

RGI Workshop on Flexibility

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



VIRTUAL WORKSHOP

Europe in Transition:
How can we accelerate the
shift to an integrated,
renewables-based energy
system?

Thurs 22 Oct
10:00 - 11:45
3 hour break
15:00 - 17:30

Online

Renewables
Grid Initiative 

Introductions

John Lowry
Project Director, EirGrid 



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

Marc Oman
Senior Energy Lead, Google 



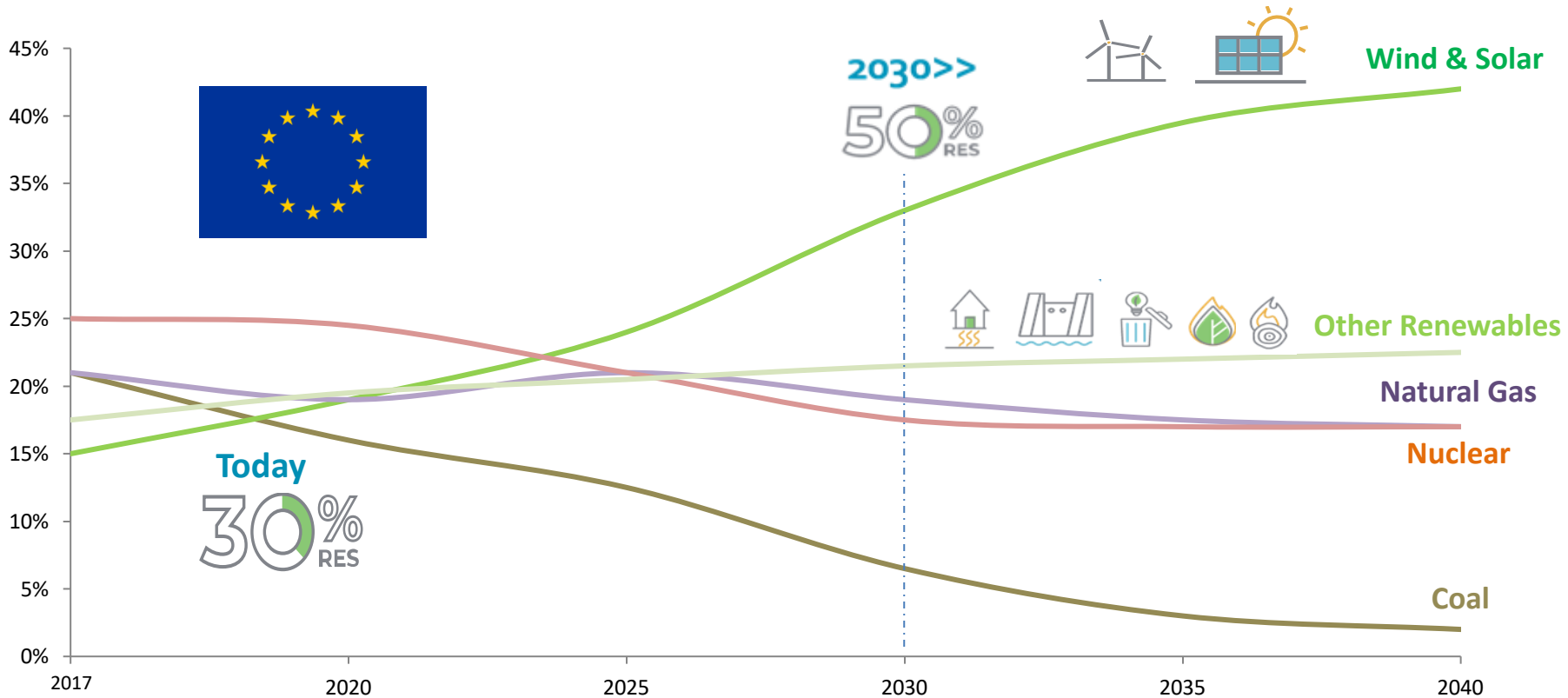
Context & perspectives

- 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 CO₂ emission reduction target to 55%

