

Cynulliad Cenedlaethol Cymru Pwyllgor Amgylchedd a Chynaliadwyedd	National Assembly for Wales Environment and Sustainability Committee
Dyfodol Ynni Craffach i Gymru?	A Smarter Energy Future for Wales?
Ymateb gan Cyfeillion y Ddaear Cymru (Saesneg yn unig)	Response from Friends of the Earth Cymru
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National  
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Wales

# Friends of the Earth Cymru submission to the Welsh Assembly's Environment and Sustainability Committee's inquiry into a 'Smarter Energy Future for Wales'

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## 1. Introduction

Friends of the Earth Cymru is dedicated to protecting the environment and promoting a sustainable future for Wales.

Friends of the Earth Cymru has been at the forefront of the call for an 'Energiewende Cymru', organising an Energiewende Cymru conference last year, and we have submitted extensively on energy futures issues to the Energy and Climate Change Select Committee.

## 2. Summary

Friends of the Earth's Cymru's vision is that we in Wales create a framework to mirror that in Germany where their Energiewende (Energy transition) has led to a situation whereby the political, financial and planning structures positively support and encourage communities to start their own renewable energy projects. In Germany this has led to a situation where (in 2011) over 380,000 people were employed in the renewable energy sources industry and where only 13% of Germany's 60 GW of renewable energy is owned by the big energy utilities, with the rest being owned by households, communities, and farmers among others.

If we can remove the various current barriers to more community renewable energy projects in Wales, we would likely see an exponential increase in these projects year on year helping fight climate change, helping to meet Wales's climate change targets, stimulating technology innovation and the green economy at the same time as well as increasing energy security and crucially strengthening local economies and providing more social justice for communities.

If we think that on average, a household in Wales spends on around £616 on their electricity bills and around £797 on their gas bills then we can make a rough estimate (based on 1,319,000 households in Wales) of £1.86billion which largely flows out of Wales to the big 6 energy companies. Imagine if a greater percentage of this were spent in Wales and was circulating through local economies.

### Friends of the Earth Cymru would like to see:

- 100% renewable electricity in Wales by 2030
- That Wales receives a fair proportion of Green Investment Bank funding (GIB currently has a target of investing £330bn in the UK's green economy by 2020, so on a proportional basis of Wales having approximately 5% of the UK's population, Wales should expect £16,500,000 of investment)
- That key financial instruments such as Feed in Tariffs (FiTs) and Renewable Obligation Certificates (ROCs) be devolved to Wales and maintained at least at current levels
- That energy market rules in Wales are changed to permit and prioritise local energy supply so that people can buy electricity generated by community renewable energy groups directly rather than via large utility companies
- That the Welsh Government work with partners to plan what the right kind of transmission grid would be in Wales to support an Energiewende
- That the Welsh Government seeks the devolution of control of the electricity transmission and distribution grids serving Wales
- That Distribution Network Operators (DNOs) become subject to regulations set by Welsh Government
- That there is priority access in Wales to the National Grid for community renewable energy schemes
- That connection offers to the grid in Wales should be based on standard cost assessments with any differences in actual costs being recovered through general cost recovery by DNOs
- That there is an agreed timeframe for grid connection agreements for community renewable schemes in Wales
- That there is a presumption in favour of community renewable energy projects under the Planning System
- That the Planning System in Wales particularly values the social benefit of community owned energy schemes
- That the Welsh Government work with Local Authorities and other relevant partners to map renewables resources in community areas so that communities know where to plan their renewable energy schemes
- That the Welsh Government sets a target for energy consumption reduction in Wales
- That the Welsh Government sets a target for community renewable energy in Wales
- That the Welsh Government work with Local Authorities and other relevant partners to ensure that all publicly owned buildings (including schools) in Wales have suitable renewable energy system(s) installed on the property

2.1 Given the current context of the UK Government's systematic dismantling of the market structure for renewables, the Welsh Government needs to provide an alternative structure – this is the moment to diverge from the Westminster position. In the last three months the UK Government have: ended support and the route to market for onshore wind; changed planning rules in England to make building onshore wind almost impossible; ended the RO for solar early; announced an effective end to the Feed-in tariff (FIT) placing 20,000 jobs at risk in the rooftop solar sector alone; announced a delay to the next CfD rounds and extended the climate change levy (CCL) to cover renewable energy.

