

# RGI Workshop on Flexibility

- *What are the most important Flexibility needs in the system*
- *Who can deliver them & under what conditions*



Renewables Grid Initiative

# Introductions

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## Context & perspectives

- TSO & MO
- Remit to integrate significant levels of renewable generation
- Facilitate new connections
- Develop the Grid
- Operate Stability, Reliability System
- Efficient market
- Essential to develop flexibility Market

## Context & perspectives

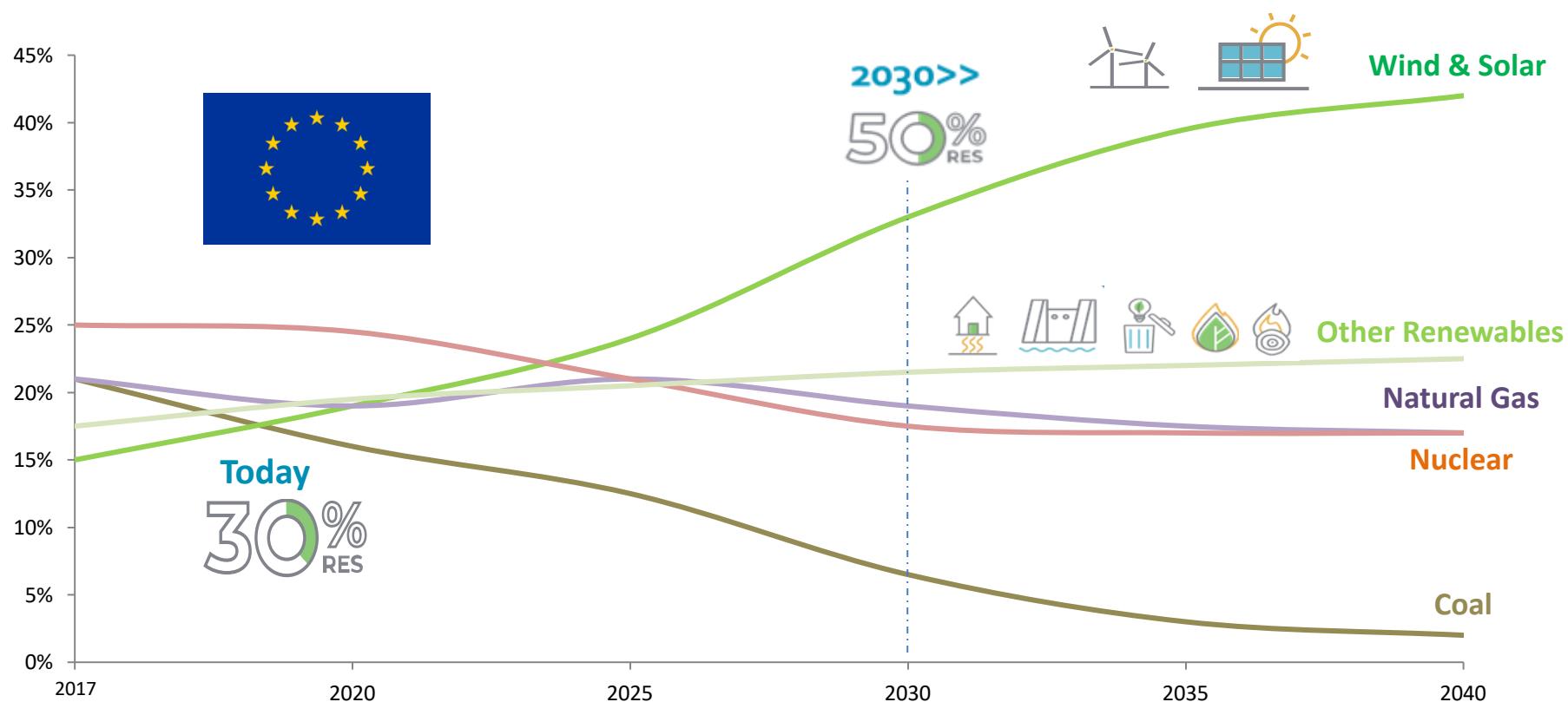
- Data Centre developer, owner & Operator
- Large Energy Users
- Global leaders in renewable energy corporate purchase
- 24/7 Carbon Free Energy by 2030
- Stability, Reliability essential



