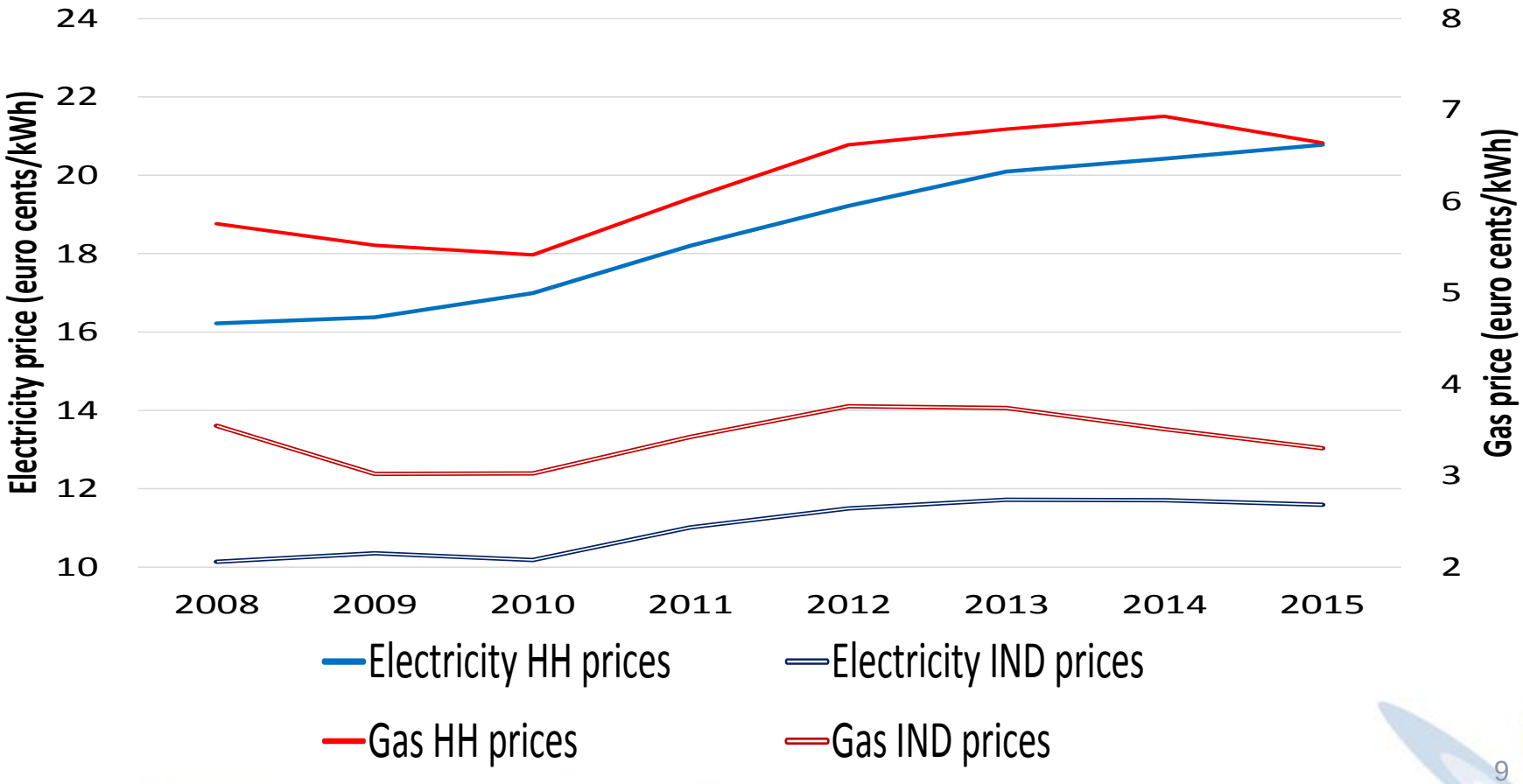
Impact of Renewables

- CEER RES Report April 2017:
  - Wide variety in payment by technology
  - Average payment over wholesale: €110/MWh in 2014 and 2015



Impact of Renewables

- ACER/CEER MMR: retail prices falling again, except for elec HH
  - RES subsidies and other levies are an issue!