2.2 This is not just about the loss of subsidies, but about removing the mechanisms to install renewables with no replacement policies. Wales can achieve a 'smarter energy future', but it needs to create a devolved and stable financial framework, a stable legislative framework, and a devolution of powers including the control of the grid and networks to Wales to make it work.

2.3 Friends of the Earth Cymru do not believe that the current infrastructure and regulatory framework can deliver these changes at the rate of change that is necessary – the mandatory community ownership framework is not in place, Wales needs to introduce its own FITs in face of Westminster's actions, it needs to have its own Ofgem to change the way connections and supply operate, and Welsh local government needs a strong role in driving forward decentralised renewable energy projects in partnership with communities. The recent changes to planning with the creation of regional tiers could also spell trouble for the public perception of energy projects if these decisions are seen to be imposed.

2.4 Friends of the Earth's proposal is that the Committee should make a recommendation to the Assembly/Senedd/Welsh Government that an opportunity in the next five years will be offered to every citizen in Wales to purchase a share in a Welsh-based energy co-operative. For low-income households this should be facilitated by Credit Unions. The public sector should lead on anchoring the long term investment e.g. district heating anchored to hospitals where possible; and storage e.g. providing public land for the building of energy storage facilities. The business sector should lead on projects e.g. on business parks and industrial estates, acknowledging the need for a share of these projects to be offered locally, and build apprenticeship, technology and knowledge links with educational institutions. Farmers should be encouraged to develop sites on condition that shares are available for neighbouring communities.

2.5 As is demonstrated by the UK Government's current actions, there is a devastating impact on Wales's jobs and prospects as a result of some aspects of energy policy not being devolved. The Committee should recommend decisive and quick action by the Senedd/Welsh Government to demand devolution on the relevant areas.

### **3. The energy mix**

3.1 Wales can decarbonise its energy system by taking decisive action. The introduction of FiTs in Germany took around 14 years (from the first review of the original 1990 legislation) to the installation of around 160 TWh of renewable electricity in 2014 ( see <http://energytransition.de/2012/10/renewable-energy-act-with-feed-in-tariffs/>) – Wales uses around 24 TWh per year of electricity. It is therefore necessary to a) have a good, fair framework in place that rewards investment and is socially acceptable; and b) ensure that this framework is in place for the long-term (with opportunities for revision but not for scrapping).

The key actions are: create a FiT for Wales; legalise for mandatory access to the grid; legalise local supply; provide investment vehicles for storage (i.e. make the finance available); and give targets to all public authorities (including local authorities) to engage in energy production, distribution and storage. The creation of the FiT could for instance be financed through a re-banding of council tax bands and a charge on the higher band properties.

3.2 In our view the distributed generation resources that best meets Wales' renewable energy needs must be assessed by the local councils (hence the problem if planning for energy is taken away from councils and given to the regional tier). Some local authorities have already assessed their renewable resources. An estimate is that to achieve the supply of e.g. 42 TWh of electricity – this should be derived from onshore wind 4GW (£0.8 billion capital costs), offshore 6GW (£2.1 billion); tidal 4GW (£0.9billion); solar – roof and ground mounted 1GW (£0.1billion); hydro 1GW (£0.2 billion).

3.3 Heat, which is responsible for around 30% of Wales' energy use, needs some additional measures to electricity generation. Firstly this should be dealt with by demand reduction e.g. insulation and energy efficiency measures public investments in social housing and low-income households, and low interest investment loans backed by Government for home improvements. Off gas grid households could have solutions such as local biomass boilers (again supported by low interest loans backed by the Welsh Government), and for those on the gas grid but not in conurbations, biogas derived from the agricultural and food industry waste in Wales is a possible solution that needs to be explored and invested in – it has significant potential, as well as for shared CHP systems in conurbations. The main problem with digesters in Wales is that their development so far has not been in partnership with local authorities – both restricting the recycling potential of the authorities, and restricting the most efficient use of the products generated. Widespread solar thermal deployment

and ground source heat pumps should also be supported as household and business investments through a system of low-interest improvement loans.

