

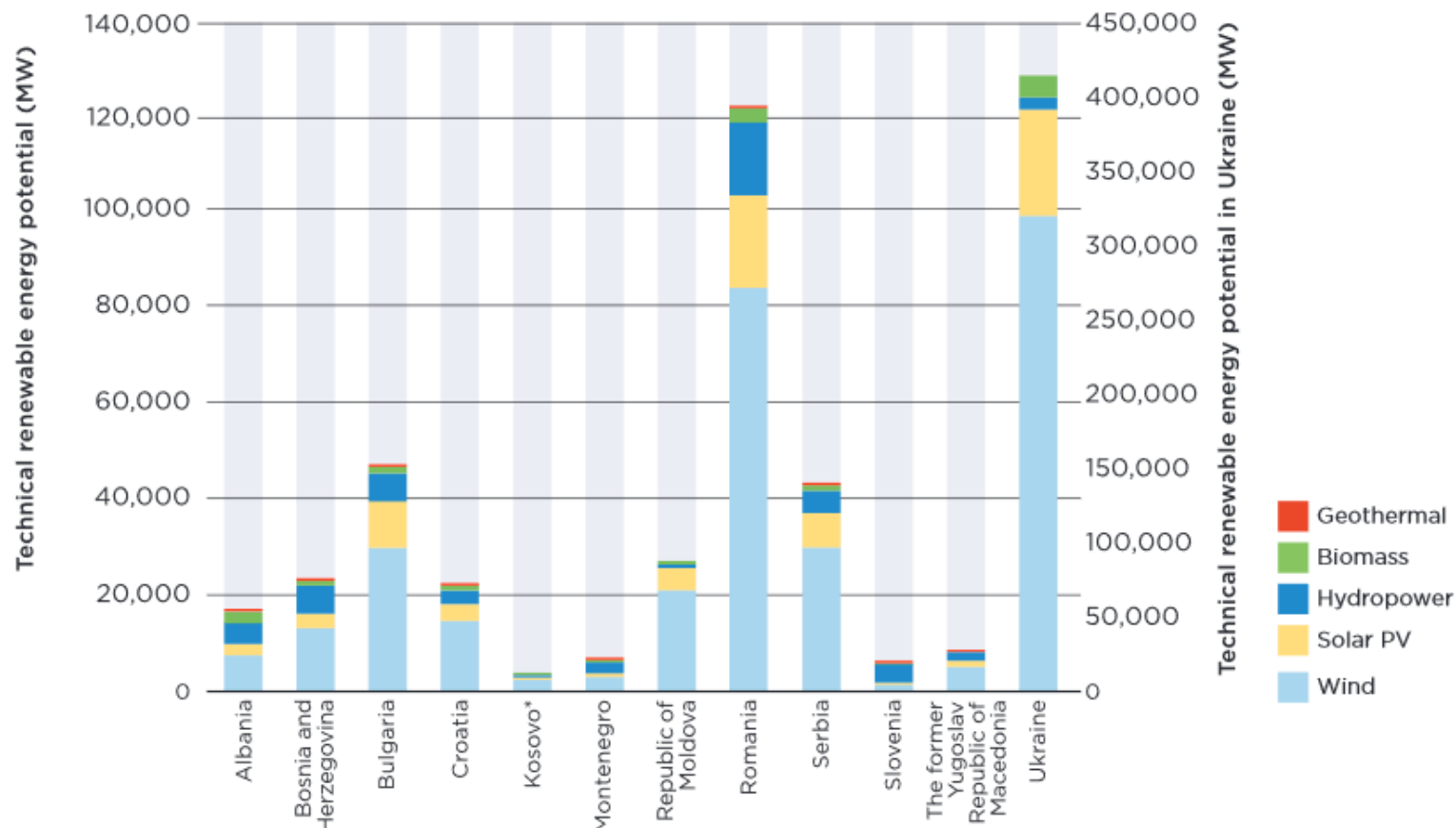
Decarbonisation in South East Europe

Giles Dickson, CEO, WindEurope

Marion Labatut, Director of Policy, Eurelectric

Wind is abundant in SEE

Technical renewable energy potential in South East Europe



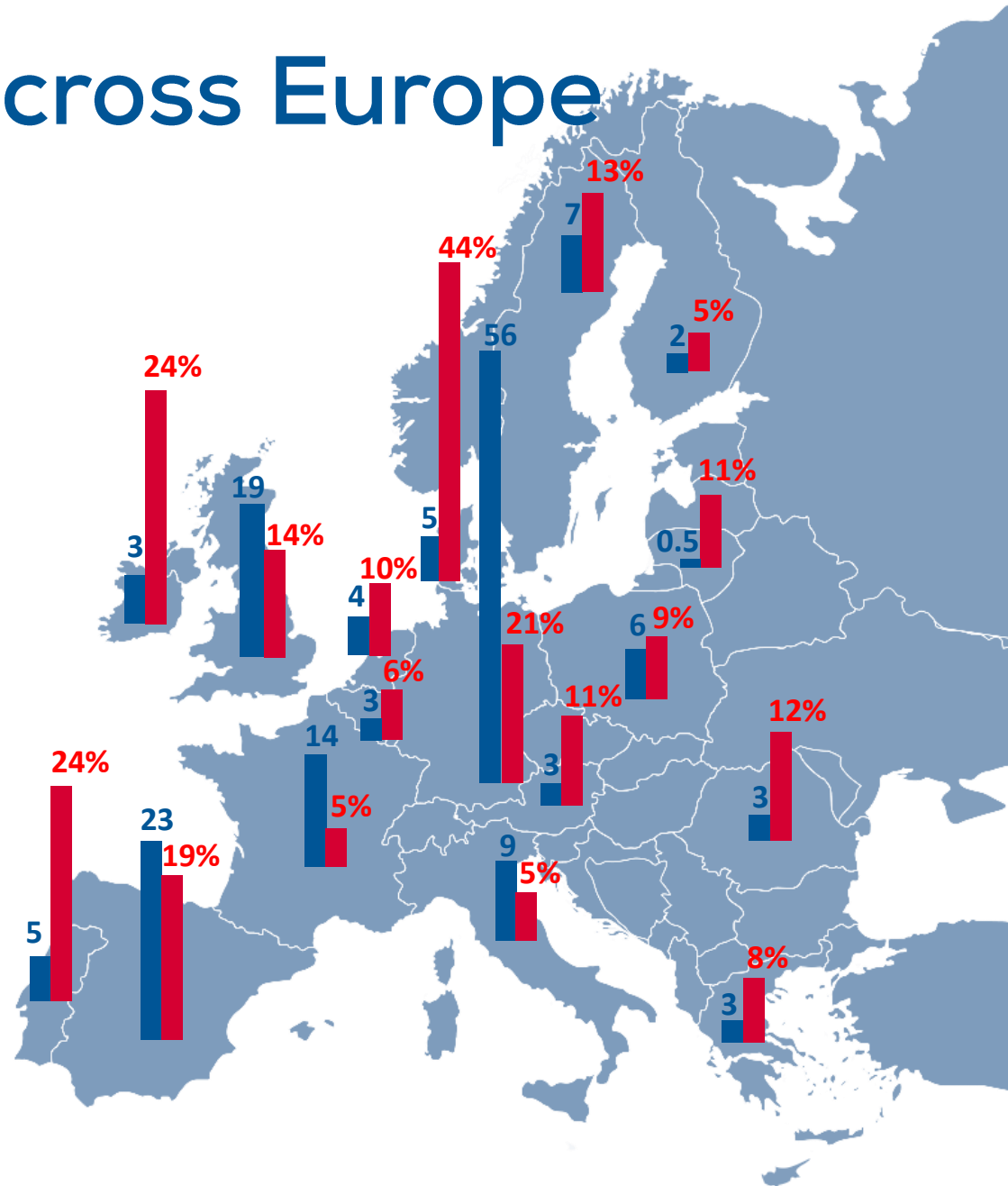
Wind power across Europe

169 GW

12%

