



# Study on sector coupling

## The potential of linking the EU electricity and gas sectors

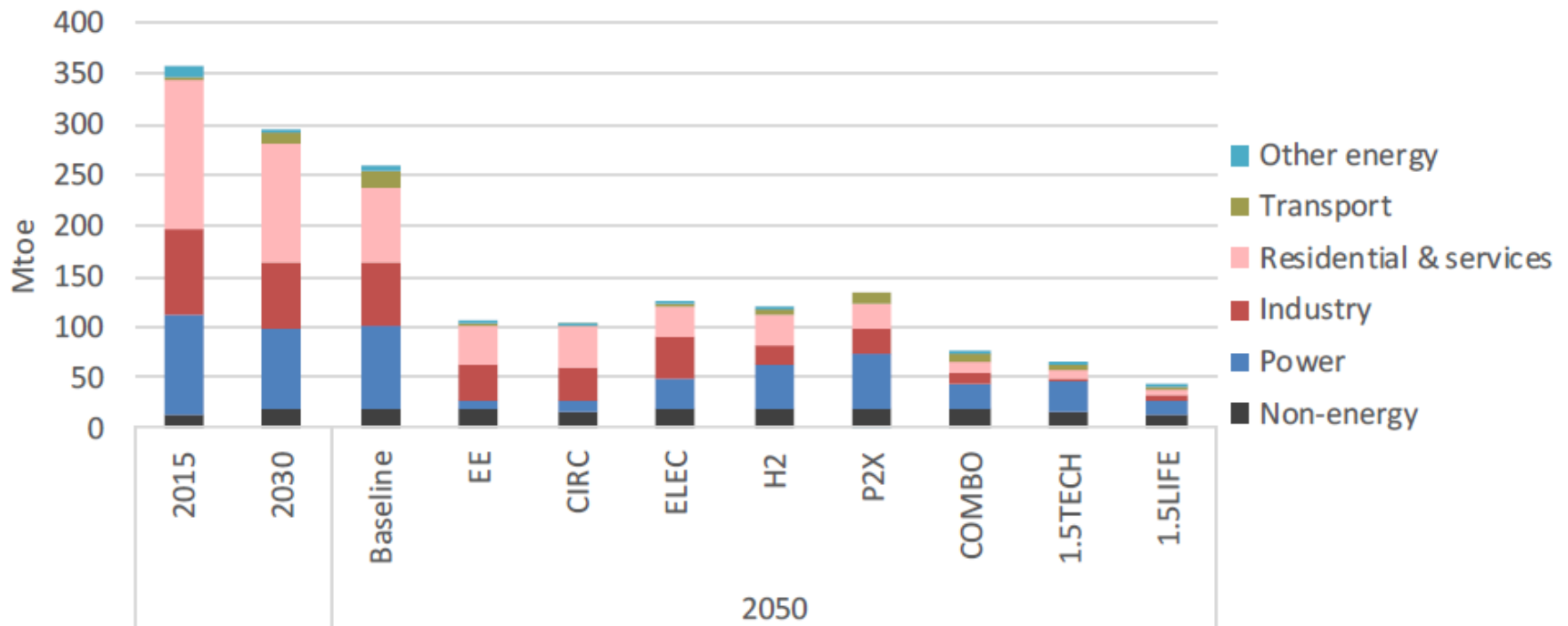
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ETIP Wind Workshop  
21 February 2019, Brussels