Impact of Renewables

- A market design challenge for regulators:
  - Lowers conventional generator output and wholesale prices
    => less energy revenue
  - Remuneration to conventional plants needed for security of supply
    => increases focus on scarcity pricing / CRMs
  - Increases importance of demand-side flexibility
  - Retail price impacts mixed, impacted by subsidies and their design

- RES also raises network issues:
  - Network operators seek to manage intermittency
  - More TSO/DSO coordination needed
  - Reinforcement and connection policy
  - Prosumers: issue of fair allocation of network and system costs

Relevant CEER Positions

- Fully implement the 3rd Package
- Appropriate investment in networks and cross-border interconnection
- Enhance EU wholesale electricity markets:
  - Fully implement / extend European day-ahead market coupling
  - Enhance European intra-day (XBID) and balancing markets
  - Reward generator flexibility: real-time scarcity pricing reflecting electricity value
  - Facilitate more demand-side flexibility and participation
  - TSO/DSOs coordination and minimise RES curtailment
  - Prosumers should pay their fair share of costs
- RES support schemes, where needed, should be designed efficiently
- Integrate RES into the market incl. balancing responsibility
- Improve retail competition, innovation and consumer engagement

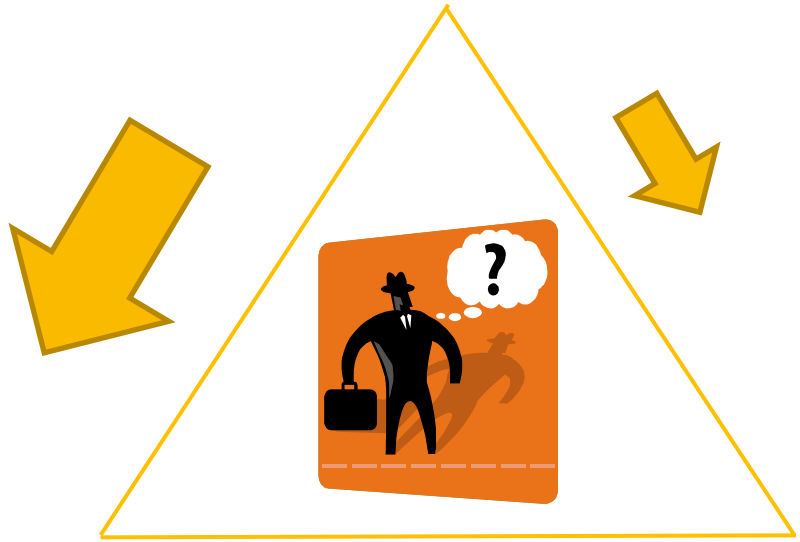
Clean Energy Package

- Regulators' Overview Paper of 23 January 2017 broadly welcomed the Clean Energy package, highlighting issues for consideration

- More detailed regulatory papers expected in the coming months

Irish Electricity Market

- An island at the edge of the EU…



Electricity Cost Chain

Total Turnover for Irl: Circa €4 billion annually

- Competitive all-island wholesale SEM is ~50%+ of the cost
- PSO generator subsidy is ~8% of cost

