Bord na Mona’s Wind Development Strategy to 2030
Electricity: fundamental to the health & well-being of a modern society
Strategic Focus: Supporting RES-E Deployment
Supporting De-carbonisation of the Electricity system

kg CO₂ Emissions per kWh of Electricity Supplied

EBITDA (€m)

BnM Portfolio CO₂ Intensity to 2020

Forecast Powergen EBITDA

Projected Portfolio CO₂ Intensity to 2020

Newbridge
Aug/Sept. 2013
European Renewable Energy Resources

Wind

Hydro

Biomass

Solar
EU Renewable Energy Policy

- Overall EU renewable energy target of 20% by 2020
- **Directive 2009/28/EC** - sets out targets for each Member State
- Each country determines the share of renewables in each sector (10% min. in transport)
- Directive includes ‘flexibility mechanisms’ for cross-border trading
- Ireland has a significant excess of RES resources beyond that which can be consumed domestically
- Ireland & UK Governments – Memorandum of Understanding, January 2013

2020 Renewable Electricity Gaps

Ireland: 40% renewable elect. 12.3 TWh
UK: 31% renewable elect. 117 TWh

1 TWh = 1000 million units (kWh)
Electricity Generated by Fuel Type in 2013 (YTD)

- Gas: 47%
- Coal: 20%
- Peat: 6%
- Biomass: 1%
- Wind: 13%
- Hydro: 1%
- Imports: 11%
- P/S: 1%
- P/S: 1%

Import Dependency: ~ 78% (Mainly Fossil Fuels)
Electricity Generated by Fuel Type in 2020

- Gas: 50%
- Wind: 35%
- Coal: 6%
- Oil: 0%
- Biomass/Peat: 2%
- Imports: 4%
- Hydro: 2%
BNM: 21 Years of Wind Development
Virgin Raised & Blanket Bog

Not In Play for Wind farm Development
Cut-away Peat lands: In play
BNM’s Wind Development Strategy to 2030

- C. 80,000 ha landholding
- 130 discrete bog units
- Large, uninhabited industrial landbanks
- Bog units in clusters connected by land links / machinery pass ways
- Close proximity to grid & motorway infrastructure
- Cutaway in 2020 c. 36,000 ha
- Current area classified as cutaway c. 5,000 ha in eastern region
- Potential for large scale wind farm development ~200 MW in construction
- ~300 MW under development
- Focus on meeting Ireland’s 2020 targets
- What are the future opportunities?
Mountlucas Windfarm: 80 MW

Eastern Site Entrance from R400
Internal Access Roads: 21 km
28 Turbine Foundations & Hardstands
Mountlucas Windfarm: 110 kv Substation
Overview – Mount Lucas Windfarm 80 MW

Infra-structure: ~ 3-4% of site area
Mount Lucas Windfarm: Site Lay-out
BnM – CEH Concept:

Clean Energy Hub

- Wind farm development on cutaway peatlands in the East Midlands (Phase 1)
  - 5,000 ha currently
  - 12,730 ha by 2020
- Scope for ~1,000 MW onshore wind capacity
- Wind farms linked together to form a ‘Clean Energy Hub’
RES – E Export Potential

BNM Developing a Clean Energy Hub: 1 – 2 GW of generating capacity on and around our landholding in the East Midlands focused on electricity exports
Bruckana / Lisheen ~100 MW

20 x Bruckana/Lisheen = 2 GW
Adjacent Land: Where deemed “Appropriate” Optimises Energy Capture
Creating Sites with High Amenity/Biodiversity Value
What does 2030 look like?

- 10 GW on-shore wind
- 10 GW off-shore wind
- 4/5 GW I/C
- Flexible power system
- 60-70% RES-E

Achieving Europe’s RES-E Potential