

**From:** [Chris Clarke](#)  
**To:** [NDE](#)  
**Cc:** [REDACTED]  
**Subject:** Draft National Development Framework  
**Date:** 11 November 2019 22:34:50  
**Attachments:** [Wales draft-national-development-framework- WWU response Nov 19.doc](#)  
[Welsh Government National Development Framework Letter 11 November 2019.docx](#)

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Dear Madam/Sir,

We are delighted to provide a response to the above consultation and also I have enclosed a letter outlining briefly some of the work we have undertaken in the field of energy decarbonisation. WWU believe that we can play a vital role in decarbonising the gas networks and hence enable Wales to decarbonise its homes, transport and industry.

We would be delighted to continue our support to decarbonise our economy, and recently became the first company to pledge our commitment with our plan to be Net Zero ready by 2035.

I hope you find our observations of value, but in the meantime, please do not hesitate to contact me.

Yours faithfully,


Chris Clarke

Future Strategy Director

Wales & West Utilities  
[REDACTED]

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## **Consultation Response Form**

Your name	Chris Clarke
Your address	Wales & West Utilities Spooner Close Newport NP10 8FZ
Preferred contact details (email/phone/post)	
<u>Organisation (if applicable)</u>	<u>Wales &amp; West Utilities</u>



## 2. Spatial Strategy (policies 1 - 4)

The NDF **spatial strategy** is a guiding framework for where large-scale change and nationally important developments will be focused over the next 20 years.

- To what extent do you agree or disagree with the spatial strategy and key principles for development in...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
Urban areas (Policies 1, 2 & 3)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rural areas (Policy 4)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you have any comments on the spatial strategy or key principles for development in urban and rural areas, please tell us:

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### 3. Affordable Housing (policy 5)

The NDF sets out the approach for providing affordable housing, encouraging local authorities, social landlords, and small and medium-sized construction and building enterprises to build more homes.

- To what extent do you agree or disagree with the approach to increasing affordable housing?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree, in what other ways can the NDF approach the delivery of affordable housing?

### 4. Mobile Action Zones (policy 6)

- To what extent do you agree or disagree the identification of mobile action zones will be effective in encouraging better mobile coverage?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree, in what other ways can the NDF improve mobile phone coverage in the areas which currently have limited access?

## 5. Low Emission Vehicles (policy 7)

- To what extent do you agree or disagree that policy 7 will enable and encourage the roll-out of charging infrastructure for ultra-low emission vehicles?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree, in what other ways can the NDF enable and encourage the roll-out of charging infrastructure for ultra-low emission vehicles?

Low emission vehicles go beyond EV's, notably for the heavy end of transport, trains, trucks and to some degree public service vehicles. Hydrogen and compressed methane needs similar, if not more focus, given the relative high emissions from this small sector.

## 6. Green Infrastructure (policies 8 & 9)

- To what extent do you agree or disagree with the approach to maintaining and enhancing biodiversity and ecological networks?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## 7. Renewable Energy and District Heat Networks (policies 10-15)

- To what extent do you agree or disagree with the NDF's policies to lower carbon emissions in Wales using...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know	No opinion
Large scale wind and solar developments	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
District heat networks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree with the NDF's approaches to green infrastructure, renewable energy or district heat networks, what alternative approaches should we consider to help Wales to enhance its biodiversity and transition to a low carbon economy?

The wind and solar policy would be improved by considering the relevant merit of each technology and how their generation profiles meet demand over the year. Wind, whilst possibly visually more intrusive, has a better profile, better suited to seasonal demand and hence could be favoured within the planning policy.

A complementary approach to the heat policy would be to also favour other heat decarbonisation techniques such as hydrogen for industry and cities; biomethane/wind hybrid domestic heating systems and commercial hybrid systems.

The whole system approach advocated by the Welsh Government 2019 report Prosperity for All: A Low Carbon Wales, also points towards thinking of heat in relation to power and transport. Strategies would be best served by being carefully integrated. The same report, Policy 20, recommends support for the development of renewable gas. Wales is an outlier in the use of renewable gas, with only one of 45 plants connected to the gas grid. Biogas plants connected to the gas grid make best use of this valuable resource, and in combination with hybrid heating systems can produce many fold increase in efficiency. Case study 11 in the above report notes the value that an integrated approach to deploying low carbon smart technologies can deliver. This has been echoed recently by Scottish Power Energy Networks (SPEN) publication which forecasts that hybrid heating systems would be the preferred route to domestic heat decarbonisation. SPEN operate the electricity distribution network in north Wales.

