

Public and sustainable?

- trends in renewables and remunicipalisation of electricity

By

David Hall d.j.hall@gre.ac.uk

Visiting professor

Public Services International Research Unit (PSIRU)

University of Greenwich, UK www.psiru.org

September 2016

Summary

- Public objectives in energy systems
- Economics of renewables and public ownership
- Public sector in electricity
- Trends in renewables and public ownership
- Public future for energy in UK

Objectives of public energy systems

| | Public objectives |
|----------------------|-------------------------------------|
| | |
| Environmental | Climate change and renewable energy |
| | |
| Social | Universal coverage |
| | |
| Political | Democratisation |
| | |
| Economic | Affordability and efficiency |
| | Strengthening local economy |
| | |

Economics of renewables

- Renewables policy impacts structure of sector
 - No new coal/gas/ plants in Europe [FT May 21, 2015 Coal and gas power dying out in Europe, says energy chief](#)
 - 'No nuclear' policies also in Germany, Italy
- Incompatible with markets
 - zero marginal cost eg central European market closed because German wind closes Polish coal
 - intermittent: driven by weather not price or profit
- Other (big) advantages
 - stability: free from fluctuations in price of oil, gas, coal
 - security: not dependent on political relations

Economics of public ownership

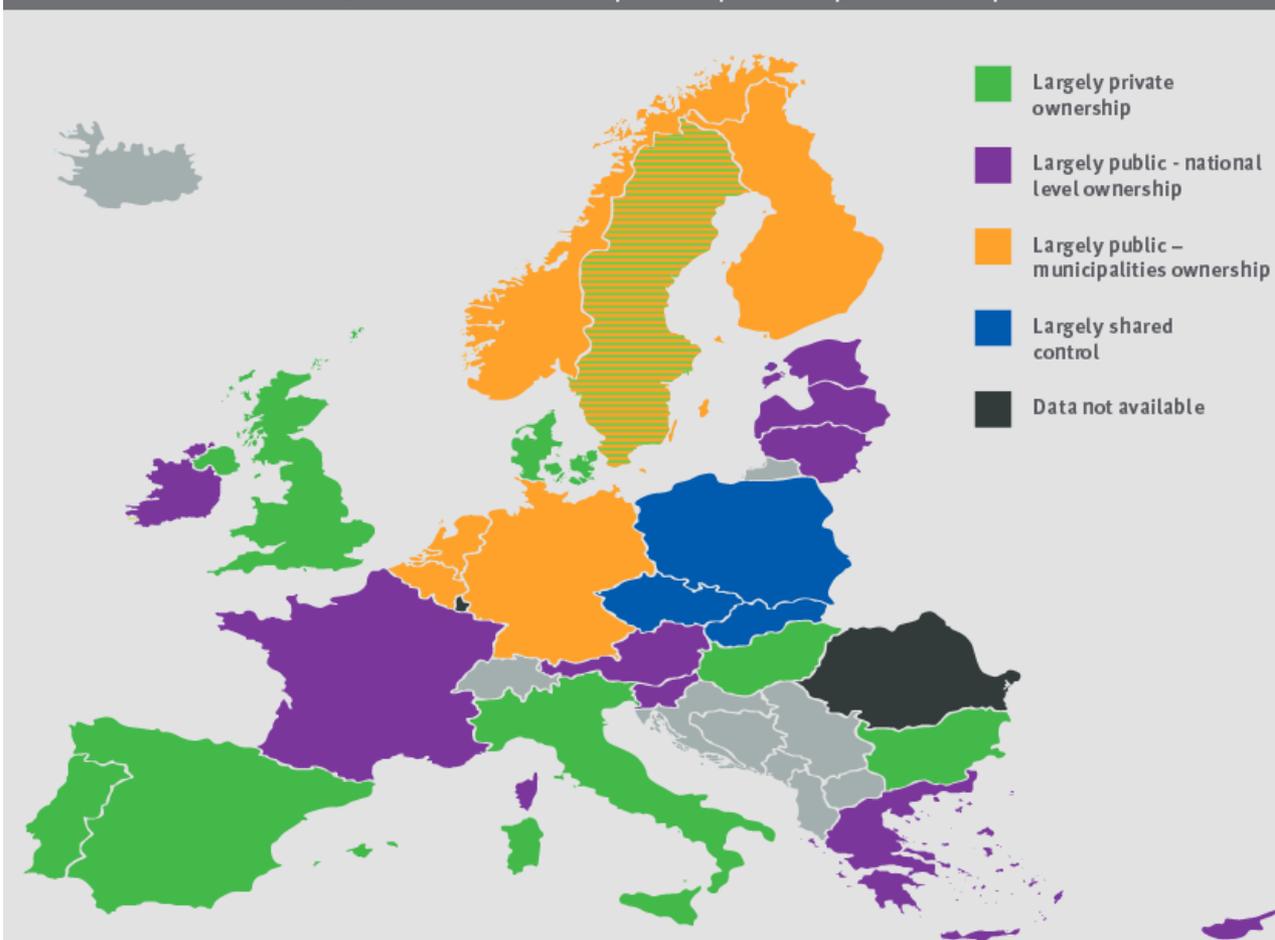
- Solidarity economics: abundance
 - Political commitment + public finance
 - delivers connections, generation, price for social, economic, environmental goals
- Real cost reduction from lower cost of capital
 - Annual savings of £70-£120 per household bill from lower cost of capital under public ownership ([Hall 2016](#), Darwall 2015)
- Public savings from lower transaction costs
 - No need for multiple arrangements, contracts, incentives
 - Note TFL savings after ending Metronet/Tubelines PPPs ([Hall 2014a](#))
- No operating efficiency difference between public and private
 - Empirical evidence across time, countries, sectors ([Hall 2014b](#))
- Public electricity cheaper in USA, Europe
 - 12% lower in USA
 - 20-30% lower in EU([Hall 2016](#))

