

Task Force (TF) SCENARIO BUILDING  
**2040 STORYLINES**

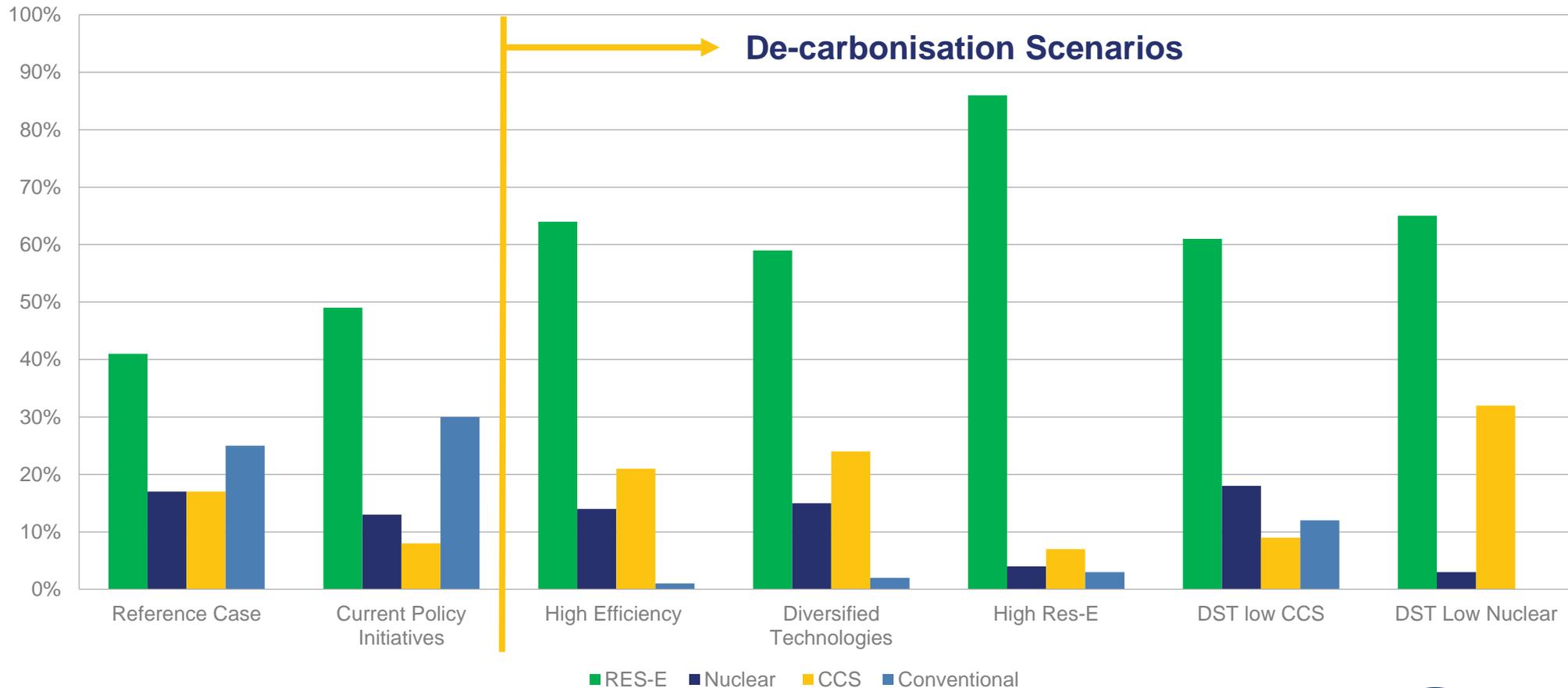


**Scenario Workshop**

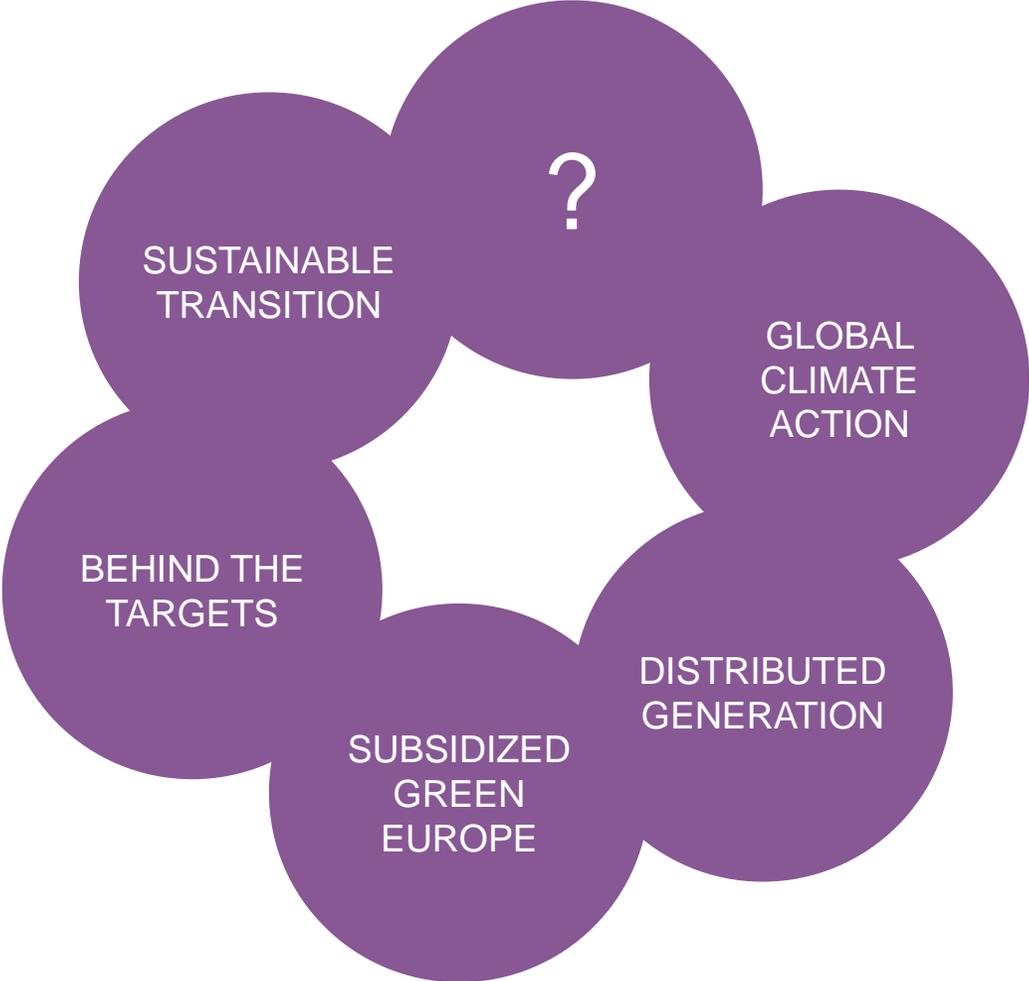
5 July 2016

# European Commission Energy Roadmap 2050

EC Energy Roadmap 2050  
Electricity Generation Energy Mix 2050



# 2040 Storylines



# Global Climate Action



- Global emissions trading scheme
- Efficient use of renewable resources
- Smart cities and demand response very active
- P2G storage commercially available
- Gas significant in the shipping and heavy good transport sectors
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- Electrification occurs in residential and commercial transport
