

**Smart Grid, Social Innovation the Smart Society: The
Generation, Transmission and Distribution of Discontent in
Post Celtic Tiger Ireland.
IGS/ESEIA, April 24th-25th**

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‘events dear boy, events’ Harold McMillian

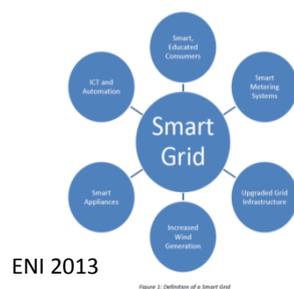
- April 15th 2014 - Irish Government met to consider the Climate Action and Low Carbon Development Bill
- RTE estimated protest 2000, organisers 4000, ‘Irish energy policy is under scrutiny like never before’
<http://www.rte.ie/news/2014/0415/609006-wind-protest/>
 - large scale transformation from energy based on fossil fuels to renewables was urgently required to contain global warming to 2 degrees Celsius - UN IPCC
 - shelving of major wind farm development in the midlands of Ireland - 1000 wind turbines generating 3 gigawatts, exported directly to the UK Grid;
 - newspaper anticipation of a ‘monster rally’
- opposition to wind farms in rural Ireland was ‘enough to preoccupy Don Quixote for a lifetime’. (Harry McGee, ‘Events refocus minds on climate change and difficult decisions’, Irish Times 14/4/2014)

Sustainable Energy Spectrum Model of Carley and Andrews (2012)

“We propose the concept of a “sustainability electricity scale spectrum” composed of a combination of traditional macro-generation facilities with increased integration of micro-grid systems, distributed generation systems, micro-generation units, and end-user conservation and efficiency.”

<p>Macro-generation</p> <p>Large (inter-)national transmission systems over great distances from large, often distant central-station generating plants. Subject to energy losses (~ 6.5% USA, 2007) which could be significantly reduced by more localized generation.</p>	<p>Micro-grids</p> <p>Relatively small, low voltage distribution networks; housing estates to municipal applications. Self-controlled, semi-autonomous entities interconnected to the central grid but can easily be isolated to serve as an islanded electricity system.</p>	<p>Distributed generation</p> <p>Generally refers to generating systems that produce between 5 kW and 5 MW of power; e.g. Combined heat and power (CHP)</p>	<p>Micro-generation</p> <p>Small-scale generation, generally 5 kW or less (e.g. PV, solar thermal, hydrogen fuel cells, wind or CHP systems. Usually owned by end-users, to generate a portion or the entirety of their domestic household needs.</p>	<p>End-user conservation and efficiency</p> <p>Includes both passive and active energy-efficiency technologies that reduce total electricity demand, as well as changes in electricity consumption behavior.</p>
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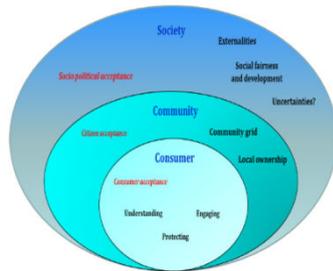
Smart Grids



‘the traditional paradigm of passive distribution and one way communication and flow between suppliers and consumers is going to be replaced by a **new paradigm of active distribution** that can dramatically change the role of consumers’ (Mengolini and Vaseljevski 2013: 6).

a socio-technical network characterized by the active management of both information and energy flows, in order to control practices of distributed generation, storage consumption and flexible demand... a buzz word without a precise definition (Wolsink 2012: 824)

...a new narrative of decarbonisation: the deployment of a smart grid; retrofit of buildings; electrification of transport; increasing penetration of wind into the energy system, and; developing the grid to facilitate the connection and connecting Ireland’s grid more fully with the Northern European Grid (Curtin 2012: 18).



