

**Carmelo Scalone**  
**Executive Director Business Initiatives**



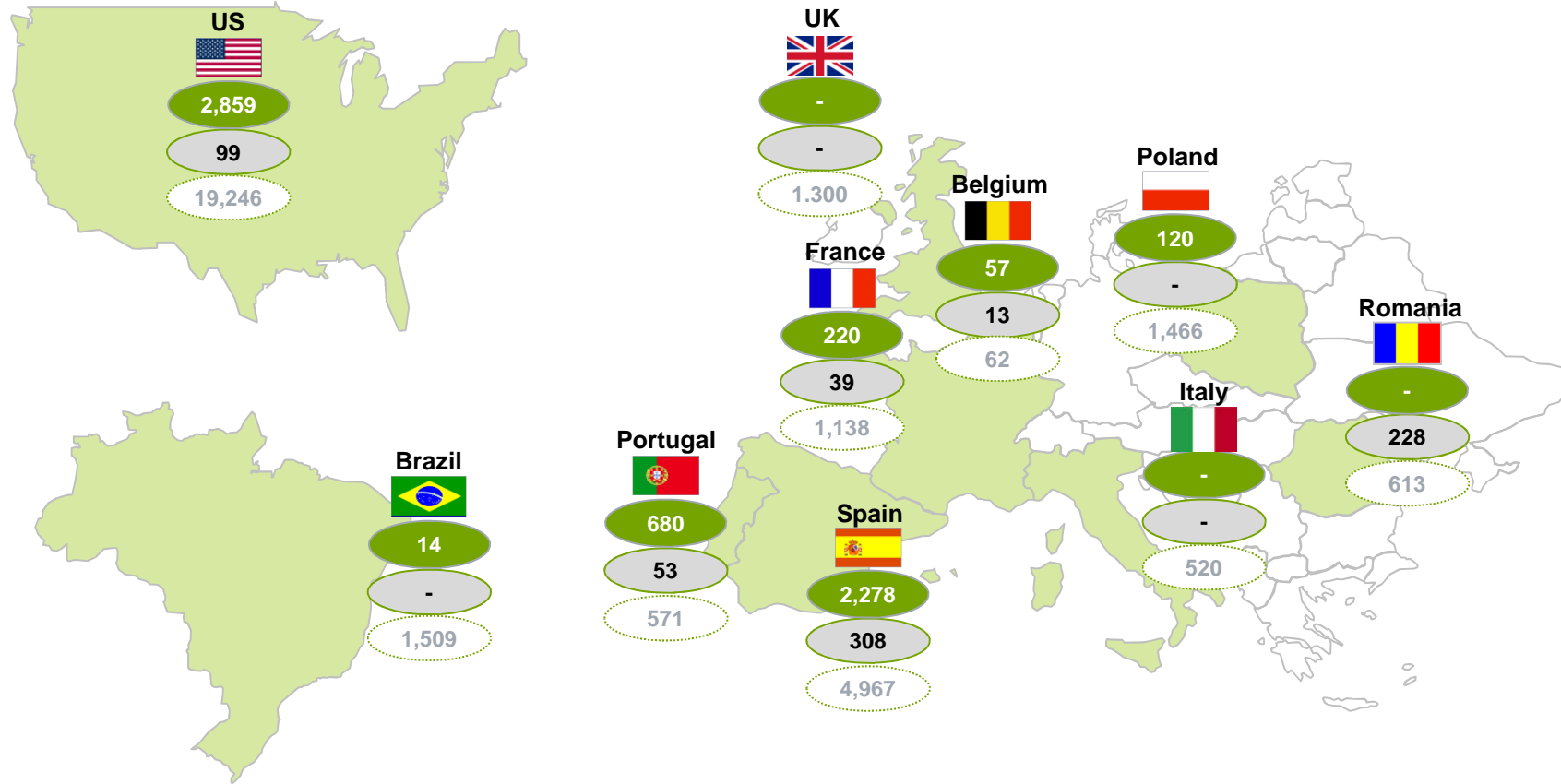
# Offshore business development




Aberdeen, All-Energy 20<sup>th</sup> May, 2010



# EDPR is a pure wind player with a quality asset base

## Onshore wind geographical diversification is achieved



-  MW Installed Capacity
-  MW Under Construction
-  MW Pipeline + Prospects

2009 Gross MW <sup>(1)</sup>

Installed Capacity	Under Construction	Pipeline + Prospects
6,227	739	31,391

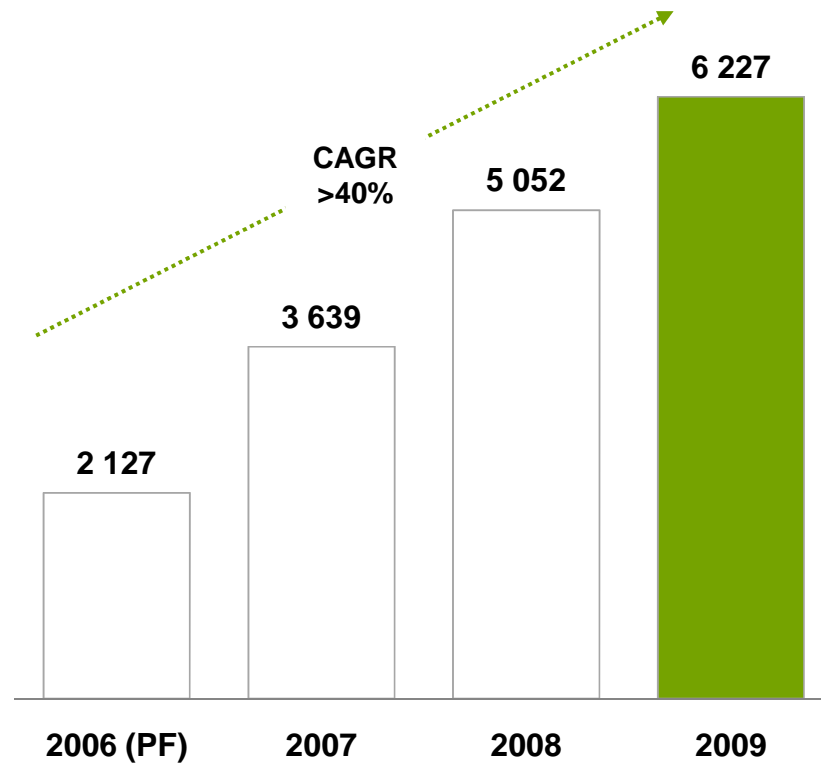