#### **4. The grid**

4.1 The original feed in tariff legislation in Germany had grid access and grid agreements simplified – crucial to speed and scale of deployment. Wales simply has to get this done – the network operators are simply not set up to deal with household and small decentralised projects coming through at scale. In addition the costs of connection are not commensurate with the projects being connected – the upgrade to the grid to change to a decentralised web is an overall cost, rather than one which each small project carries the burden. In fact the whole layout of the grid in Wales is not set up for a small country with lots of geography. If each town and village had its own sources of electricity and heat then it needs to be able to store and use that electricity and heat in the most efficient way possible. This means that investment in storage and a ‘spider’s web’ of connections, rather than ‘spokes of a wheel’ connections radiating out from a centralised power station is required.

4.2 Wales would benefit from a far better system of regional balancing, and focussing on its own needs first and foremost – that is the point of devolution. The Welsh Government has to ask itself where the next public investments will go in the grid and who are they for.

4.3 A long view needs to be made of grid investment decisions. It makes no sense upgrading the grid to cope with a new generation of centralised power stations when there are strong drivers for decentralised electricity generation. A whole new approach to the grid needs to be explored, including the model mentioned above that provides for connections between local grids instead of a strongly centralised operation. These powers should be devolved to Wales in the upcoming Wales Act.

4.4 In terms of ownership, the Welsh Government needs to use its powers to introduce a mandatory share offer for electricity generation projects that are connected to the grid, and are larger than own use. The Danish Renewable Energy Act sets out a very clear, tried and tested example of this (<http://www.ens.dk/en/supply/renewable-energy/wind-power/offshore-wind-power/nearshore-wind-tenders/relevant-legislation>).

4.5 In terms of regulation, it has to be possible for local co-operatives and ESCOs to supply the electricity they generate to the locality in which they are generating. The University of Leeds has published a research report on the options that are possible including short, medium and long term changes. ([https://research.ncl.ac.uk/ibuild/outputs/local\\_electricity\\_supply\\_report\\_WEB.pdf](https://research.ncl.ac.uk/ibuild/outputs/local_electricity_supply_report_WEB.pdf).)

4.6 Distribution network operators must operate for the benefit of small as well as large producers. This means that engagement with small producers has to be regulated, so that the social benefits of the growth in small producers (which is not a direct benefit to the DNO) can be realised. In Germany the connection process is such that it is set out in a strict timeframe in law, and the merit order applies, so that renewable electricity is prioritised over other sources and ‘used first’.

#### **5. Storage**

5.1 Energy storage mechanisms are crucial to enable more and more renewable energy to be utilised – both in terms of increasing efficiency, and also to smooth out levels of supply to the grid. Nottingham and Manchester ([www.energy.manchester.ac.uk/research/energy-storage/](http://www.energy.manchester.ac.uk/research/energy-storage/)) are both exploring energy storage systems. Storage solutions do however require investment at this stage, and new build or public sector projects could provide opportunities to develop solutions which could then be taken forward more broadly. Home energy storage solutions are common e.g. storage of large quantities of hot water is part of having a home biomass boiler, however the intermediate level e.g. storage for a district needs to be further explored (for an example see Wilhelmsburg, Hamburg <http://www.iba-hamburg.de/en/themes-projects/energiebunker/projekt/energy-bunker.html>)

5.2 Because energy storage is in an early market phase, Wales could reap significant early mover advantage. The Welsh Government should apply considerable thought to the economic and investment potential for being a leader in this field.

#### **6. Ownership**

6.1 Local Government needs to reprise their role as an energy supplier. This makes sense in terms of the public buildings they have to service and in terms of generating an income in cash strapped times. Barnsley, Newcastle, Bristol and Manchester for example are all deploying community and local energy projects.