- Networks is a monopoly
- Comprises ~30% of cost

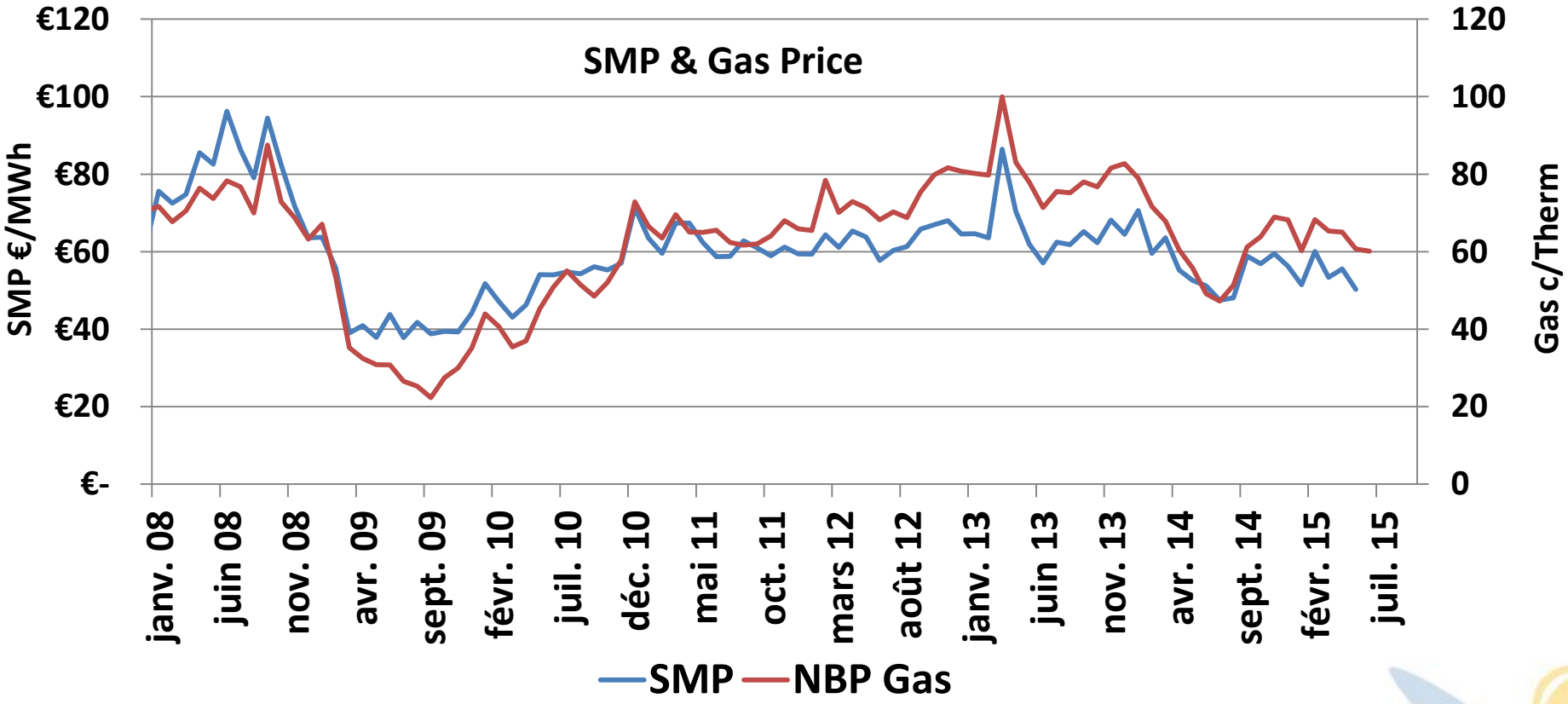
- Competitive supply market is ~10% of cost
- Focus is on customer protection

Single Electricity Market

- All-island dual currency wholesale electricity market, one of 1st in EU, established Nov. ’07
- One market, one operator, one regulatory regime:
  - A step beyond traditional “regional cooperation”, not just X-border
- Single Institutional Framework - SEM Committee:
  - Consists of CER, UR and an independent member
  - Considers interests of “all-island customer”, not Irl or NI-only
- Mandatory all-island wholesale pool for gens and suppliers
- SEM determines a single wholesale SMP across the island, with separate CRM
- Fully integrating into EU Target Model in 2018