Waste also has it's part to play in the over energy system. An example is the 10

MWe waste gasification plant at Barry Docks. Such plants could be upgraded to grid quality gas, providing highly valued flexible energy to balance renewable electricity production and fire hybrid heat networks.

## 8. The Regions (policy 16)

- To what extent do you agree or disagree with the principle of developing Strategic Development Plans prepared at a regional scale?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The NDF identifies three overall regions of Wales, each with their own distinct opportunities and challenges. These are North Wales, Mid and South West Wales, and South East Wales.

## 9. North Wales (policies 17-22)

We have identified Wrexham and Deeside as the main focus of development in North Wales. A new green belt will be created to manage the form of growth. A number of coastal towns are identified as having key regional roles, while we support growth and development at Holyhead Port. We will support improved transport infrastructure in the region, including a North Wales Metro, and support better connectivity with England. North West Wales is recognised as having potential to supply low-carbon energy on a strategic scale.

- To what extent do you agree or disagree with the proposed policies and approach for the North Region?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 10. Mid and South West Wales (policies 23-26)



Swansea Bay and Llanelli is the main urban area within the region and is our preferred location for growth. We also identify a number of rural and market towns, and the four Haven Towns in Pembrokeshire, as being regionally important. The haven Waterway is nationally important and its development is supported. We support proposals for a Swansea Bay Metro.

- To what extent do you agree or disagree with the proposed policies and approach for the Mid and South West Region?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 11. South East Wales (policies 27-33)

In South East Wales we are proposing to enhance Cardiff's role as the capital and secure more sustainable growth in Newport and the Valleys. A green belt around Newport and eastern parts of the region will support the spatial strategy and focus development on existing cities and towns. Transport Orientated Development, using locations benefitting from mainline railway and Metro stations, will shape the approach to development across the region. There is support for the growth and development of Cardiff Airport.

- To what extent do you agree or disagree with the proposed policies and approach for the South East Region?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have any comments about the NDF's approach or policies to the three regions, please tell us. If you have any alternatives, please explain them and tell us why you think they would be better.

Policy 17. North Wales has considerable potential to be an early adopter of hydrogen, given the regions opportunity for Carbon Capture and heat demand. This opportunity to use the Deeside National Growth Area as a trigger to progress a hydrogen economy across the UK.

Policy 23. Swansea bay has been identified (ENA Pathways Report, 2019) as a potential hydrogen cluster for industry, and thence, hydrogen for domestic and commercial heat, in addition to heavy transport.

Policy 27 and 28. Cardiff and Newport have been identified as an extension to the hydrogen cluster noted above.

Policy 32. Expansion of the airport would appear to be incompatible with climate change targets and the climate emergency declaration.

## **12. Integrated Sustainability Appraisal**

As part of the consultation process, an Integrated Sustainability Appraisal (ISA) was conducted to assess the social, economic and environmental impacts of a plan. The report identified a number of monitoring indicators, including health, equalities, Welsh language, the impact on rural communities, children's rights, climate change and economic development.

- Do you have any comments on the findings of the Integrated Sustainability Appraisal Report? Please outline any further alternative monitoring indicators you consider would strengthen the ISA.

## **13. Habitats Regulations Assessment**

As part of the development of the NDF, a Habitats Regulations Assessment (HRA) was undertaken. The purpose of the HRA process is to identify, assess and address any 'significant effects' of the plan on sites such as Special Areas of Conservation and Special Protection Areas for birds.

- Do you have any comments on the Habitats Regulations Assessment report?

## 14. Welsh Language

We would like to know your views on the effects that the NDF would have on the Welsh language, specifically on opportunities for people to use Welsh and on treating the Welsh language no less favourably than English.

- What effects do you think there would be? How could positive effects be increased, or negative effects be mitigated?

Please also explain how you believe the proposed NDF could be formulated or changed so as to have:

- I. positive effects or increased positive effects on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language, and
- II. no adverse effects on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language.

