Improving the Wind Development Model

Grattan Healy BEmech MBA Ierne Wind Energy Consulting Ltd

Meitheal na Gaoithe Annual Conference, Lyrath Hotel, Kilkenny, 9th Nov 2012



Dr Hermann Scheer MdB 29 April 1944 - 14 Oct 2010

THE SOLAR ECONOMY

RENEWABLE ENERGY FOR A SUSTAINABLE GLOBAL FUTURE

HERMANN SCHEER



HERMANN SCHEER FOREWORD BY BIANCA JAGGER



earthscan

Essential Reading!

Questionable Technological and Economic Premises

- Insufficient usable potential
- Lengthy time requirement
- Necessity for large power plants
- Conventionals' sustainability with efficiency
- Functional priority of existing supply structures
- Protect economic resources
- Economic burden of renewables

False premises in political fields of action

- Renewable energy dependence on subsidies
- Need for consensus with energy industry
- Fixation on competitiveness in energy markets
- Indispensability of global treaty commitments
- Environmental pollution caused by renewables
- Realism of taking small steps

Hermann's final messages

- 'Energy Change' most important shift since Industrial Revolution
- Renewables lead to decentralisation, empowerment
- Large-scale prolongs existing 'power' structures
- Shouldn't focus on climate only; emphasize security
- Global negotiations and consensus a cul-de-sac
- Target is: 100% RE as soon as possible
- Maintain priority even when supports declining
- TIME IS SHORT delay is enemy number one! Extracted: "The Energy Imperative", 2012

Decentralisation



Decentralisation



And here's why!



Implications for Ireland

- Utilities promote and authorities generally accept false premises
- Explains the wall of resistance against what we see as obvious
- We are nevertheless moving; but at a glacial pace
- Duty to reject 'managed' development of RE
- Demand maximum pace to 100% RE ASAP
- Implement priority in ALL aspects of Renewables

Evolving context

- European Utility campaign against renewables
- Challenges to supports all over the world
- False information about downside of RE
- Pressure from EU to phase out supports
- Pressure towards more 'market', overriding RE
- Increasing EU/national planning constraints
- Avoidance of real priority/guarantees in grid

Ongoing issues

- Uncompensated & unquantified constraint curtailment
- Huge grid connection costs, barrier, inefficient
- I 5 years for connection, 20 yrs for firm access
- REFIT stop/go, deadlines, caps, cliffs, etc
- Planning nightmare, retrospective removal

solution Analysis

IOMW project; Constant 20 year Equity IRR	Existing model	Constraint & Curtailment (6-9%) paid at REFIT	UGC connection paid	Both
REFIT €c	6.808	6.121	5.794	5.224
Interest (AER) %	6.0	5.5	6.0	5.5
Gearing %	80	85	80	85
Paid Production GWhr (35% load factor)	27	29.3	27	29.3
PSO cost €/yr (incl. 0.5c balancing; SMP at 5.8c)	406,580	240,472	133,190	0
Connection cost to consumer €/yr (financed by ESB at 4% over 50 years)	0	0	121,435	121,435
Cost to consumer €/ yr	406,580	240,472	254,625	121,435

Newer issues

- Regulators removing market compensation
- Final grid offers too late for REFIT 2 'cliff'
- REFIT I projects pushed into REFIT 2 and over the same 'cliff'
- Modifications forced by network decisions

Backward development model

- Grid takes far too long
- So planning can't be a criterion for grid
- Apply for grid first
- Then try for planning
- And hope there's a REFIT and a bank in the end



Whack-a-mole!

Risk Analysis

- Rough probabilities, timing & cost at each stage:
- get into a Gate 50% 3 yrs €7k + €20-80k?
- get grid offer 100% 3-6 yrs €300k/MW
- get planning 30% I-5 yrs €250k+
- get REFIT 50% I-2 yrs €0
- get Finance 70% I-2 yrs €100-200k
- Overall
 5% I5-20 yrs millions!

Forward model

- get planning 30% I-5 yrs €250k+
- get grid offer 100% 0.5 yrs €7k + €20-80k?
- get grid 100% 3 yrs €50k/MW
- get REFIT 100% 0 yrs €0
- get finance 90% l yr €100k
- Overall 27% 5-8 yrs € half million

Conclusions

- Educate ourselves read Hermann
- Inform authorities about real facts, dispel myths
- Reject mad backward model, seek forward one
- Continue grid and planning priority as supports reduced or phased out
- MnaG most appropriate body for Energy Change!

• HURRY UP!

THANKS FOR YOUR ATTENTION

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Latest News 24th Oct 2012: Dedication to the late, great, Dr Hermann Sche MdB translated

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