



# SMEs on the road to net-zero

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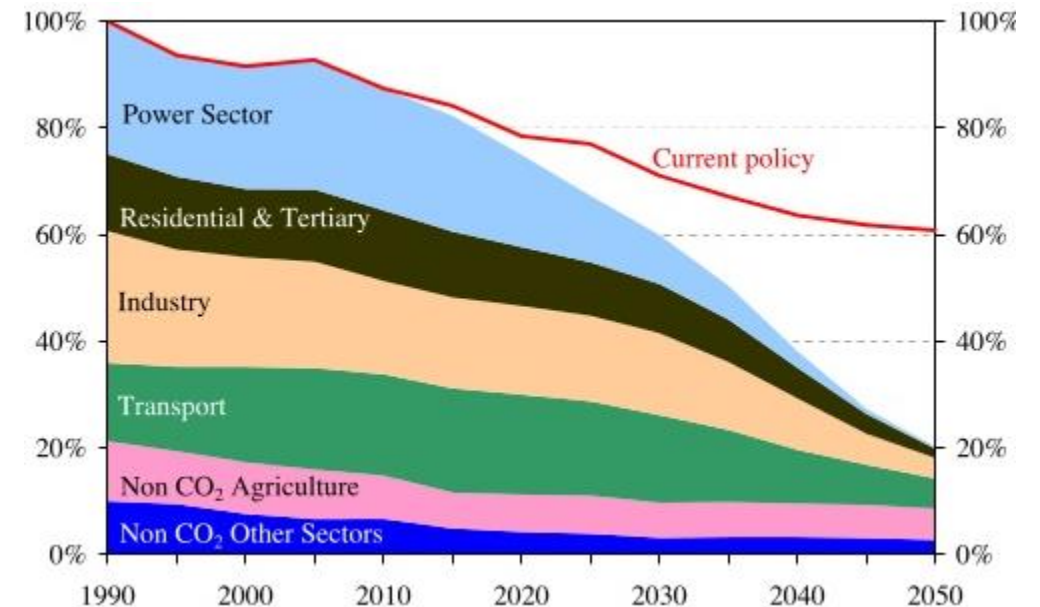


European Union | European Regional Development Fund

# Towards a net zero environment policy challenges for Europe?



- **Decarbonisation: the cornerstone of EU energy and climate policies**
- **GHG emissions reduction by 80%-95% compared to 1990 by 2050**
- **GHG emissions reduction by 40% compared to 1990 by 2030**
- **Big challenge of decarbonisation in main GHG emitting sectors**
- **Key policy challenges**



# Decarbonisation options

- **Energy efficiency**
- **Expand use of renewables – how to bring more RES into the system**
- **Carbon capture and storage (CCS)**
- **Green Hydrogen**





# Challenges

- **Changes in power system operation, market design and generation mix**
- **More flexibility required to cope with intermittency and non dispatchability**
- **Exploit demand-side management**
- **Development of energy-storage facilities – SMEs**
- **Efficiency gains and behaviour changes are central**