Note: (1) Including UK and Italy

# Offshore wind brings a new option growth for EDPR

## This decade will see the industrialisation of offshore wind



EDPR's Historic Capacity Growth  
(Gross MW)



### Some good reasons for going offshore

Diversify geographically into a new technology...

...aligned with our business plan timing...

...with obvious synergies...

...located in stable markets.

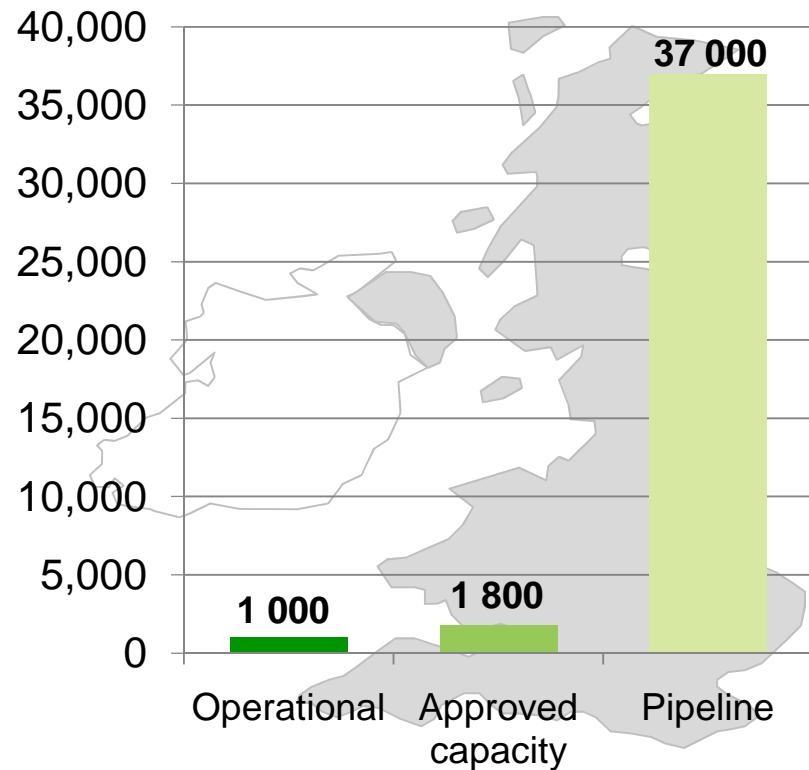
The UK Round 3 provided the window of opportunity that EDPR required to enter firmly into offshore