The European Sources of Electricity Trajectory



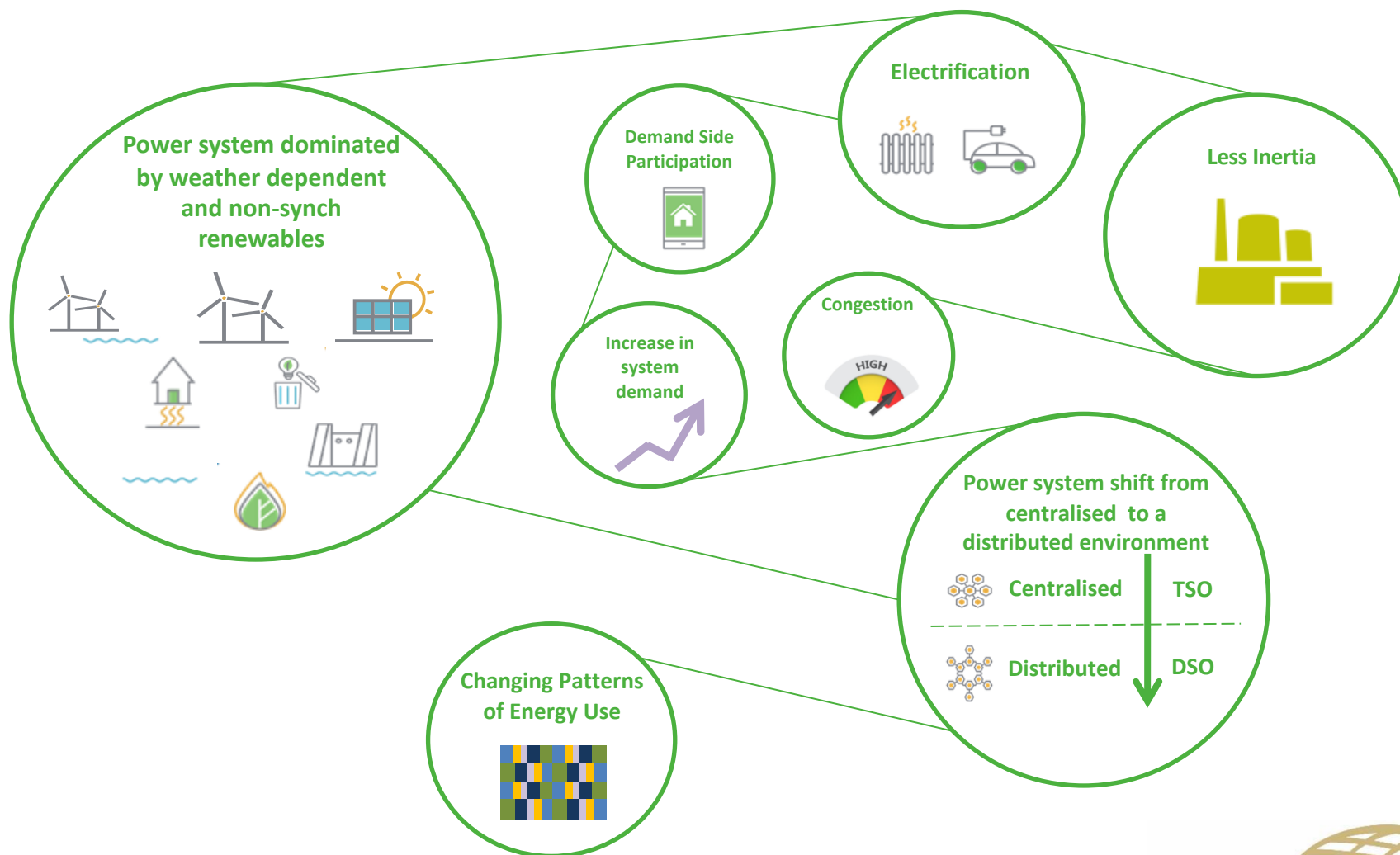
Share of electricity by source European Union 2017 -2040