# Industry

## Energy efficiency

**Limitation:** right incentives

## Recovery of waste heat

**Limitation:** coordination at local level

## Carbon capture and storage

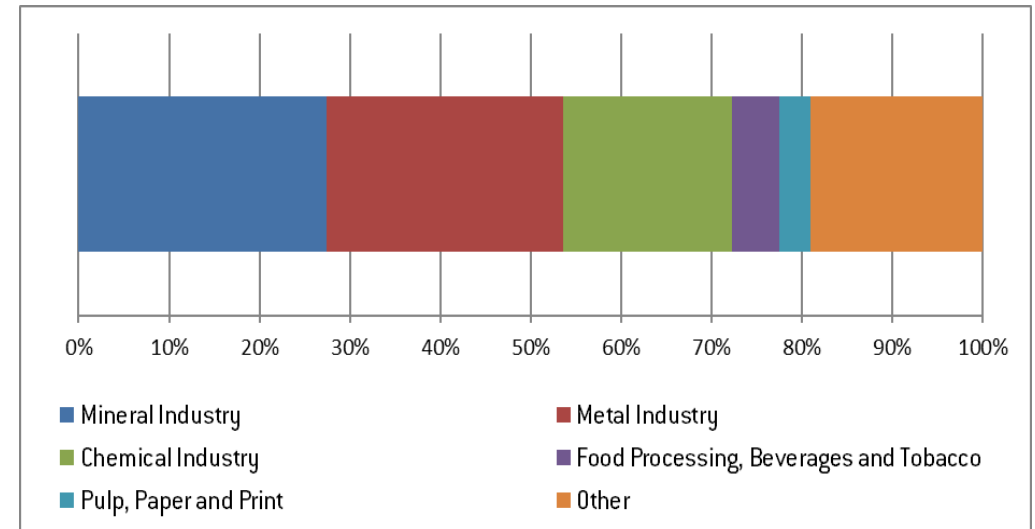
**Limitation:** lack of business case

## Green Hydrogen

**Realistic business case - integration**

## Clustering between industrial sites

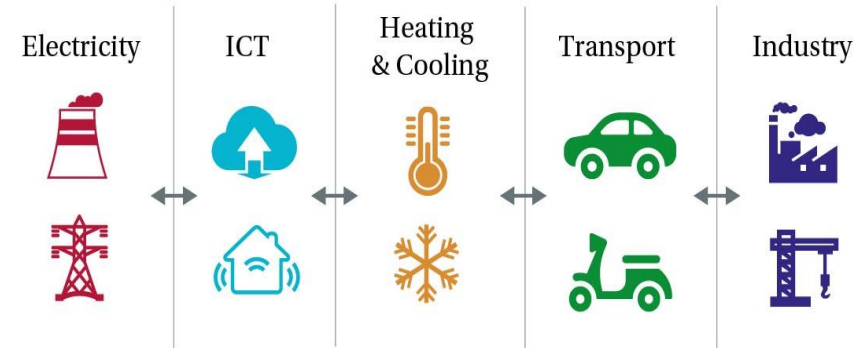
**Limitation:** coordination at local level



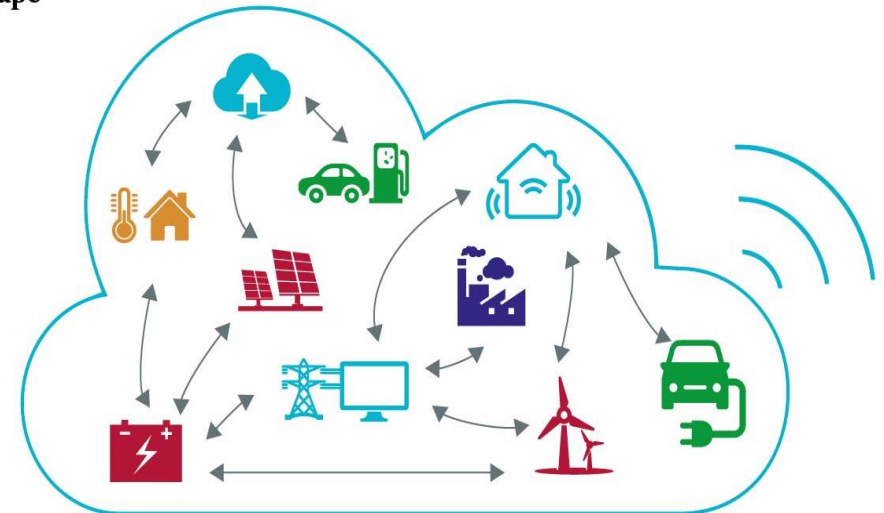
# Decarbonisation Drivers – The New Energy Mix

- From a static & centralized system to a dynamic & decentralized energy ecosystem
- Energy might transform from commodity to service
- EU, national and local authorities to increasingly interact due to their complementarities
- EU and national authorities' role: to set policy frameworks and targets
- Local authorities' role: to act i.e. to exploit synergies, to put infrastructure in place

**Current model**



**Future landscape**





# Policy Challenges

*European competition, regulatory and fiscal policies need to be modernised*

- **Convergence of sectors opens fiscal, regulatory, competition policy issues**
- **Fiscal** policy (e.g. carbon tax)
- **Regulatory** policy (e.g. incentives to invest into energy storage)
- **Competition** policy (e.g. complex definition of the electricity “market”)
- Fiscal, regulatory, competition policies have to **get up to speed** with decarbonisation
- If not, they **can create barriers** and **uncertainties** for investors





# Smart Cities IoT Enabled Energy System

**Cities are the key areas of decarbonisation (75% of Europeans live in cities)**

## **Upsides:**

- Actions could politically be promoted as ways to enhance local environment

## **Downsides:**

- Short political cycles

**National + EU levels: key in setting regulatory frameworks, benchmarks and targets**

**Local authorities: key in taking concrete actions for decarbonization (eg Copenhagen)**

- **Competences** and **fiscal capacity** of cities might need to be increased
- **Legislative power** of local authorities might need to be extended
- **Smarter cities** can generate **positive spill-overs** also for **national/EU levels**

(Development of **smart grids**, **energy security and affordability**, reduced air pollution and traffic congestion with impact on **health care** systems, **job creation** in SMEs, ...)



# Overcoming SME Barriers



- Decarbonization requires all businesses to change — so how can we support small and medium-sized enterprises already be struggling to survive?
- SME owners may simply lack awareness of what's at stake and how it applies to them?
- Only a handful of countries have introduced carbon taxes, but mandatory energy and carbon reporting, currently targets the largest emitters, does this need to change – should SMEs get prepared?
- Some SMEs aren't waiting for the legislative “stick” and can already see the business benefits
- Diversifying your energy portfolio and energy sources to include renewables provides resilience and security, through smart grid approaches
- For SMEs there's another fundamental incentive, its their position within the supply chains



# Thank you!

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