## 15. Further comments

- Are there any further comments that you would like to make on the NDF, or any alternative proposals you feel we should consider?



**16. Are you...?**

Providing your own personal response	<input type="checkbox"/>
Submitting a response on behalf of an organisation	<input checked="" type="checkbox"/>

<b>Responses to the consultation will be shared with the National Assembly for Wales and are likely to be made public, on the internet or in a report. If you would prefer your response to remain anonymous, please tick here</b>	<input type="checkbox"/>
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NDF Team,  
Planning Policy Branch,  
Welsh Government,  
Cathays Park,  
Cardiff  
CF10 3NQ

11 November 2019

Dear Sir/Madam,

Wales & West Utilities owns and operates the gas network that serves a population of 7.5 million people across Wales and the south west of England - transporting the gas that provides almost 80% of energy and heat at peak times to homes and businesses across our large operating area.

Recognised as an industry leading company providing this critical service on a 24/7 basis, we are also very sensitive to the need to constantly reduce the carbon content of what we do - in line with the ambitious UK targets for decarbonisation. Conscious of the growing focus on reducing carbon we wanted to share with you the work we are doing on this important area.

As a nation, we've already made progress on decarbonising the power supply, with increasing amounts of renewable energy. Wind, solar and hydro power - alongside gas replacing coal - have all helped make Britain's electricity supply one of the greenest in Europe. On average, more than 50% of electricity is generated by gas - either in large, efficient CCGTs that provide baseload power or smaller, flexible 'peaking plants', which support renewable energy. These plants are able to generate electricity very quickly - providing the flexibility required to enable the extensive deployment of renewable electricity generation.

Heat however is proving to be more challenging to decarbonise. 85% of homes across the UK are currently heated by gas networks like ours - with customers greatly valuing what it brings - a safe and reliable energy supply. So what contribution are we making to decarbonisation?

We have been undertaking ground-breaking research in this area over the past 5 years - with an overall objective of providing increasingly greener energy at the most affordable

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Registered in England and Wales number 5046791



price to consumers. Our work has attracted positive recognition from the UK CCC and BEIS amongst many others - with the results of our work widening the options for decarbonisation.

Some examples of our ground-breaking work are;

- **2050 Pathfinder model** - we have developed a sophisticated whole system energy simulator that forecasts future energy supply and demand. The model has already been used by a number of external organisations as well as ourselves to assess future decarbonisation scenarios - and importantly the practicality and cost of implementing these.
- **Freedom Project** - a collaborative project with Western Power Distribution and other key organisations implementing 'smart hybrid systems' into 75 properties in Bridgend. This exciting project, which combines a gas boiler with an air source heat pump all controlled by a smart control unit, has already demonstrated significant savings in carbon and cost. It provides a 'no regrets' low-cost solution to significant carbon reduction - whilst at the same time minimising disruption and cost to consumers in the home.
- **Green City Vision** - a collaboration with electricity networks, local authorities and academic institutions in Swindon. The project is using our Pathfinder model to determine the optimum source mix of energy and heat based on future demand forecasts.
- **H21 Hydrogen Project** - an exciting industry wide collaboration exploring the feasibility of substituting natural gas with hydrogen in UK gas networks. This would provide a green alternative to natural gas - and would utilise the comprehensive gas network that already exists - a network recognised as one of the safest and most reliable in the world.
- **Green Gas Connections** - over the past few years we have worked hard to connect biomethane plants to our network - plants producing low carbon 'green gas'. We now have 19 of these plants connected, capable of providing energy to over 120,000 homes. To put this into context, this green gas coming into our network already produces three times more energy than that envisaged for the Swansea Tidal Lagoon – and at a fraction of the cost. Even more interesting, the number of consumers could rise to 600,000 if the Freedom Project technology was implemented in tandem.

The next few years are clearly going to be a critical time as Wales and the UK seeks to determine the most cost-effective solutions for the future of energy - ensuring decarbonisation at the lowest practical cost to consumers. For our part, we have pledged to create a the first green gas network in the world and plan to make it Net Zero ready by 2035.

One area we believe is critical in energy decarbonisation is the use of whole systems thinking. To explain this slightly more, I have enclosed a summary of our thoughts on the next page.

