



**Scottish Enterprise**

**EU Event – Strathclyde  
University, Glasgow**

**Veronica Noone**

**Senior Manager, Energy and Low Carbon  
Technologies**

**26 May 2015**

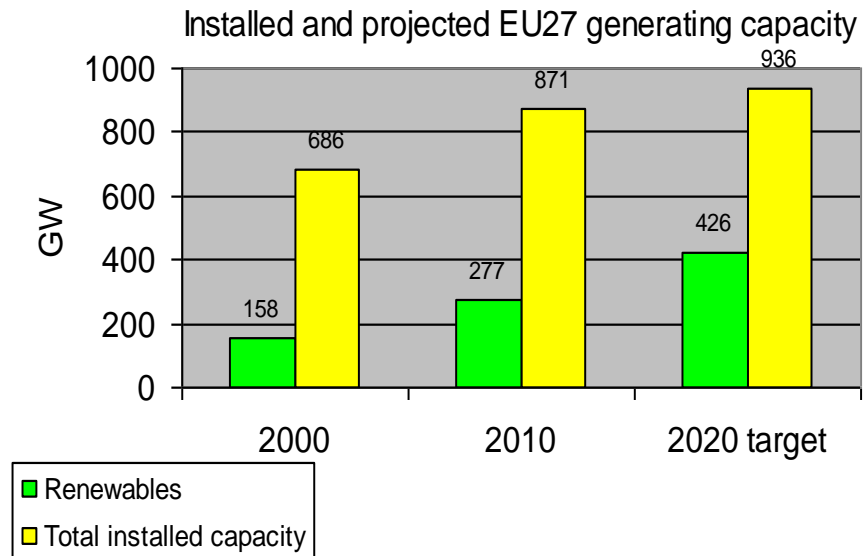
# Energy Systems Integration – current focus of ENSEA project

Energy systems are currently undergoing considerable change as the European Union (and other regions and countries) seeks to transition away from fossil fuels and cut carbon emissions. ESI now a key part of the EU Strategic Energy Technology (SET) plan

*‘Energy Systems Integration (ESI) describes the optimisation of the design and performance of the supply of all forms of energy (electricity, heat, biofuels and other fuels) at all scales (end user, local community and regional levels). It incorporates consideration of the interactions and interdependencies between the energy system and other systems; such as economic, data, regulatory and social dimensions.’*