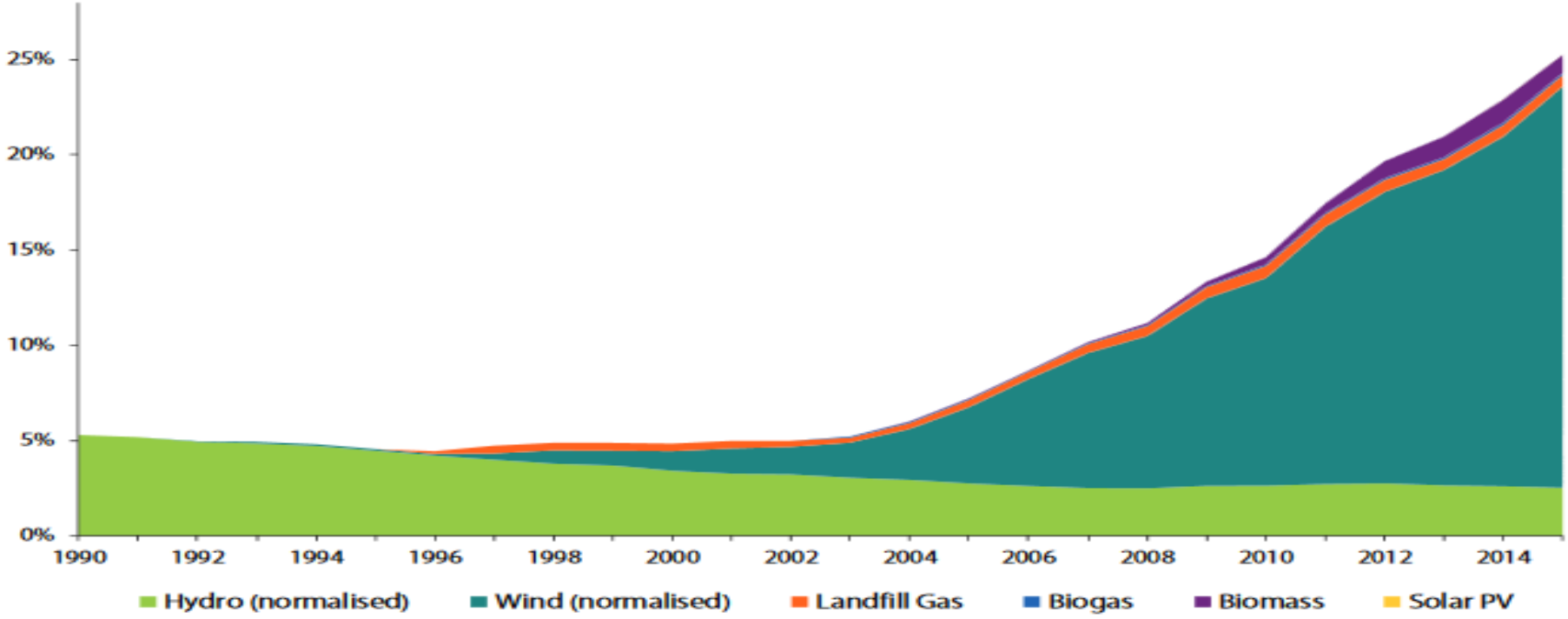
Single Electricity Market

- SEM is based on cheapest Gens to meet all-island demand
- Price follows gas as it is 50-60% of generation: market delivers efficient prices