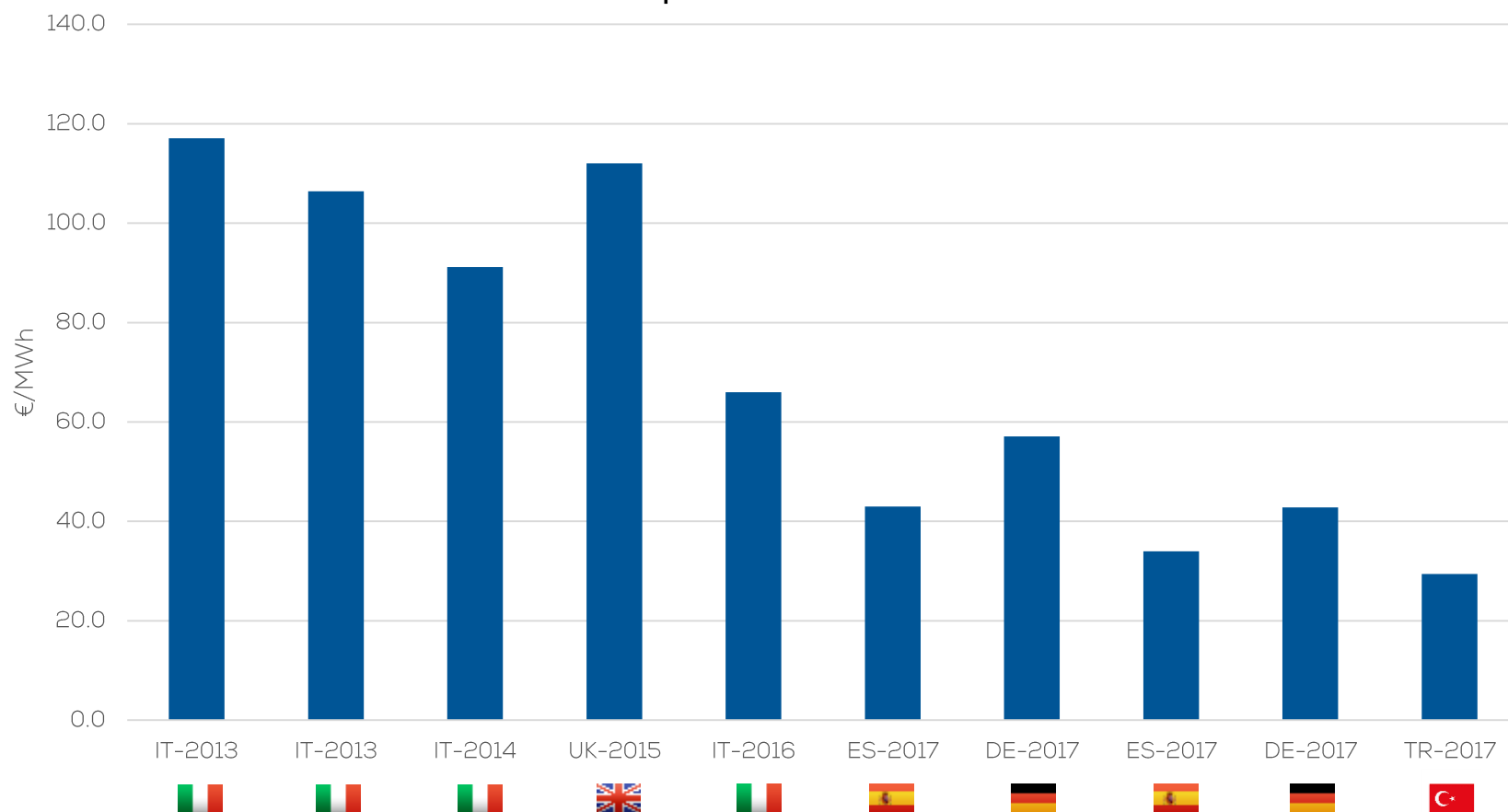
of 2017 EU power demand

○ GW installed
● Penetration



Cost reduction: Onshore wind

Strike prices in auctions



It is getting easier and cheaper to integrate renewables

- ❑ Better electricity markets

- ❑ Better grids

- ❑ Flexible turbines

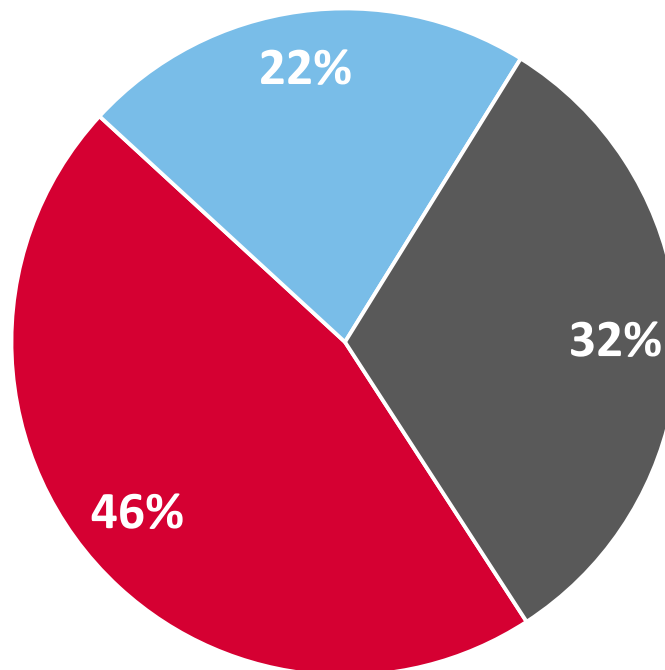
- ❑ Demand response

- ❑ Storage