# UK is clearly the offshore wind leader

## The R1 and R2 have paved the way for offshore industry



### Offshore wind portfolio (MW)



### Key features

- Very good resource and onsite conditions
- Positive remuneration scheme
- Unique offshore O&G expertise
- Utility ownership concentration
- The Crown Estate enabling role
- Access to the grid through the OFTO system
- 33 GW as 2020 offshore wind target

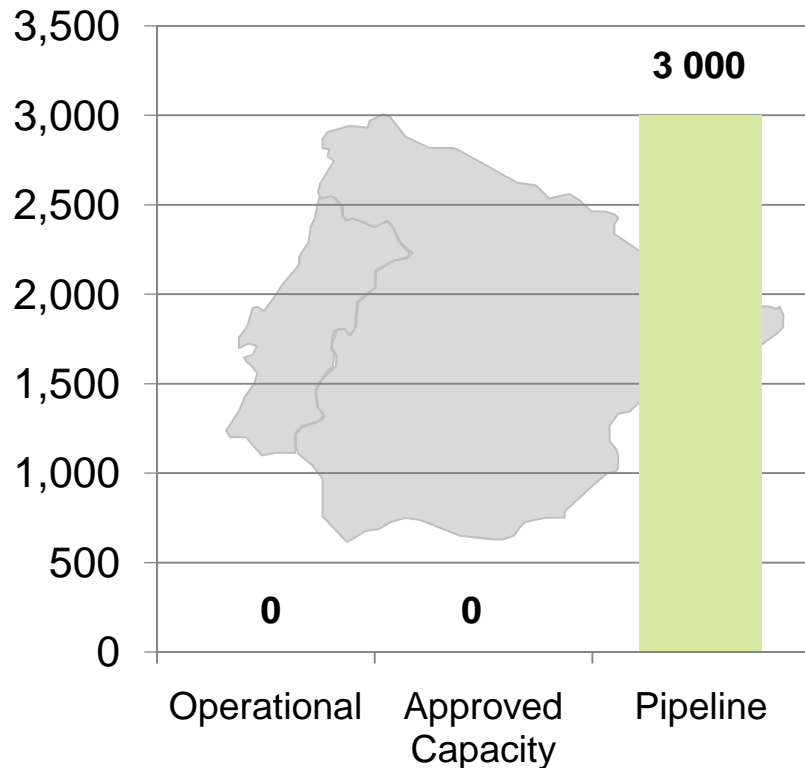
Infrastructure, supply chain and transmission network investment is yet required to deliver

# The Iberian offshore market will have to wait for deep offshore

## Regional test centres are under way to test new technologies



### Offshore wind portfolio (MW)



### Key features

- **Poor international grid connection**
- **Limited good shallow-intermediate water sites**
- **Potential areas identified but still unclear planning and competing process**
- **Uncertain remuneration**
- **Renewable focused on onshore wind and solar technologies**
- **2 GW targeted in Spain + 500 MW in Portugal by 2020**