NREL 2013

## EU renewable electricity challenge – 40% of capacity could be intermittent by 2020



Eurelectric 2012

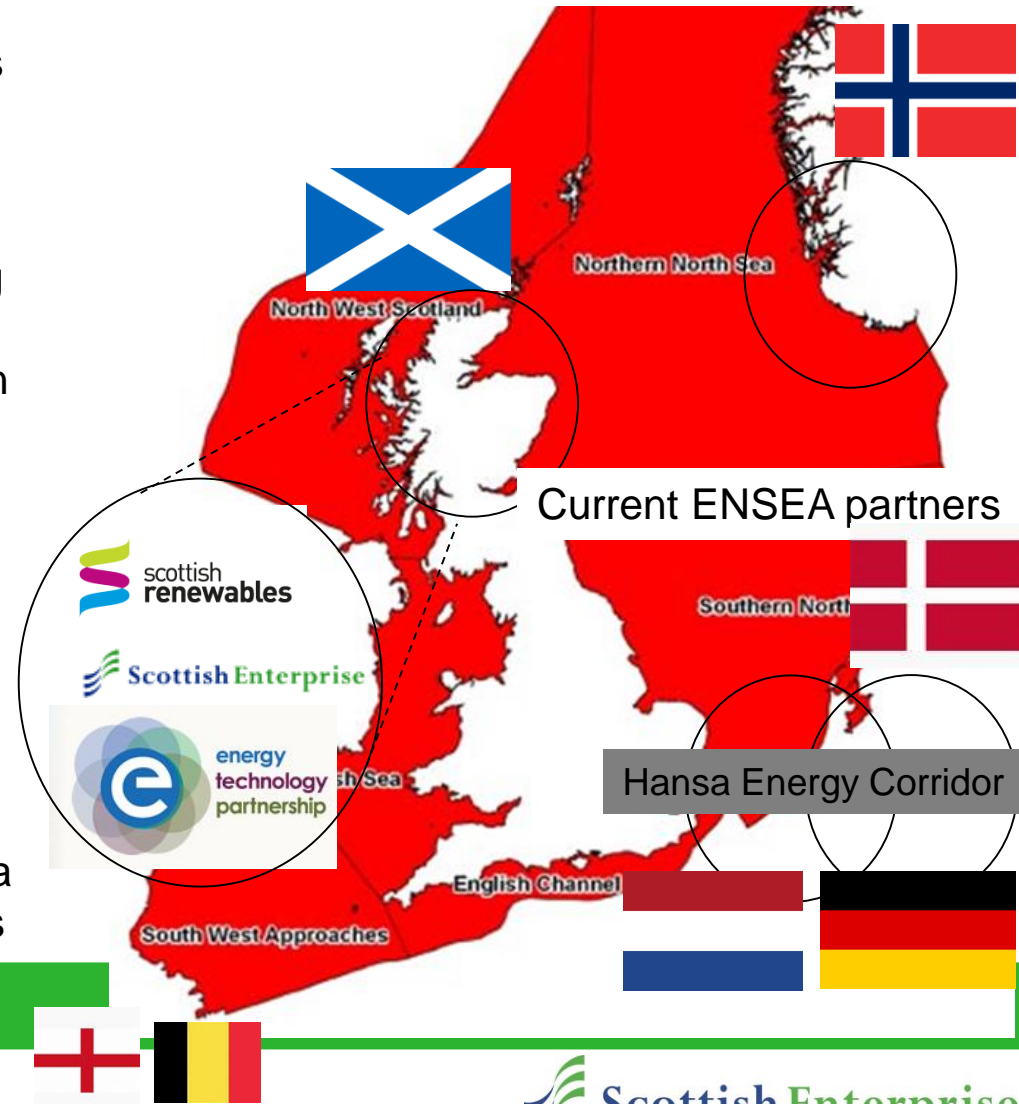
...similar challenges facing other Energy Systems (eg heat)

# ENSEA Goals & regional focus - North Sea

The ENSEA project goals include:

- Identify the strengths and weaknesses in each region in relation to research and innovation in energy system integration (ESI)
- Identify opportunities for strengthening the relationships within and between the regions through a Joint Action Plan supported by the private sector
- Develop research proposals for European (e.g. Horizon 2020) Research and Technical Development (RTD) funding programmes.
- Scotland and Norway regions brought in by established Dutch/German grouping the Hansa Energy Corridor
- ENSEA is looking to expand North Sea coverage – in discussions with regions in Denmark (Jutland now joined), England, Belgium

Sectors of the North Sea



# Core ENSEA partners

Energy Valley - lead partner  
A triple helix (Joint University,  
Government & industry  
organisation)



Denmark –  
Associate  
Partner

China –  
Associate  
Partner



North Denmark  
Region

...



Energy Vision

...



# Project Prioritisation

- JAP mapping identified >170 common project areas of interest, potential funding sources and stakeholders.
- Potential funding streams being explored. eg. COSME, INNOSUP, INTERREG H2020
- EU COSME and H2020 EE: Heat proposals submitted Oct 2014 & Feb 2015
- H2020 projects due in mid 2015/ early 2016 underway with ENSEA establishing consortia and undertaking proposal workshops

Current priority areas	Lead partner in each Working Group (WG)
Sustainable Communities & Energy Efficiency	Ems-Achse DE
SME' Innovation Networks	SE Scotland
Smart energy systems & Grids	EFZN DE
Renewable heat & cooling	SE Scotland
Research Collaboration, Training & Education	ETP Scotland
Bulk and Distributed Storage	Rogaland, NO
O&G Green decommissioning & repurposing of infrastructure	Energy Valley NL
Policy, governance & regional collaboration	Energy Valley NL

# ENSEA in the EU policy context

## **Alignment with two Energy Union trends:**

- Systems approach – integrated technology roadmap
- Macro-region level cooperation
- Energy Union will require different governance structures, platforms, for;**
  - Ministerial, inter-Governmental, inter-regional?
  - Technical experts?
  - Corporation, PPPs?

## **ENSEA could be a useful platform;**

- Triple helix, interdisciplinary
- Platform to push new areas of joint activity

## **ENSEA is looking to its longer term future;**

- Establishment of a PPP?