**EU's 2030 CO<sub>2</sub> emission reduction target to 55%**

# The European Sources of Electricity Trajectory

Renewables Grid Initiative 



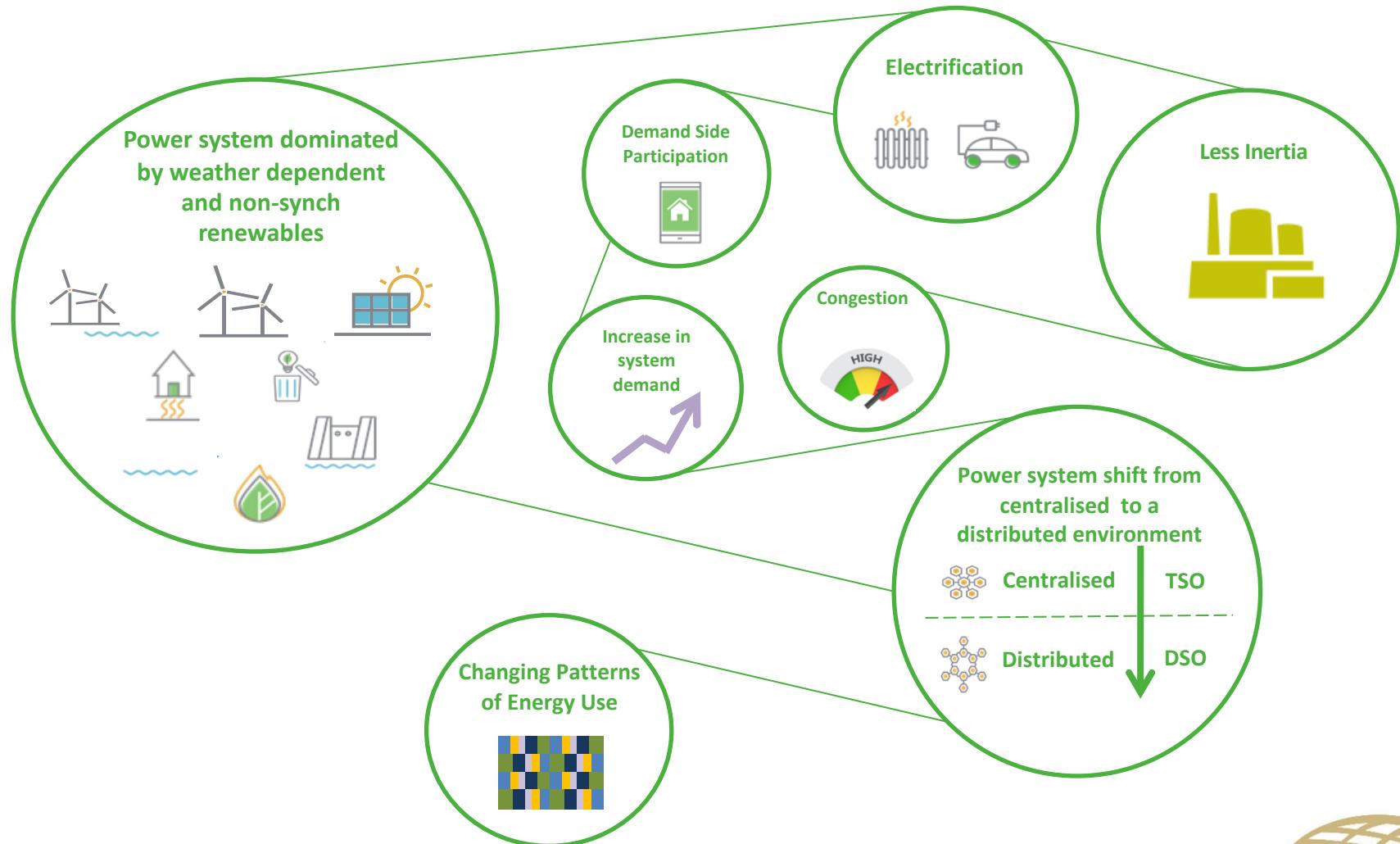
Share of electricity by source European Union 2017 - 2040  
Source IEA 2018