We must electrify heating and transport

Final energy use 2015



■ Heating ■ Power ■ Transport

Pathways to deliver Paris agreement



2015 - Baseline

2050 scenarios

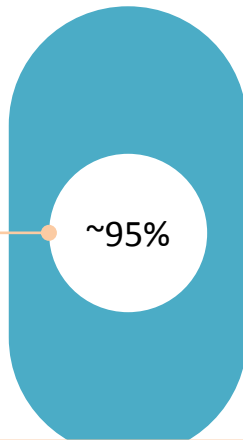
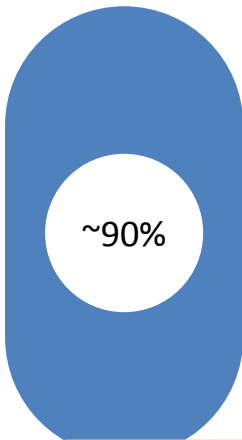
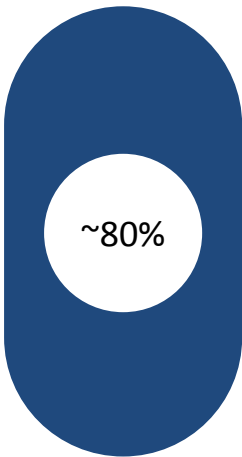
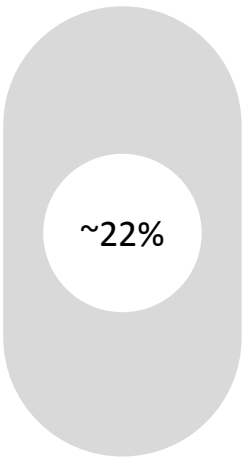
Scenario 1