Renewables Growth

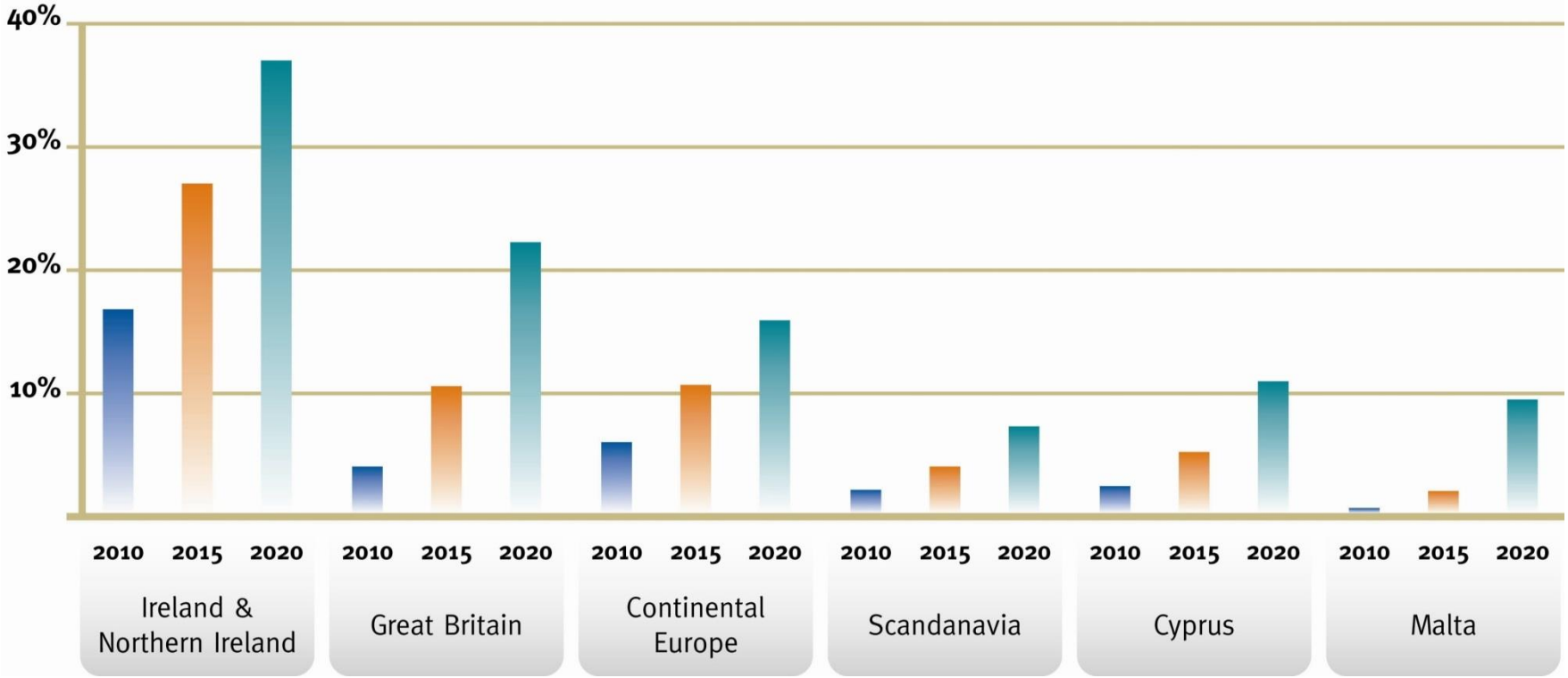
- EU 2020 binding RES target for energy in Irl is 16%
- Govt has focused on electricity: 40% target for 2020
- Big increase in RES to 25% of demand - and rising



Source: SEAI at http://www.seai.ie/Publications/Statistics_Publications/Energy_in_Ireland/Energy-in-Ireland-1990-2015.pdf