- Gas and Electric are on a par for the residential heating sector. Hybrid heat pumps provide gas peaking capacity to electric heating

# Subsidized Green Europe



- Support Mechanisms available for renewable technologies
- Inefficient use of renewable resources
- Supports for peaking capacity required
- P2G storage commercially available
- Gas significant in the shipping and heavy good transport sectors
- Electrification occurs in residential and commercial transport
- High energy efficiency in homes support installation of all-electric heat pumps in new and existing dwellings

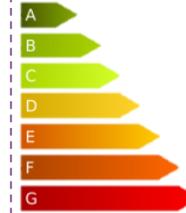
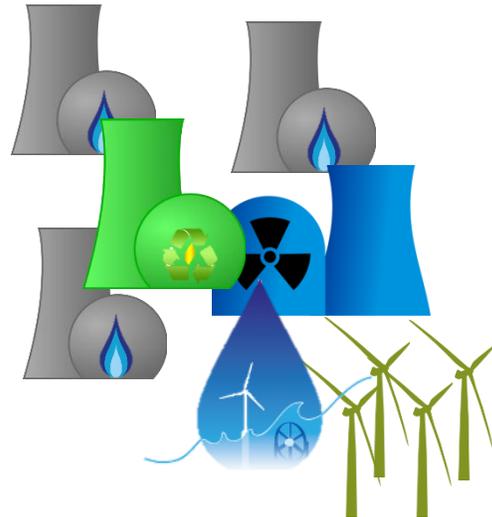
# Sustainable Transition