Scenario 2

Scenario 3



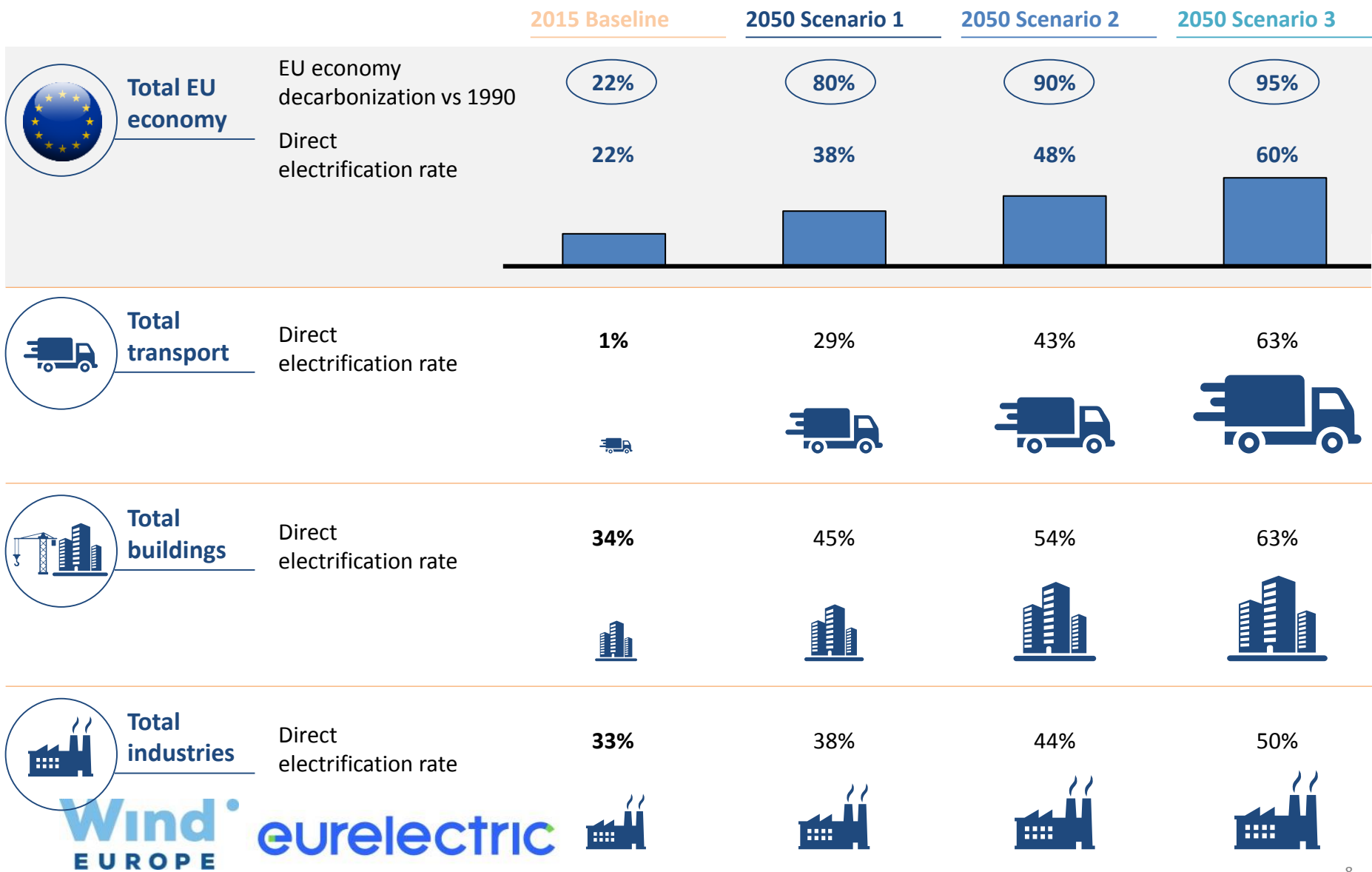
EU economy
decarbonization
achieved vs. 1990^{1,2}



Driving towards
full EU economy decarbonization

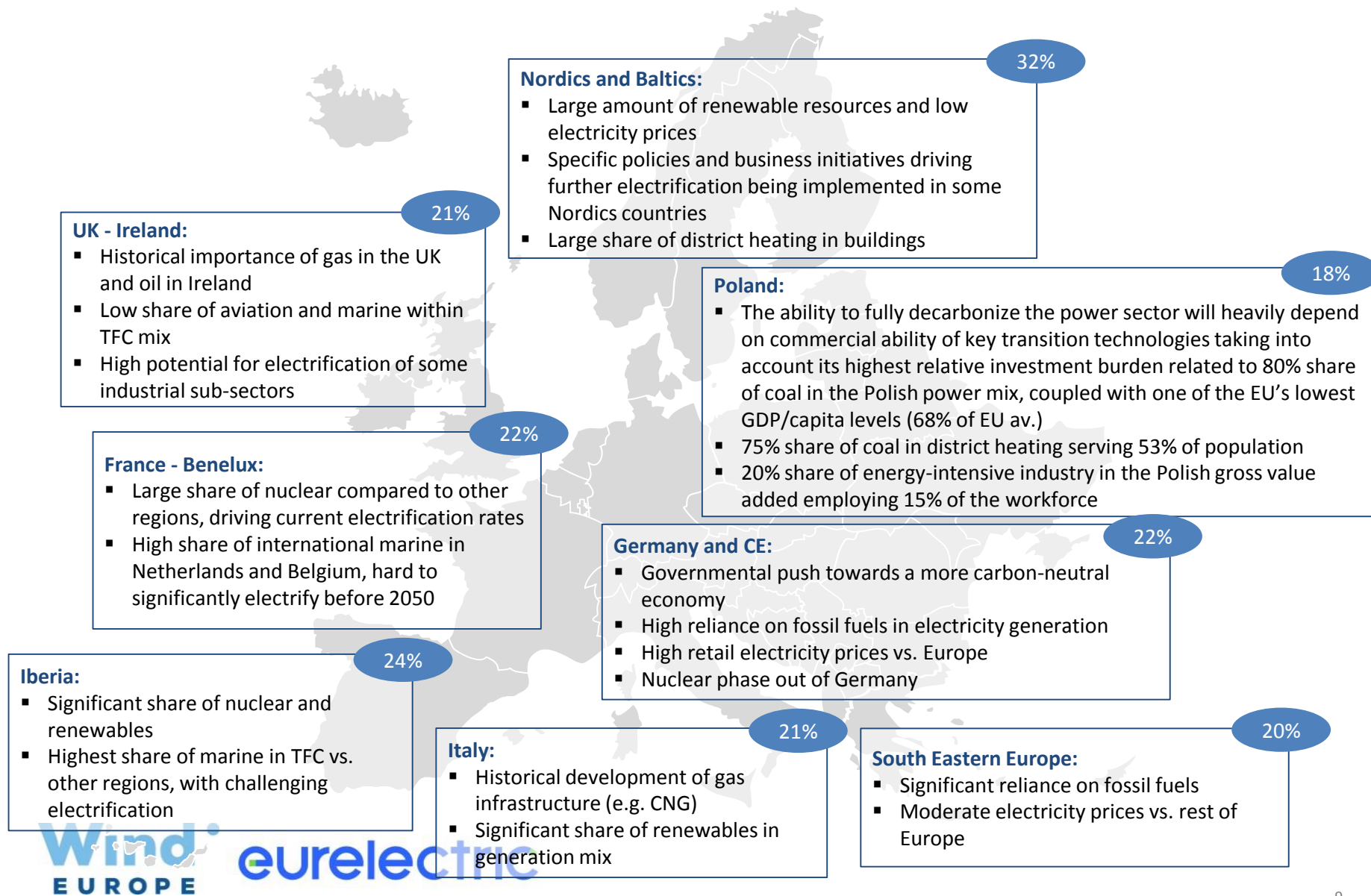
1 Emissions out of scope are expected to contribute proportionally to the decarbonization effort required in each scenario
2 Decarbonization will be different by sector depending on relative costs and available technologies, industry contributing least with below 80% of emission reduction in all scenarios