Impact of Renewables

- Non-synchronous wind raises technical and market challenges



Impact of Renewables

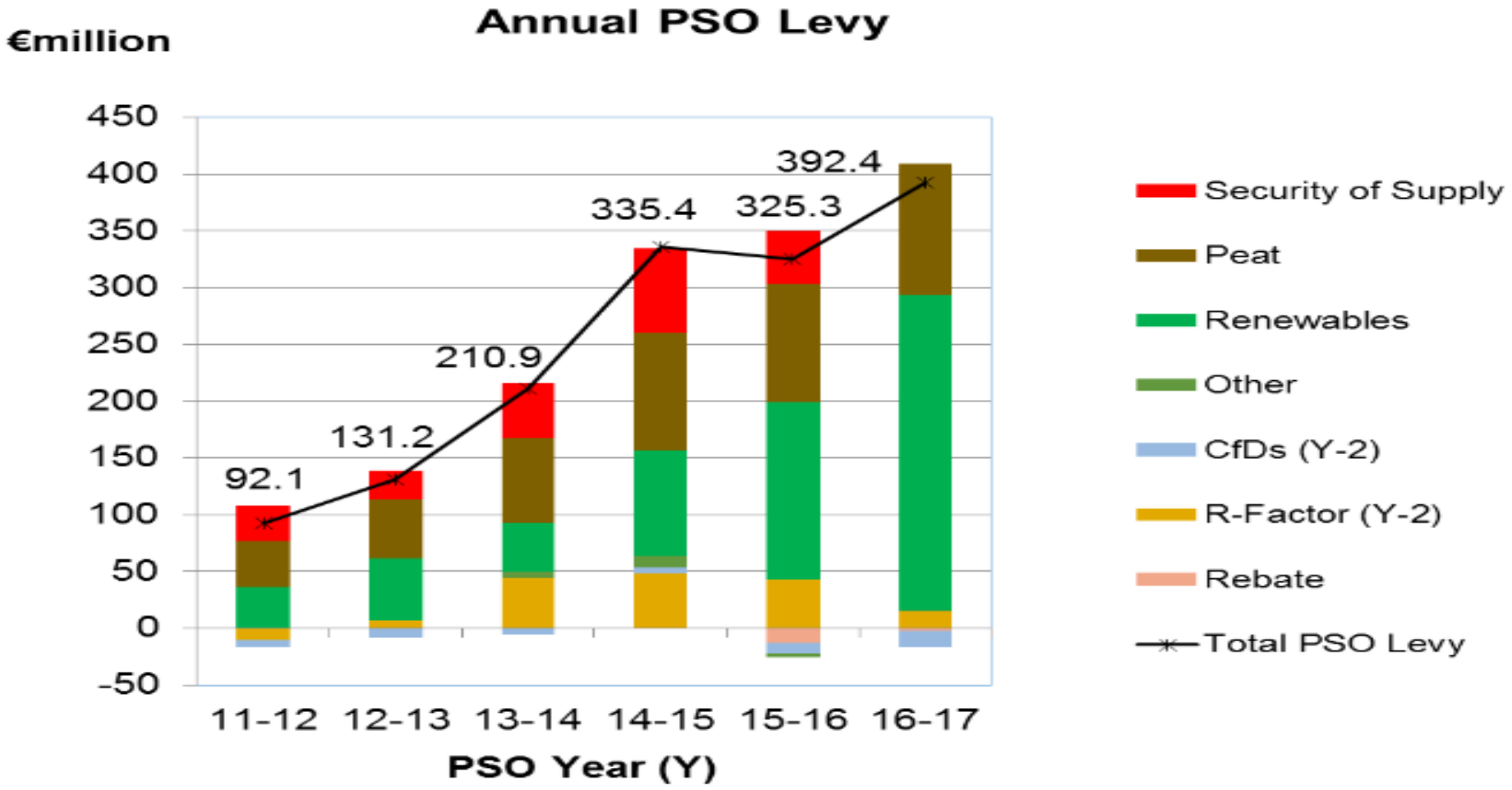
Benefits

- Climate change responsibilities
- Indigenous energy - lowers fuel imports
- Lowers wholesale electricity price - SMP
- Acts as a good hedge against high fossil fuel and carbon prices

Challenges

- PSO subsidy covers costs not earned in market, but has been more competitive than most in EU
- Network costs - and public acceptability of wires is a major issue
- Other system costs e.g. DS3 / back-up generation