- National Focus on Climate Change,
- driven by ETS and National Subsidies
- Inefficient use of renewable resources
- Market signals support peaking capacity requirements
- Gas significant in the shipping and heavy good transport sectors
- Electrification occurs in residential and commercial transport
- Hybrid heat pumps in new dwellings, existing dwellings use Gas Heating



SLIGHTLY  
BEHIND



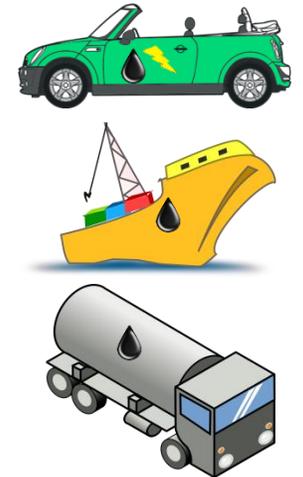
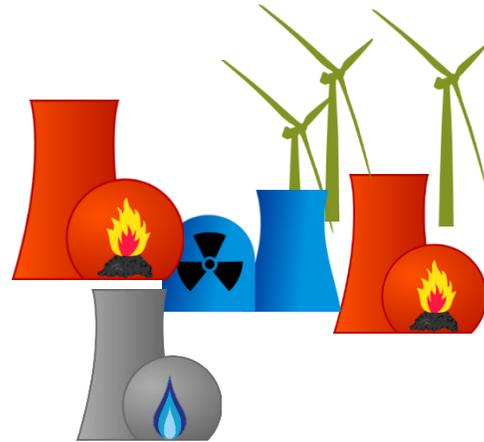
# Behind the Targets



- Low global ambition for climate change.
- Low economic growth.
- Low ETS price and low subsidies reduces
- Low potential for growth of renewable technologies.
- Coal and Lignite are significant in the electricity sector, supports for peaking capacity required.
- Transport sector remains reliant on oil and hybrid technologies.
- Gas heating is the dominant technology for new and existing dwellings.



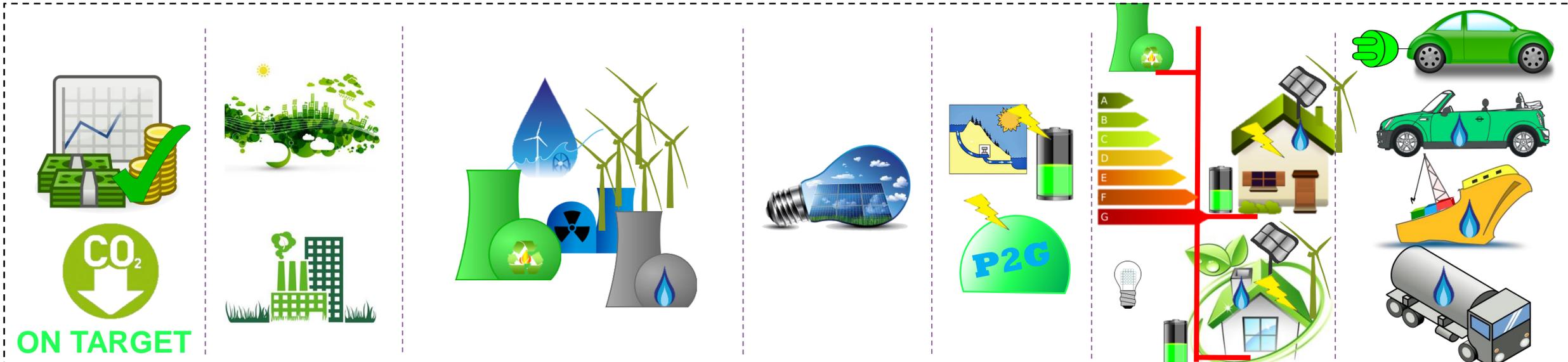
**BEHIND  
TARGET**



# Distributed Generation



- ‘Prosumer’ lead climate action, helped by strong EU Policies and an efficient ETS
- Efficient use of renewable resources at an EU Level
- Supports for peaking capacity required
- Gas significant in the shipping and heavy good transport sectors
- Electrification occurs in residential and commercial transport
- Hybrid heat pumps in new dwellings & existing dwellings giving consumer choice of Electric or Gas.
- District heating is possible



**CO<sub>2</sub>**  
ON TARGET