Public ownership of energy companies is widespread

- Public ownership of electricity companies is common in Europe, USA, Asia including China, India, Indonesia, South Korea
 - Many transmission, distribution and generating companies in Europe are owned and operated by the public sector
 - Privatisation of electricity system made illegal in Indonesia, Thailand (by supreme courts)
- In USA, about 48 million Americans in over 2000 cities get electricity from public sector companies
 - this represents 14.5% of the total market - and a further 13% are supplied by electricity co-operatives.
 - price of public companies is on average 12% lower than price charged by private energy companies.
- In all developing countries govts and public utilities invest and deliver countrywide connections: v little by private capital
 - Big advances to 100% connections in last 15 years, inc Asia
 - Same in water: nearly all is public investment

Ownership of electricity distribution in Europe

DSOs can be either fully public or fully privatised.
In addition, various forms of public-private-partnership exist.⁴



Most DSOs own the network and are granted an operation licence by local or national public authorities.

In some countries, like Germany, DSOs are granted concession contracts to operate the network for a certain amount of time while the public authorities remain the owner in the long term. In these cases, DSOs are in charge of operation and maintenance as well as capital investment.

Even privatised distributors are owned by companies based in the home country, except for the UK, Hungary and Bulgaria which are owned by multinationals

Eurelectric 2013 Power Distribution in Europe
http://www.eurelectric.org/media/113155/dso_report-web_final-2013-030-0764-01-e.pdf

For each country the percentage of each type of ownership was calculated by aggregating the kWh distributed by each type of company.

Germany: Energiewende and remunicipalisation

- German commitment to renewables: ‘Energiewende’
 - All nuclear plants close by 2022
 - FiTs take-up by small co-ops, farmers etc - not RWE and E.on
 - 33% of all electricity in Germany was renewable in 2015
- Municipal companies - ‘stadtwerke’ - develop stronger role
 - To improve democratic control, local economies, renewables
 - over 72 new Stadtwerke have been created since 2005
 - 80% of the distribution networks now owned by regions and municipalities
 - Stadtwerke supply half of all the electricity in Germany to households.
 - also greater role in generation, mainly to develop renewable energy

Wagner, Oliver, and Kurt Berlo. 2015. ‘The Wave of Remunicipalisation of Energy Networks and Supply in Germany’ http://epub.wupperinst.org/frontdoor/deliver/index/docId/5920/file/5920_Wagner.pdf

- **Munich**

- “By 2025, our utility company aims to produce so much green energy, that the entire demand of the city can be met. That requires enormous investments around 9 billion euros by 2025 and can only be successful if the long-term goal is sustainable economic success rather than short-term profit maximization”

Dieter Reiter, Mayor of Munich: Welcome address to Munich Economic Summit May 2011. <http://www.cesifo-group.de/DocDL/Forum-3-2011.pdf> ; <https://www.swm.de/english/company/about/annual-report.html>