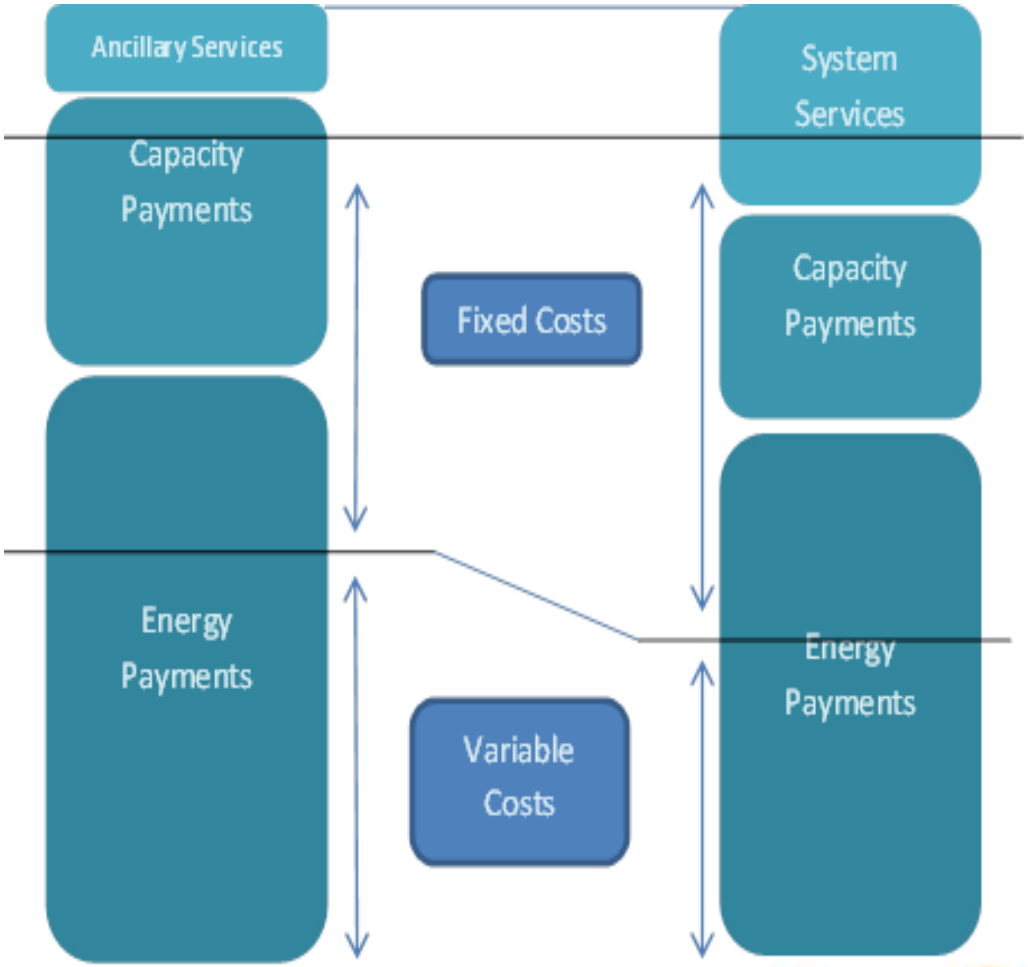
PSO / Subsidies



Source: CER16/251, 31 August 2016

Impact of Renewables

- RES is driving market changes: financial mix in the market moving to higher fixed cost, lower variable cost
- System services involves incentivising the right mix of “services” to continue to operate the system as non-synchronous generation increases



