



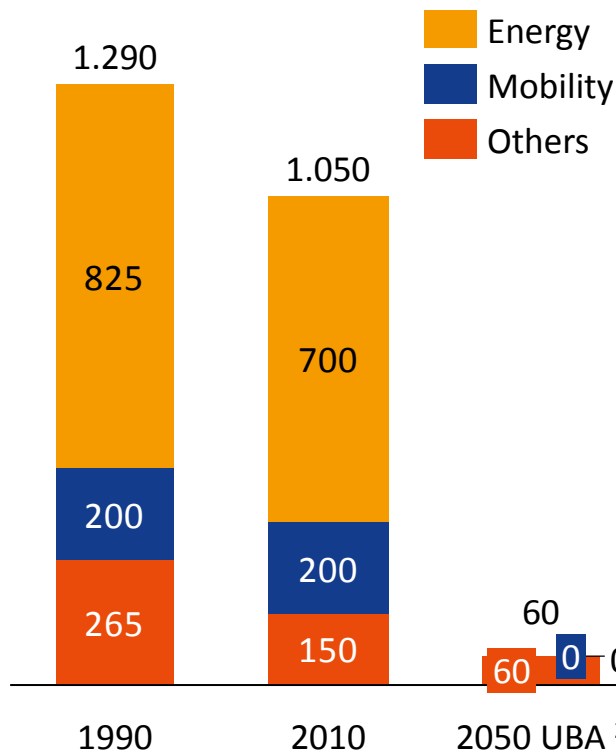
**European Innovation Fund**

**Green methanol production**

# German long-term target of CO<sub>2</sub>-neutrality is only achievable with a green fuel<sup>1</sup>

## German CO<sub>2</sub> emissions per sector

Mio. t CO<sub>2</sub>-equivalent p.a.



### Backup power

- Fossil fuels are not an option to bridge the “Dunkelflaute”
- Need for green fuel



### Long distance travel (air, sea, heavy trucks)

- Hardly to decarbonize by means of direct electrification
- Need for green fuel

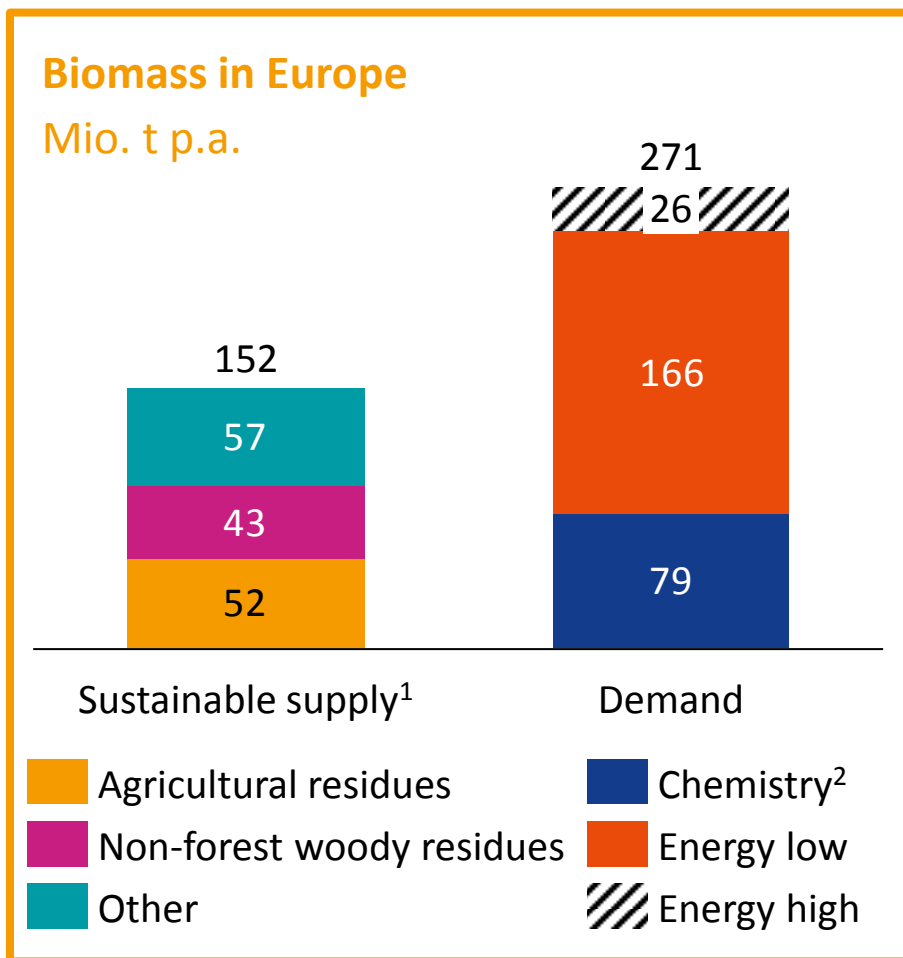


### Chemical industry

- Fossil fuels are not an option as raw material
- Need for green fuel

<sup>1</sup> green fuel= CO<sub>2</sub> neutral energy carrier <sup>2</sup> Based on 95% CO<sub>2</sub> reduction target  
Source: UBA 2013

# Power-to-Fuel helps to overcome limited availability of biological feedstock



- In total, the demand for sustainable biomass is very likely to be higher than the sustainable supply
- If the feedstock for the chemical industry is meant to be substituted by biomass, it would already require approx. 50% of the supply that is sustainably available

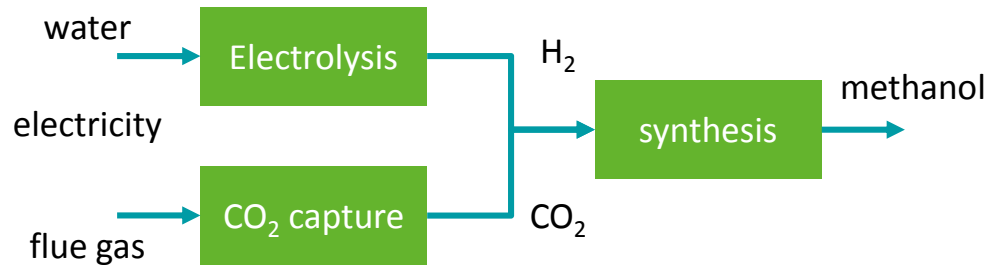
1 in 2030 | 2 total demand of organic feedstock in chemicals in 2013 in Europe  
Sources: transport&environment 2016, VCI 2015, European commission 2014

# Power-to-Methanol shows huge market potential with very high specific GHG savings



## Methanol facts and figures

- Global demand: 80 Mio. t
- EU demand: 8.5 Mio. t
- Second most traded liquid globally (after oil)
- Used in chemical and transport
- Specific GHG saving of green methanol >95%



## Innovation Fund support

- Project sizes: 100 – 500 Mio. € investment
- CAPEX support for technology scale up and to achieve economies of scale
- OPEX support to alleviate potential regulatory instabilities

Picture sources: elektrolyse.de | CRI International | MHI  
Source: MMSA 2016