Electrification is key to deliver Paris agreement



Different starting points in the energy transition

2015 baseline –
direct electrification rate



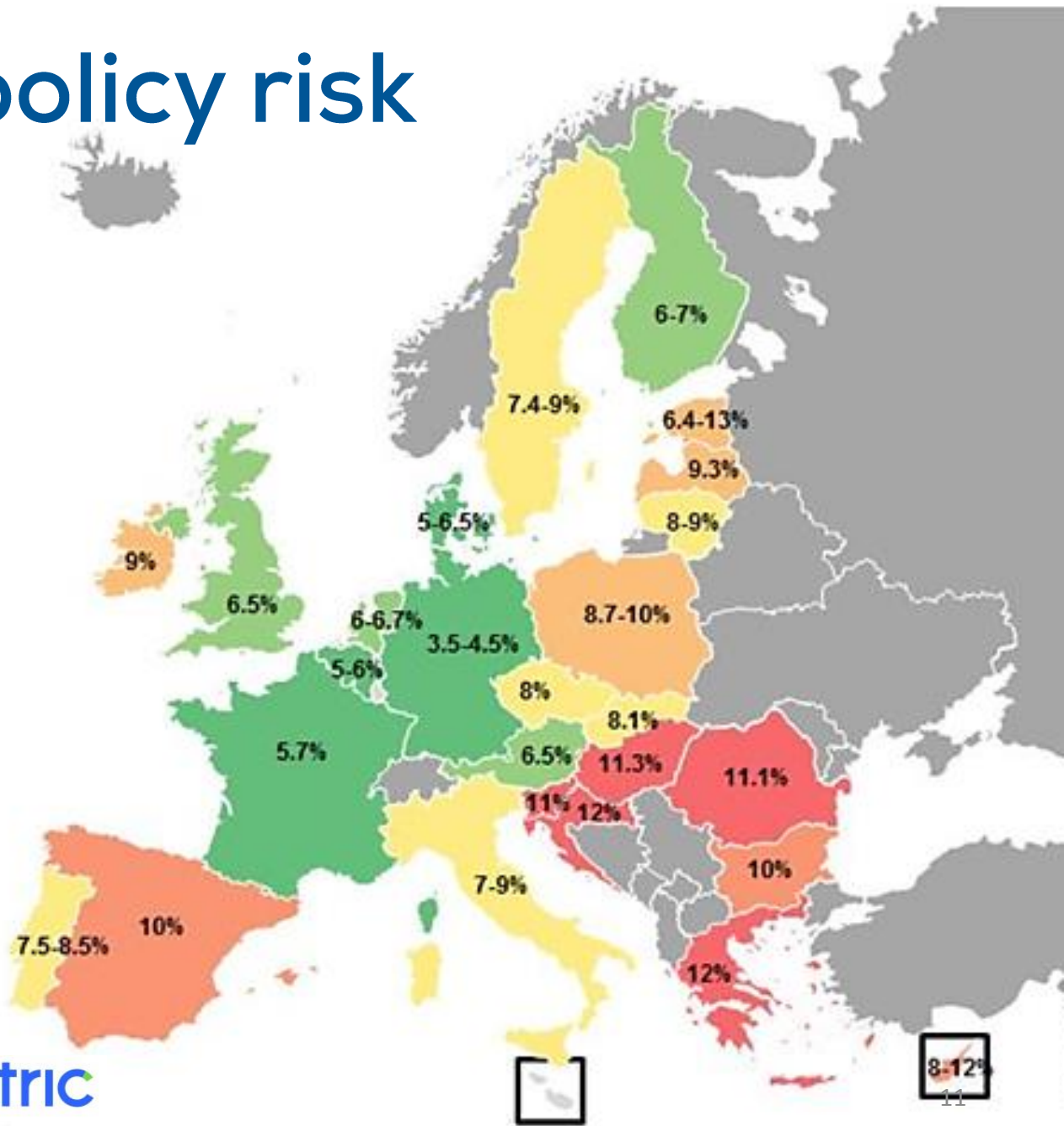
Investment certainty



Costs of policy risk

Onshore wind WACC across the EU-28

Source: Diacore, 2016



Clean Energy Package

Full implementation of CEP

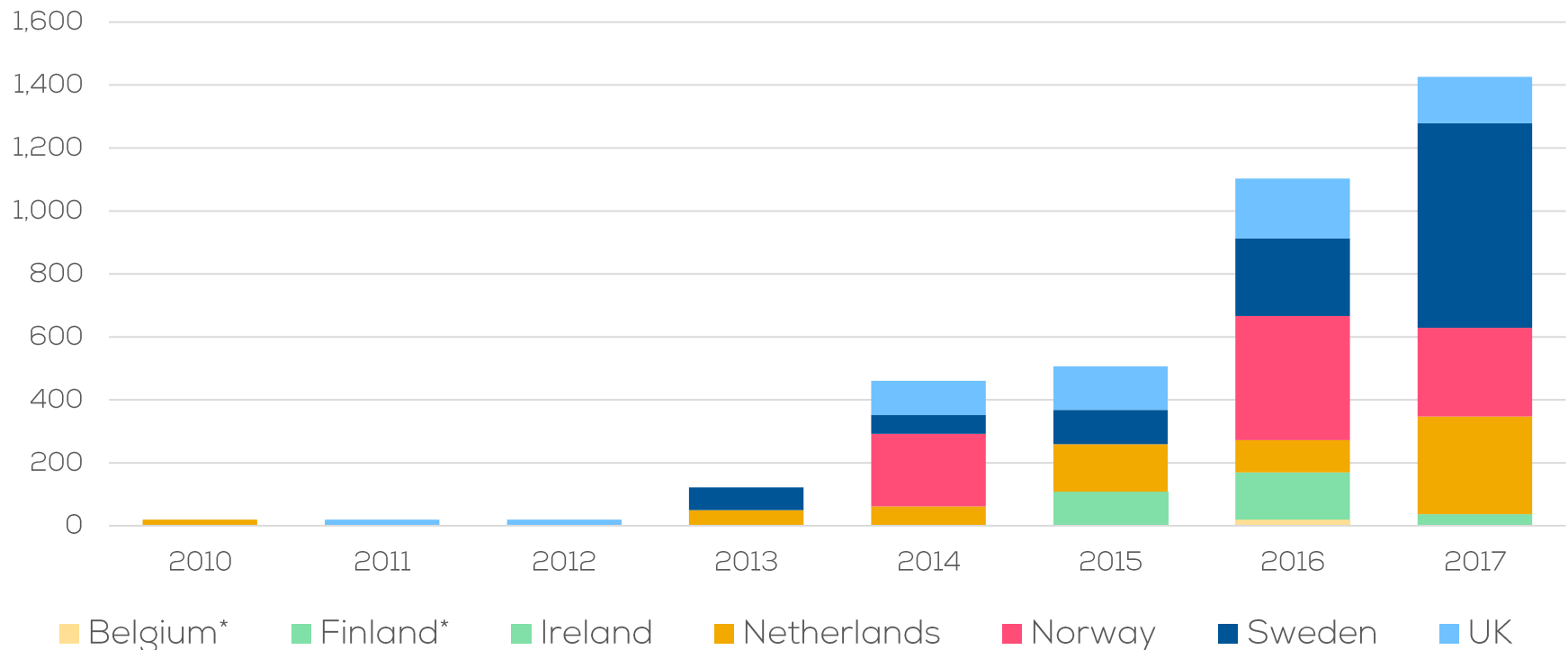
- ❑ National Energy and Climate Plans by end 2018
- ❑ Technology-specific auctions
- ❑ Coordinate auction schedule