  
**EIRGRID**

**250 GW of installed offshore wind by 2050 in the EU**

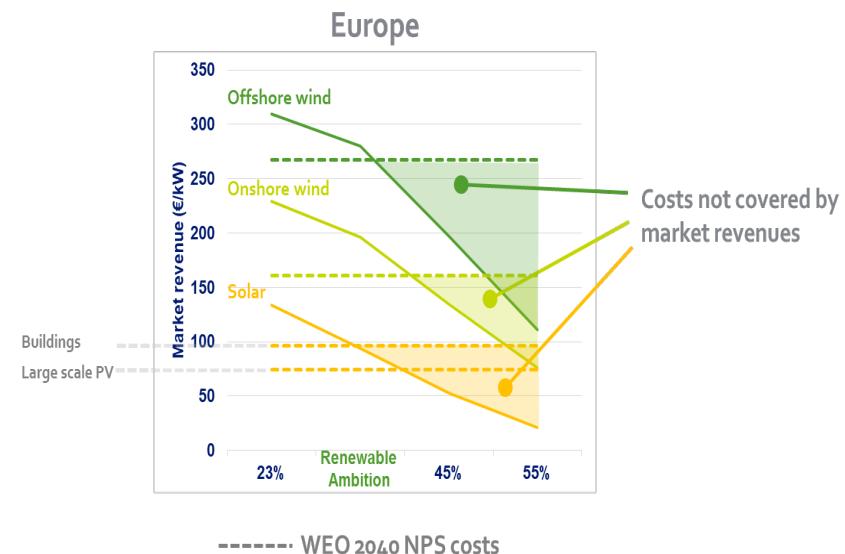


# System Complexity



# System Scarcities & Financial Gaps

	Continental Europe	Ireland & Northern Ireland	Nordic System
RoCoF (dimensioning incident)	Localised concern	Inertia scarcity	Evolving characteristic
RoCoF (system split)	Global concern	N/A	Not analysed
Frequency containment (dimensioning incident)	Evolving characteristic	Evolving characteristic	Evolving characteristic
Frequency containment (system split)	Global concern	N/A	Not analysed
Steady State Voltage Regulation	SS reactive power scarcity	SS reactive power scarcity	
Fault Level	No scarcity	Dynamic reactive injection scarcity	
Dynamic Voltage Regulation	No scarcity	Dynamic reactive injection scarcity	
Critical Clearing Times	Evolving characteristic	Evolving characteristic	
Rotor Angle Margin	Not analysed	Localised concern	
Oscillation Damping	Damping scarcity	Damping scarcity	
System Congestion	Global concern	Transmission capacity scarcity	
System Restoration	Not analysed	Evolving characteristic	



75% SNSP → 40% RES-E



95%+ SNSP → 70% RES-E 2030

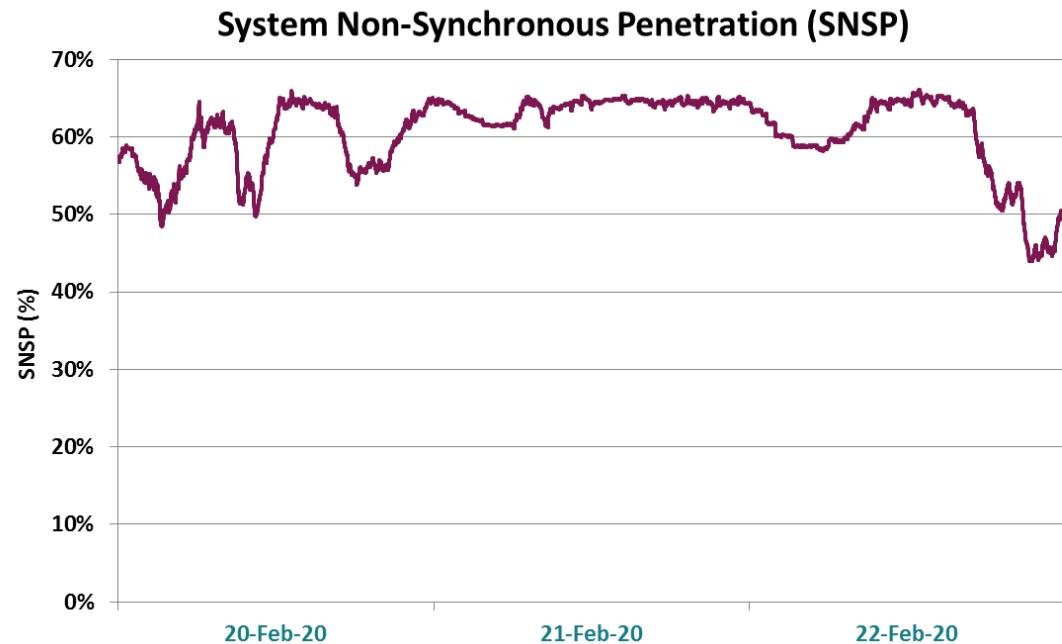


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EU-SysFlex

# Achievements in Ireland



Avg. SNSP on 21 Feb: **63.9%**

56% of island's demand met from wind in Feb

# Who can deliver & under what conditions