If you would like to know more about the work that we are doing, and how that can help your organisation please do get in touch with me.

Yours faithfully,

Chris Clarke  
Future Strategy Director

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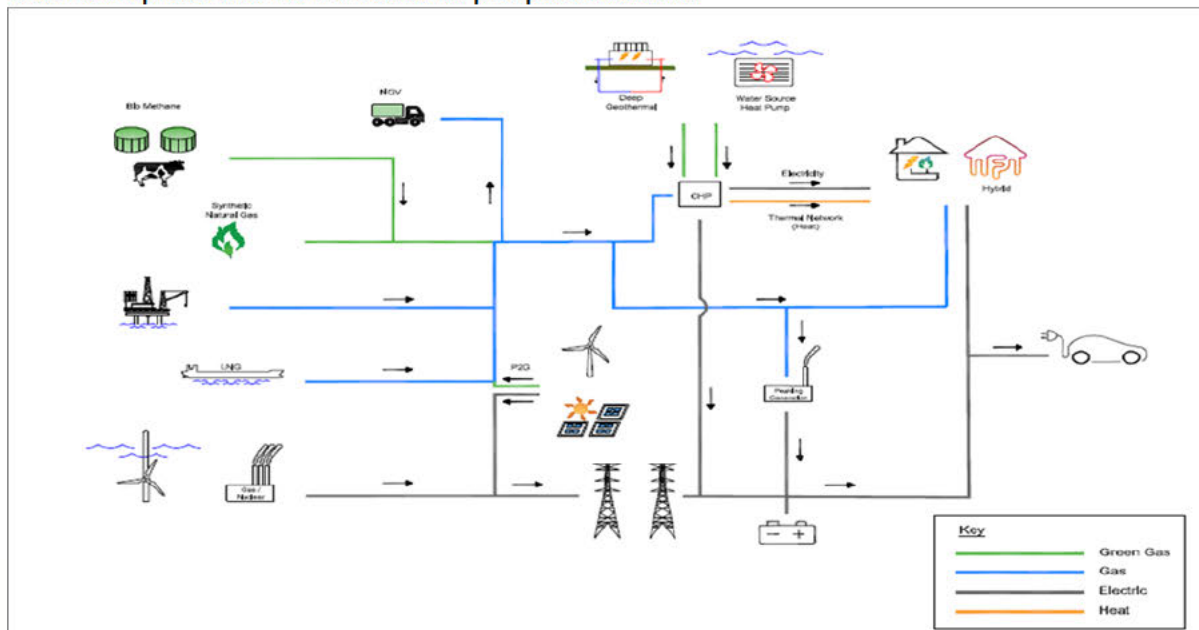
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## Whole System Thinking

A whole systems approach considers all energy demands, all energy supplies and the networks that join them together. So, a whole energy system will include appliances such as heating systems and transport, as well as sources of generation such as wind, tidal and green gases. The network will include provision of storage, flexibility and means to connect everything together in a reliable way. Networks in a whole system take responsibility for operation of the system and balancing.

It can be represented from a networks perspective below:



Examples of whole system thinking will include:

How vehicles can provide storage and can recharge when electricity is cheap and green;

How multi vector heating systems switch between say wind and green gas depending on carbon content of the grids and the balance of renewable energy generation.

Makes the best use of technology, whilst using another technology to mitigate its shortfalls – e.g. using the gas grid for its huge biogas storage potential, using the electricity grid to utilise renewable electricity.

Whole system thinking will enable the lowest cost pathway to be identified, making best use of each resource or technology. It is more challenging than traditional approaches as it requires more complex thinking and involves multiple parties, but the improvement in cost and reliability pay back the investment.

In addition to the above, some selected areas outside the above definition can be helpful, such as waste streams that can be turned into low, zero or negative carbon energy or carbon capture use and storage technology.

In the context of housing, taking a whole system approach will optimise the costs to the consumers of energy, considering not only the investment required in the home, but the costs of energy production and network charges, both of which are passed onto the consumer by their energy supplier. Studies published by the UK Committee on Climate Change (June 18) identify significant savings by adopting such a whole systems approach, noting that a hybrid heat decarbonisation pathway is the lowest cost.

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