PPAs



Direct purchasing increases

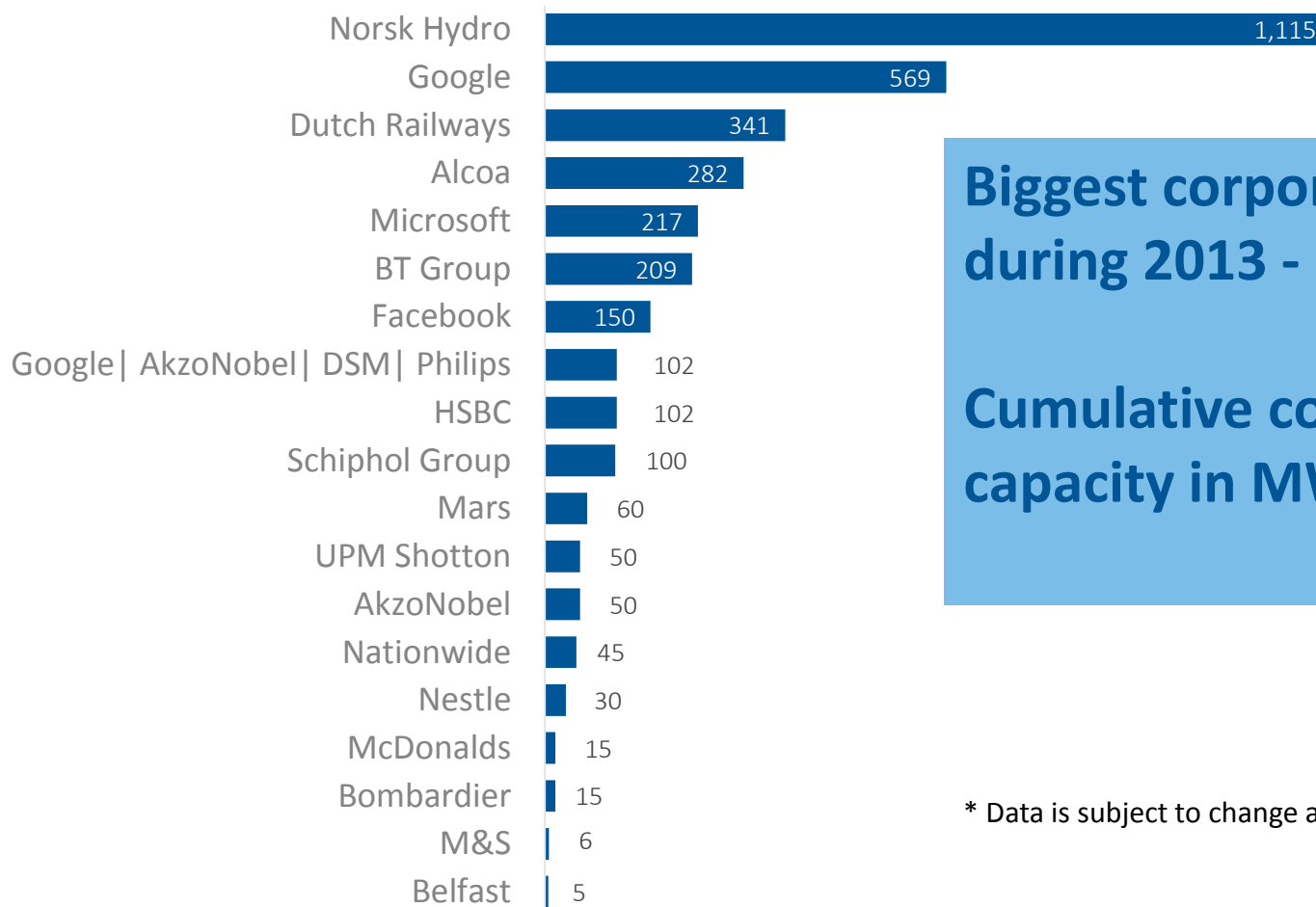
European corporate PPA deals by country (in MW)



*Cross border PPAs

** Data is subject to change as updated information is received

Main off-takers in Europe



**Biggest corporate buyers
during 2013 - 2017**

**Cumulative contracted
capacity in MW**

* Data is subject to change as updated information is received

Regional market integration



Regional integration

- ❑ List priority regional projects for EU funding
- ❑ Region-wide power infrastructure strategy
- ❑ Assess potential for offshore wind