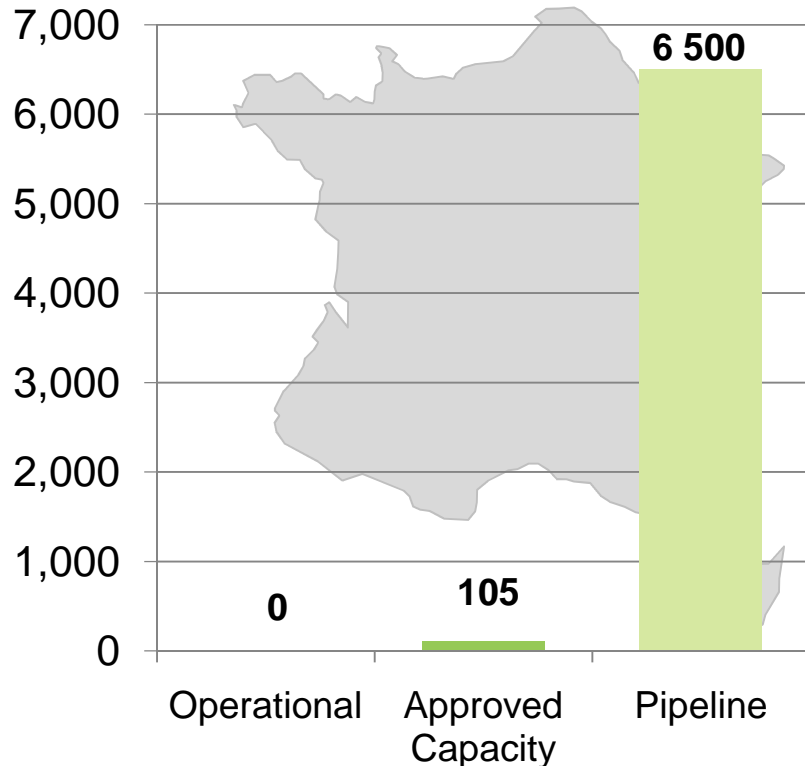
**In the meantime, Iberian players are exporting their wind experience**

# France aspires for 6 GW of offshore wind by 2020

## Lessons learned from 2004 tender to be considered



### Offshore wind portfolio (MW)



### Key features

- Current tariff is not enough (130 €/MWh)
- Limited good sites with uneven conditions
- Good port infrastructure
- Not yet an utilities market
- Two or three tenders expected by 2020
- Uncertain grid connection scheme
- Government clearly aims to create a local supply chain

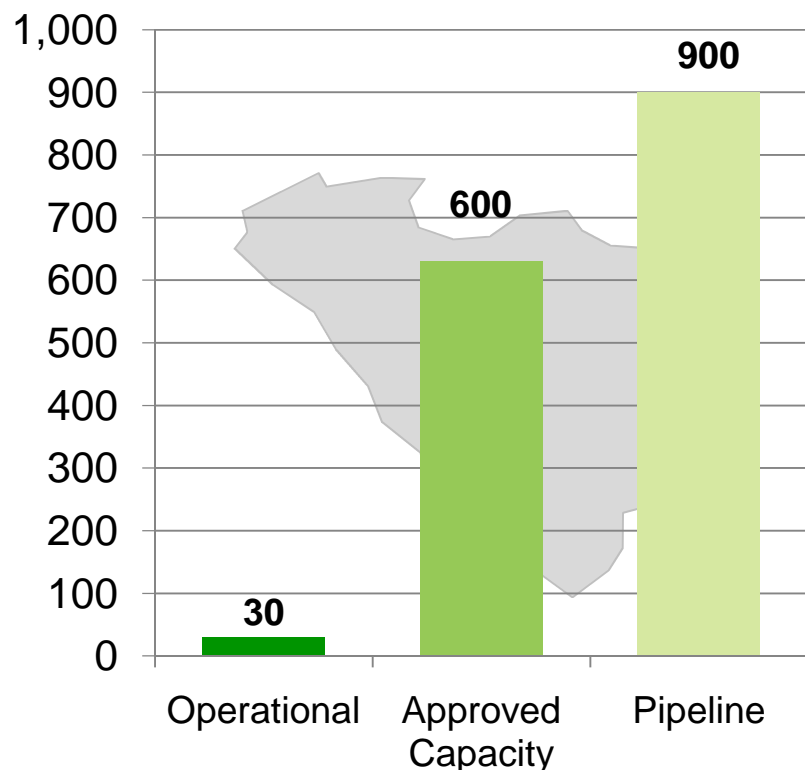
Offshore wind can be an alternative to onshore consenting problems