Active consumers Vs Active Citizens

Mengolini and Vasseljevska 2013

Figure 12: The social dimension of smart grids: a framework

Social Innovation

- social innovation: new ideas (products, services and models) that simultaneously meet social needs more effectively than alternatives and *create* new social relationships and collaborations. In other words they are innovations that are both good for society *and* enhance societies' capacity to act (Social Innovation eXchange 2010: 18).
- innovation at a broader societal level doesn't always represent a Shumpetarian process of 'creative destruction' rather at times it can lead to a process of 'destructive creation' Soete (2013: 134) .
- civil society based social movements could play a significant role in sustainability transitions through their ability to develop innovative *social practices* (Seyfang *et. al* 2010: 4).
- if pushed unreasonably and too far some civil associations will form around more active mobilisations of resistance e.g. anti-wind farm movements (Smith 2011)

networks

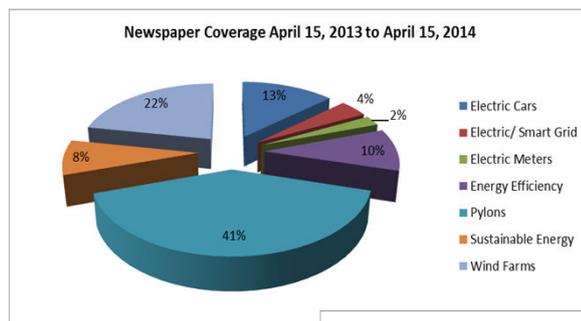
- ‘myth of ever increasing connectivity’ ...masks a paradox of connection and rupture since infrastructure can **divide as well as connect** (Van der Vleuten, Högselius, Hommels and Katjster 2013)
- The metaphor of the net allows us ‘insist on its fragility, the empty spot it leaves around (a net is made first of all of **empty space**), ...But what I like most about the new networks is that **the expansion of digitality has enormously increased the material dimension of networks**: the more digital, the less virtual and the more material a given activity becomes (Latour 2010: 8).

Historical Politics of Electricity in Ireland

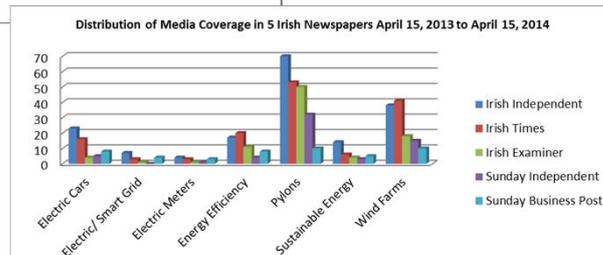
- All transitions in the Irish electricity system have been intensely political.
 - The shift **from distributed generation to centralised generation** in post independent Ireland contributed to the construction of the Ardnacrusha hydro-electric scheme in Co. Clare in the 1930s.
 - The political preference for hydro-electric power stemmed from the nationalist desire to reduce **energy dependence** on British coal.
 - The creation of the material infrastructure for the supply system, in the form of generation and distribution networks, and the ‘**rural electrification**’ scheme became emblematic of the modernization project of the nation (Mullally and Murphy 2008: 107).
 - In the period, after WWII Muintir na Tíre (people of the land) supported and contributed to rural electrification in the name of **self-sufficiency and agricultural modernisation**.

- Through the 1970s, the proposal to construct a nuclear power facility at Carnsore Point, Co Wexford was pursued by the then government under the rubric of **economic modernisation**, and opposed by a national anti-nuclear movement regarded as the **nursery of Irish environmentalism**.
- ...this was the context in which ideas about **soft path technologies and renewable energy** was originally promulgated (Baker 1990).
- Carnsore was abandoned and a new coal-fired power station was built in Moneypoint Co. Clare in the 1970s, in order to reduce the **dependence of the Irish economy on oil** (Mullally and Murphy 2008: 107).
- The contemporary contestation of Irish electricity infrastructure = a discourse of sustainable energy and the storyline of **Irish energy sovereignty**, with the commodification of wind for export at its core Vs the **sustainability of communities** in rural Ireland.