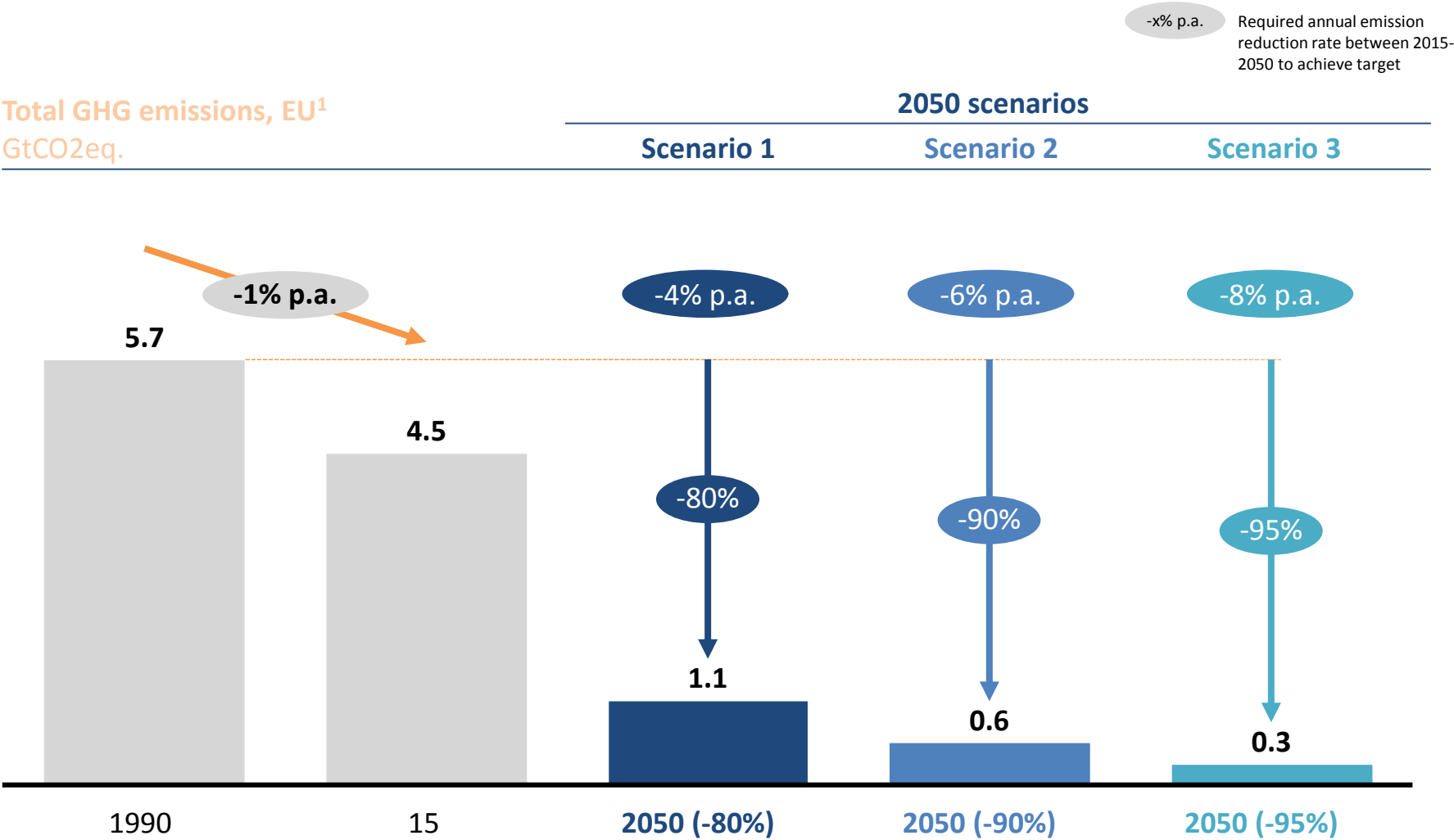
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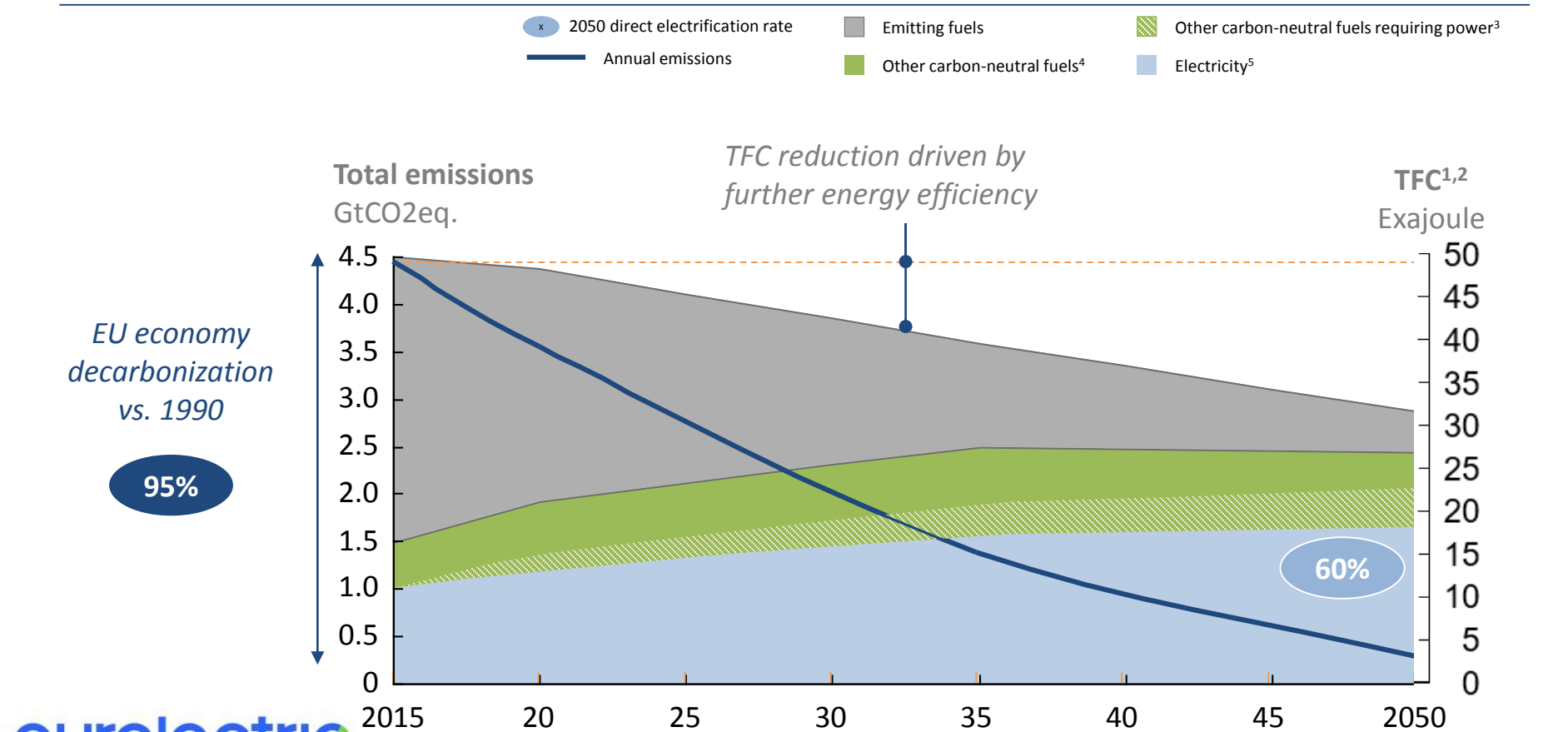
Back-up slides

The 3 scenarios deliver unprecedented but necessary reductions in CO2 emissions



95% decarbonization through strong electrification, energy efficiency, and support from other non-emitting fuels

Impact of electrification on Total Final Energy Consumption (TFC) and EU economy emissions



1 Includes 32 countries in scope: EU28 + EEA; ENTSOE report additionally includes Turkey and other Eastern European countries adding up to a total of ~3,300 TWh 2 Electricity consumption from transformation sectors not included; 3 Includes non-emitting fuels that trigger indirect electrification through power-to-X (H₂, synth fuels) as well as non-emitting fuels that trigger increased electricity demand to be produced such as biofuels; 4 Includes all other non-emitting fuels/sources such as geothermal, solar thermal, and others; 5 Direct electricity consumption

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