Source IEA 2018

250 GW of installed offshore wind by 2050 in the EU

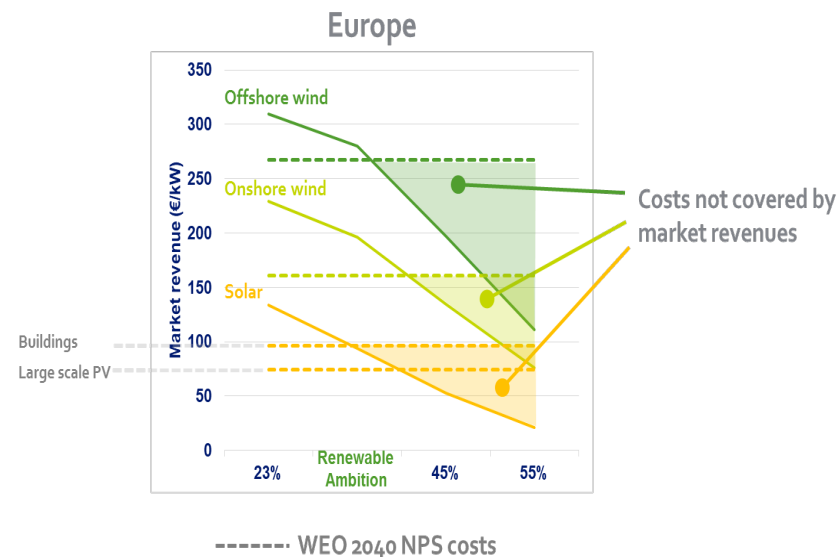


System Complexity



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

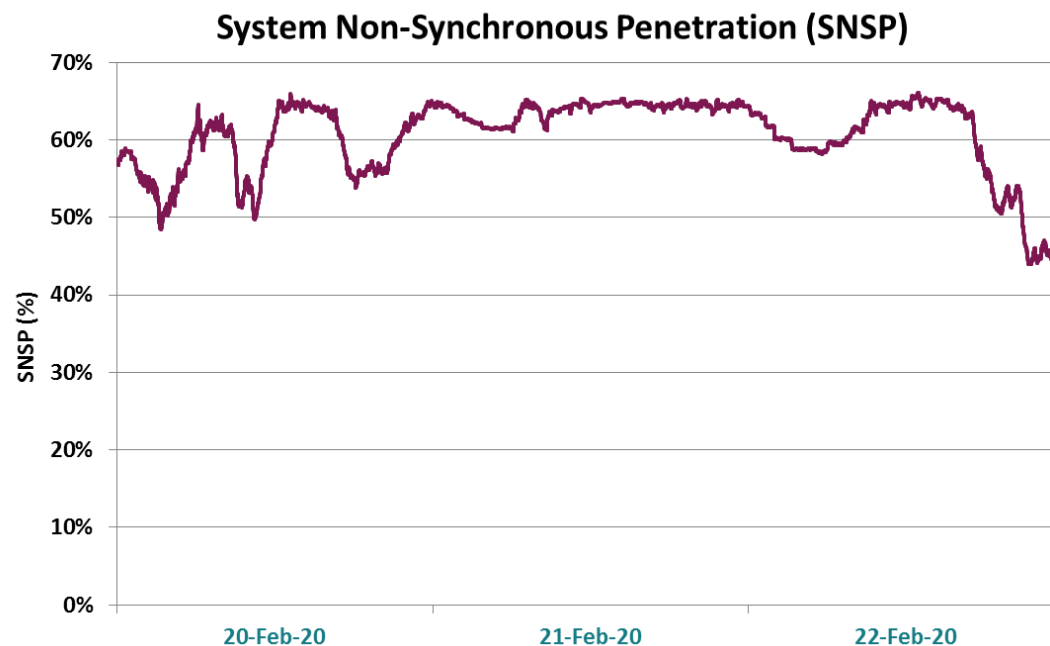


EU-SysFlex



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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