## Natural gas consumption

**Figure 28: Consumption of natural gas by sector**

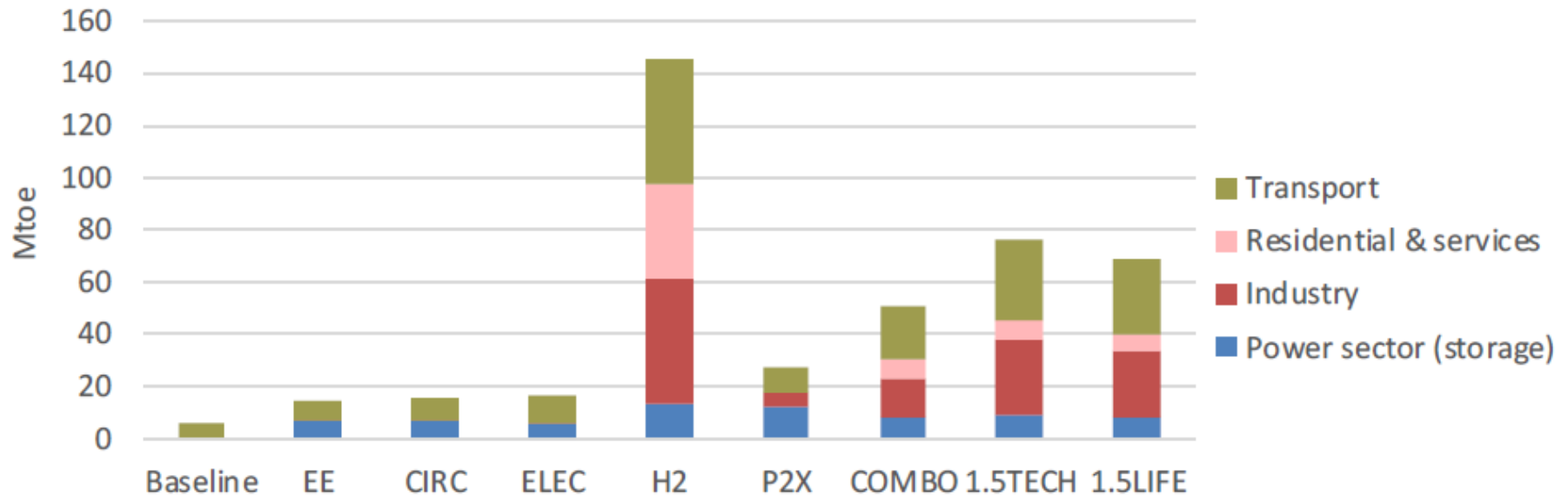


*Note: "Residential and services" also includes agriculture.*

*Source: Eurostat (2015), PRIMES.*

## Hydrogen consumption

**Figure 32: Consumption of hydrogen by sector in 2050**



*Note: "Residential & services" also includes agriculture.*

*Source: PRIMES.*

## Sector coupling study – linking the electricity and gas sectors

### ISSUE:

*The role of the  
EU gas sector in  
the energy  
transition*

### OBJECTIVE:

- Identify and assess regulatory barriers/gaps potentially limiting sector coupling and deployment of renewable and low-carbon gases (incl. hydrogen).
- Recommend measures to remove such regulatory barriers/fill gaps – with focus on 3<sup>rd</sup> Package elements.

## Sector coupling study– Methodology

### Energy mix

- Qualitative description of a possible future energy mix compatible with the EU's energy targets and climate goals, representing a mix of energy carriers (renewable or decarbonized by 2050)

### Role of gas

- Within this energy system, the possible role of gases in the energy transition process

### Barriers

- Identification of potential regulatory barriers and gaps which might limit the linking of the electricity and gas sectors and the deployment of renewable and low-carbon gases

### Recommendations

- Options for measures to remove regulatory barriers/fill regulatory gaps with focus on 3<sup>rd</sup> Package elements, which allow for the participation of relevant technologies and energy carriers

## EU regional differences

- Different developments likely due to:
  - Geographical location, leading to regional differences in energy demand and supply
  - Differences in the current energy system and infrastructure
- A transition to renewable gases may be more likely in countries with an extensive gas grid
- Electrification may be more attractive in other countries.
- Most Power-to-gas pilot projects currently in NW-Europe