# The Belgian market involves mainly local players

## Attractiveness remains relatively conservative



### Offshore wind portfolio (MW)



### Key features

- Limited site availability due to small coastline
- Streamlined permitting process aided by government defined zoning
- Fairly attractive GC incentive scheme in place for 20 years: 107 €/MWh for the first 215 MW, then 90 €/Mg
- Grant up to 25 M€ for connection
- Corporate tax structure, fiscal incentive mechanism and depreciation criteria make debt leverage particularly important

With Belwind and Thornton, Belgium has witnessed rare, non-recourse project finance deals

# Best offshore markets offer comparable profitability



## Brief outlook on other offshore markets

### Germany

- Second best market
- Interesting tariff (130 + 20 €/MWh)
- Grid connection supported by TSO

### Netherlands

- Current 900 MW tender process
- 6 GW expected by 2020
- No TSO financial support

### Denmark

- Tender system dominated by local players
- Limited growth potential (<1 GW by 2020)
- Grid connection supported by TSO

### Ireland

- Attractive LT incentive during 15 years (140 €/MWh)
- Grid connection constraints

### US Canada

- Difficult to close PPA deals in the US
- Clear focus on onshore
- Ontario FIT (190 C\$/MWh)

### Norway Sweden Finland

- Vast offshore potential
- Insufficient incentives yet

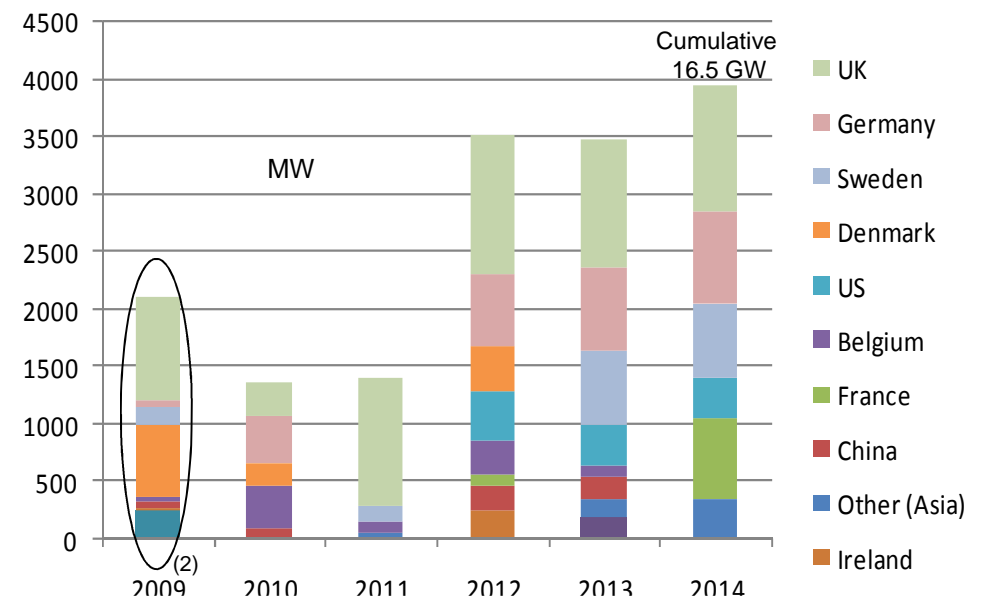
### Italy, Poland

- Poor combination of resource, tariff, grid and eligible site

## Future key drivers

- Wind resource is main profitability driver
- Utilities' balance sheets to remain key financing element
- Increased learning towards EPC management will gradually increase "project financing"
- Partnership consolidation for risk & cost sharing
- Floating offshore may disrupt the market
- Capacity to create jobs & regional development

## Potential yearly growth until 2014 <sup>(1)</sup>



(1) Source: BTM (2) 2009 reflects cumulative figures; added capacity n 2009 689 MW



---

 **edp renováveis**  
powered by nature