Media coverage of Smart Grids in Ireland



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Contemporary Energy Controversies: Wind

- two plans for large-scale farms in the midlands to serve the UK market. 'One is from Mainstream Renewable Power, which plans to build farms producing 5,000MW of power for export to Britain via underground cables. The second is from Element Power, which has struck a deal with the UK's national grid to supply it with wind energy from 40 planned farms'
 - 'a "once in a generation" chance of capitalising on its wind energy resources'. Mainstream Renewable Power – [James Connolly]
 - "Welcome to the midlands, England's offshore wind farm" – [G.B Shaw]

- 'pylons and their first cousins, the wind farms have become a source of serious political woe for this administration', as resistance is growing because on increasing proximity to homes and the scale of proposed new turbines 'taller even than the Great Pyramid of Giza that stood as the loftiest man-made structure on the planet for 3,800 years'.
 - 'Nimbys out in the sticks threaten to shatter political legacies: Local issues like pylons and wind farms can trip up the most canny of political operators, Sunday Independent, January 12th, 2014.
 - 'The winds of change that sweep our land: We need to ask ourselves what price we are prepared to pay for progress', Sunday Independent, January 12th, 2014.
- The leader of the Green party accused the Irish government of mishandling of the midlands development from the start: 'by not keeping hold of the wires and by not promoting community ownership we allowed the worst possible narrative to develop where we were selling out to the Brits'



Pylon Pressure?



Contemporary Energy Controversies: Grid 25

- From 2013 onwards proposals to develop and modernise the electricity grid has also mobilised significant opposition, specifically the construction of pylons across rural regions in Munster, Leinster and Connaught and along the route of the North-South interconnector. As this opposition takes on the characteristics of a social movement it appears poised to surpass the scale and extent of the Irish anti-nuclear movement.
- 'a people's revolt against a controversial (EURO) 3.2bn power project that will dot 4,000 new high voltage pylons over much of rural Ireland is gathering momentum with dozens of towns and villages across the country banding together to fight the plan'.
 - 'Race hero Ruby backs revolt over "gigantic" pylons; Eirgrid accused of setting neighbour against neighbour in the rollout of (EURO) 3.2bn project', *Sunday Business Post*, October 27th, 2013.
- 35,000 submissions related to grid infrastructure in preplanning consultation January 2014.



- The president of the ICMSA (farmers group) reflected what he saw as the view in rural Ireland:
 - ‘there is a very real sense that as far as Eirgrid – and, to a lesser extent, the state – is concerned, that the matter has been settled and that us poor culchies are just going to have to deal with a decision that is already made’

- ‘As a country and a society, we need to work out what’s the process by which we build these things. Building large infrastructure in Ireland has a history of being difficult, and not just pylons. “We’ve had it with roads, with mobile-phone masts and the Corrib (gas field) had a very difficult period. I think we need to come to a view, as a society, what is the process we go through, (where) the public knows, and communities know, this is where I can engage, this is how I can influence, and this is what’s going to happen. And developers similarly know these are the stages that it’s going to go through. I think we need to get to a point where there’s a process that’s accepted by society in its widest possible context’
 - ‘We definitely could have done things better on pylons issue admit Eirgrid chief’, *Irish Independent*, February 17th, 2014

Framing and Naming: The Cultural Politics of (Story-) Lines

- 'Smart' is counterpoised to 'irrational', urban to rural, community to the state, conservative to innovative.
- The naming of positions is quite nuanced and culturally sensitive – Rethink Pylons.org deliberately eschews the label anti-pylon, SOUL (renamed the Pylon Alternative Alliance) deliberately seeks to identify with an essentialist conception of Irish community, but convey a rational base, North East Pylon Pressure sends a definite message to electoral politics.
- Wind Aware Ireland try to present an evidence based case against the role of wind in a sustainable energy system with an appeal to the discourse of sustainable development using a web presence that integrates different social media (Face book, Twitter, You Tube etc.).

- 'active' mobilisations are also capable of considerable innovation: in terms of over-layering existing social infrastructure with ICT tools and networks; generating new networks, transmitting their concerns to other networks, making connections distributed over discrete issues and geographically dispersed locations, linking up with other networks etc.
- Smart grids are more comfortable with active consumers than active communities and citizens