Re-municipalisation trends in Europe

| Sector | Process | Countries | Factors |
|------------------|---|---------------------------------|---|
| Water | Municipalisation of services | France, Hungary, Germany, Italy | Private failure, cost, control, contract expiry |
| Electricity | New stadtwerke, purchase of private companies (>€9bn); nationalisation | Germany, Hungary, Lithuania | Private failure, cost, control, contract expiry |
| Public transport | Municipalisation of contracts and concessions | UK, France | Cost, private failure, public objectives, control |
| Waste management | Contracts brought inhouse, inter-municipal incinerators | Germany, UK, France, etc | Cost, control, contract expiry |
| Cleaning | Contracts brought inhouse | UK, Finland | Cost, employment, contract expiry |
| Housing | Contracts brought inhouse | UK, Germany | Cost, effectiveness |
| | Source: Re-municipalisation in Europe Nov 2012 | | |
| Healthcare | Slovakia plans to renationalise health insurance Reuters Oct 2012 | | |

Municipalities and renewables in USA

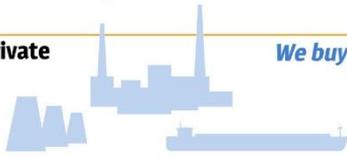
- Long tradition of public power in USA
 - supplies 14% of electricity (and co-ops a further 13%) [APPA American Public Power Association](#)
 - the only part of California to escape the blackouts of 2000 was the city of Los Angeles, which continued to be supplied by a public sector utility, the LADWP
- Municipalities commit to renewable energy through municipal energy utilities
 - [Burlington, Vermont](#) 100% renewable energy 2014, : hydro, biofuels
 - [Aspen, Colorado](#): 100% renewable energy (46% hydroelectric, 53% wind power, 1% landfill gas)
 - [Sacramento, Ca](#) : municipal company SMUD, closes nuke after 1984 vote, develops renewables
 - [Boulder City](#) decides to end private concession, create municipal utility, move to renewable energy

Public in energy: democracy, finance, solidarity

- Public sector needed for democratic accountability, public finance, solidarity
- Limits of household energy autonomy: OK for home owners, but
 - tenants have no control, little scope for solar/wind in apartments
 - Breakdowns, maintenance: need public guarantor
 - Weak solidarity: rely on grid for FiTs, backup supply, but payments?
- Limits of cooperatives: can generate and supply non-profit renewables, but
 - no responsibility/accountable to public for universal coverage, price, plans
 - 'community shares' exclude those without savings
 - Still depends on public finance for investment, FiTs/subsidies
- Limits to decentralisation: better accountability, participation, initiatives, but
 - Need nationwide public finance for FiTs, investment in R&D, tidal, etc
 - Need solidarity areas: Oval? Lambeth? London? households? Not for profits? private?
 - Need nationwide transmission grid, regional/area distribution grids
- Land (and sea) key factors needing state power and finance ([Cumbers 2013](#))
 - landowners risk-free benefit from FiTs, de facto oligopoly, esp in cities/Scotland
 - Nordic measures on land and ownership
 - Denmark: 'residency criteria' to own wind, + 'Energipakken' of public finance
 - Norway: 'hjemfallsrett' returns land/sea to public ownership
 - Offshore wind, tidal, wave huge investment requirements

Possible roadmap for moving to public ownership of energy in UK

UK energy: from the Big Six to public ownership

| Process | Current System | Let's own it | New System |
|--|---|--|---|
| Generation & Imports Fossil Fuels & Nuclear | Private  | <i>We buy some of it</i> | New public companies (national / regional / local) & some private |
| Renewables | Private & coops  | <i>Encourage investment in low carbon energy</i> | Regional/local public companies, coops, community groups & a few private |
| Transmission | Private - The National Grid  | <i>We buy it</i> | National public ownership |
| Distribution | Private  | <i>We buy it</i> | Regional & local public ownership |
| Supply to users | Private & a few not-for-profits  <p>Dominated by The Big Six: British Gas, EDF, E.ON, Npower, Scottish Power, and SSE</p>  | <i>Create new public companies</i> | Regional & local public providers - coops & small-scale private compete with the Big Six |
| Regulation | Regulation of private providers by Ofgem  | | Democratic & accountable providers |

Based on Prof. David Hall's 2016 report "Costs and benefits of public sector ownership of UK energy system". www.weownit.org.uk

Estimated cost of buying relevant companies: £24 billion

Annual benefits eg in lower prices £3.2 billion

Hall 2016 Public ownership of the UK energy system - benefits, costs and processes
www.weownit.org.uk ,
www.psiru.org