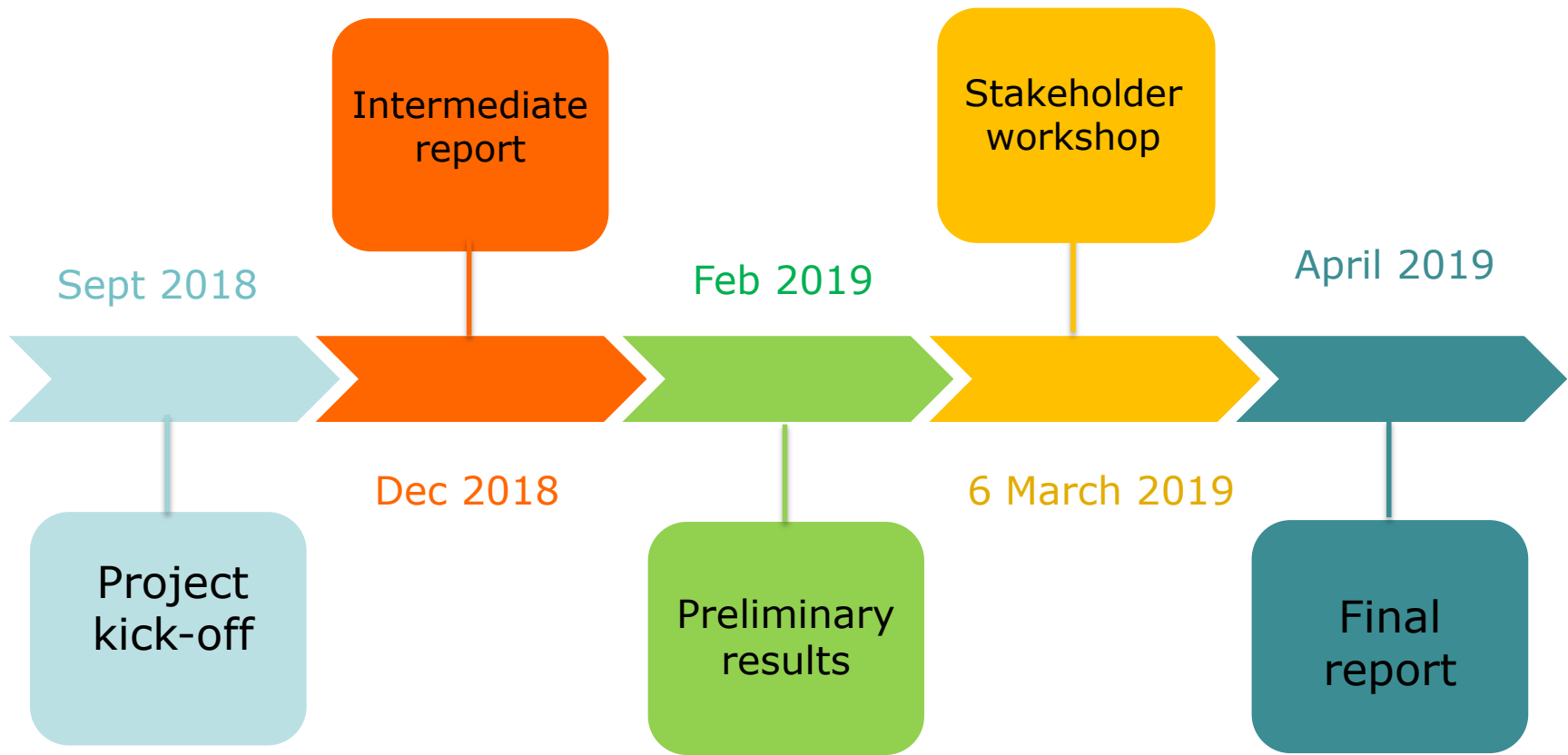


Source: CE Delft, 2018

**The case studies looked at the following areas** in selected Member States to identify potential regulatory barriers/gaps:

- Technical specifications (e.g. gas quality standards, technical requirements for injection of renewable gases)
- Economic regulation (e.g. tariffs, network regulation, regulation of hydrogen infrastructure)
- Security of supply legislation and flexibility (e.g. storage obligations, monetising flexibility)
- Renewable and climate policy instruments (e.g. targets, guarantees of origin)

## Sector coupling study– Timeline







European  
Commission

**Thank you!**