**Barnsley** - <https://www.barnsley.gov.uk/news/event-launches-exciting-solar-panel-scheme-for-barnsley/>

**Newcastle** - <http://www.narecde.co.uk/case-study/newcastle-city-council-energy-master-planning/#.VemXaRHBzGc>

**Bristol** - <http://www.bristol.gov.uk/page/environment/energy-service>

**Manchester** - <http://www.agma.gov.uk/latest-news/launch-of-greater-manchester-s-energy-plan/index.html>

Mandatory community ownership has been discussed extensively, but it simply needs to be done – too many of the existing onshore wind farms in Wales have no community ownership. In order to gain further public acceptance a share must be offered for investment. If the Welsh Government could consider a national administration agency (similar to Denmark) then even those costs would not fall on commercial developers of renewable energy projects in Wales.

6.2 The example of Schonau near Freiburg in Germany demonstrates how a small community can take on and manage the grid for broader public benefit. Any co-operative can employ the same trained staff as a commercial grid operator, the point is that the co-operative will deliver greater public benefits. The National Grid is a commercial operator and in 2013 made a £1.5 billion pay-out to shareholders (<http://www.theguardian.com/business/2013/nov/21/national-grid-profit-payout-shareholders-ofgem>). If the company was a not-for-profit along the lines of Dwr Cymru, that profit could have been ploughed back into the grid improvements. Wales must regain ownership of its grid as a matter of devolution.

## **7. Energy efficiency and demand reduction**

7.1 The planning system must have strong rules to shape development. The planning system in Wales is under pressure from the HBF and other volume housebuilders who have successfully lobbied for changes in England which has broken the plan-led system – speculative development is rife, and provision of affordable housing and quality are continually challenged. The issue in Wales is that with 3 development plans in force at any one time, housing must remain a local issue with the local council because of the detail of place-making – transport, access to environment, design, resource use (e.g. water, land quality) are all issues to do with a particular place and knowledge is required of that place to make the best decision. Building Regulations need to be updated as soon as possible to make Passivhaus standards a requirement for all new housing. Given the housing pressure and the number of developments on local authorities' books', now is not the time to be wasting investment building homes that will need almost immediate retrofitting. It is simply not cost effective to be making constant small upgrades. The best return on investment is to build passivhaus or zero carbon upfront, and then to reap the benefit of that over the lifetime of the building.

7.2 The benefits for Wales, across environmental, social and economic factors, could be very substantial if Wales set higher energy efficiency standards for new build housing (e.g. Passivhaus or Energy Plus). For example, housing providers in Wales would be able to export their knowledge and expertise in the enormous market in England when that country is required by European legislation to apply zero-carbon housing standards from 2021 (<http://www.epbd-ca.eu/themes/nearly-zero-energy>).

## **8. Communities - making the case for change**

8.1 Communities have to take responsibility for meeting their energy needs. It has to be about how much energy we are using, and wasting, and how we can change that. Unfortunately it is 'hard work' and therefore there need to be incentives – at the moment to retrofit your home or to engage in producing energy is difficult, time-consuming and requires all sort of hurdles to be overcome. The Committee should look at the start to finish of a householder or business journey to reduce energy use and to install renewable energy and look at what can be made easier. Business and industry should have financial incentives e.g. lower business rates directly tied to increasing their energy efficiency and investment in renewable power generation. Low interest loans are also a useful vehicle for a comprehensive retrofit programme.

8.2 In Germany, their Energiewende has been an organic process fuelled by cross part political support, financial support and more helpful planning regulations. It is imperative that we address issues such as the planning system, financial support, grid connection and supply rules.

The best thing we could do in Wales is to replicate the success of the Energiewende is to create a situation whereby communities find it easy (rather than difficult) to start and progress their own renewable projects. This involves sweeping away all the current rules and regulations which act to hinder these projects rather than support them. If communities for example were able to become direct suppliers and thereby able to offer cheaper electricity tariffs for example to households in their communities then we would see a rapid increase in community projects starting all around Wales. If people further benefitted by being able to become joint owners of a scheme by investing small amounts of money then they would further benefit and if the minimum price of investment was small then it would become attractive to all.

Communities all around Wales, whether urban or rural, wealthy or disadvantaged, all have the potential to benefit hugely from local renewable schemes with potentially cheaper fuel bills, reduction in fuel poverty, more money circulating in local economies and more long term local sustainable jobs which would in turn help sustain rural and disadvantaged areas.