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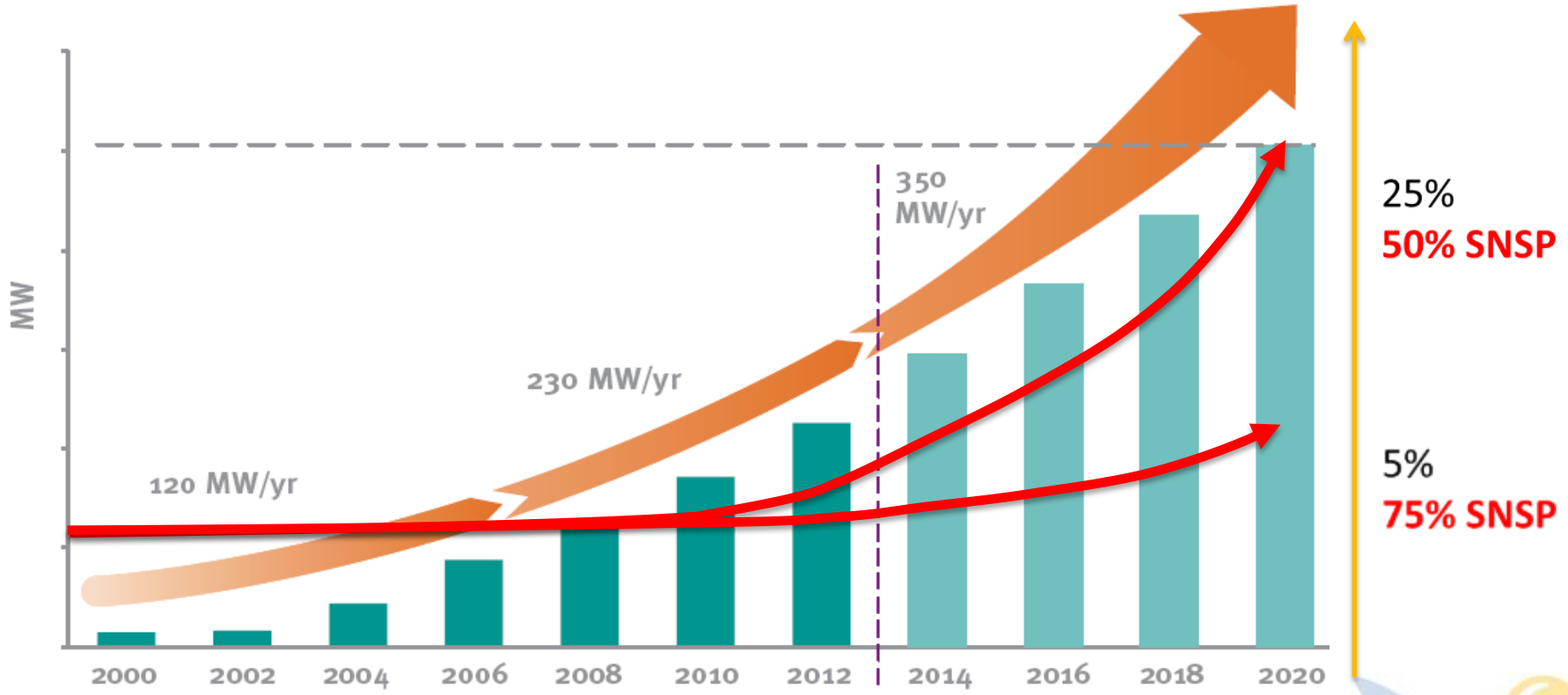
DS3 Programme

DS3 Programme

- DS3 will lower wind curtailment, facilitating an efficient achievement of the 2020 targets



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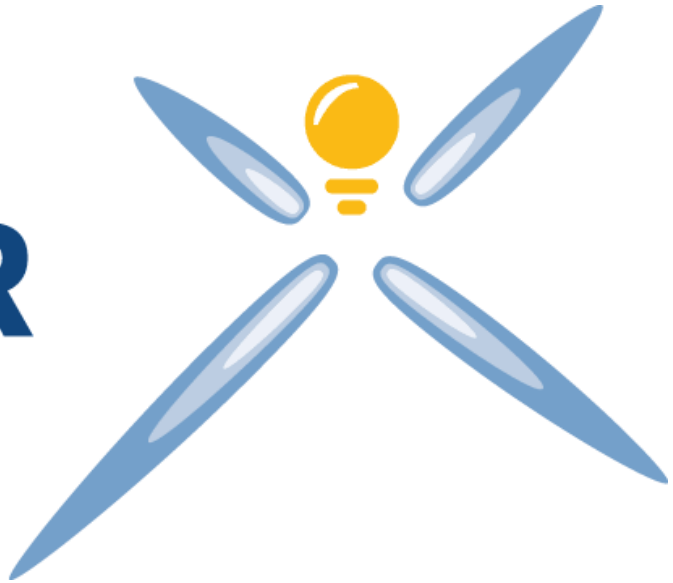

www.ceer.eu