



**This page is intentionally left blank**

## **Energy Security Select Committee**

### **Mary Thorogood**

#### **Stakeholder Relations Adviser UK (Vattenfall)**

#### **Biography**

Mary leads all UK Public Affairs for Vattenfall – covering relationships with national governments and the civil service, Members of Parliament and related stakeholders. She has previously held a similar role at the Royal Institution of Chartered Surveyors and has significant experience across all forms of political communication. She holds an MA (Distinction) in Political Communication from City University, London.

### **Mel Rogers**

#### **Local Communications Officer – Kent (Vattenfall)**

Mel is the Local Communications Officer for Kent, leading on all of Vattenfall's engagement and communications in the County. Mel is a Whitstable resident.

#### **About Vattenfall**

Vattenfall is 100 per cent owned by the Swedish state and is one of Europe's largest generators of electricity. Since arriving in the UK in late 200, Vattenfall have grown their portfolio. Vattenfall operates six wind farms across the UK totalling 612MW in operation and another 314MW under construction. Two of these windfarms – the Kentish Flats and Thanet Offshore Windfarm – are located just off of the coast of Kent. The Thanet Offshore Windfarm is one of the largest offshore windfarms in the world.

By 2017, with a capacity of almost 1GW from their onshore and offshore wind farms, Vattenfall will be generating approximately 3TWh per year, offsetting 1.3 million tonnes of CO2\* per year. Vattenfall are not just committed to helping the UK achieve its carbon targets, but to making a real contribution to local communities and the national economy; securing a sustainable energy future at the lowest possible cost to consumers.

**This page is intentionally left blank**

# **Energy Security Select Committee**

## **Hearing 3**

**Thursday 26 November 2015**

### **Witness Guide for Members**

*Below are suggested themes and questions. They have been provided in advance to the witnesses to allow them to prepare for the types of issues that Members may be interested to explore. All Members are welcome to ask these questions or pose additional ones to the witnesses via the Committee Chairman.*

### **Themes and Questions**

**Mary Thorogood - UK Public Affairs Lead, Vattenfall**

**Melanie Rogers - Local Communications Officer for Kent, Vattenfall**

- Please introduce yourselves and provide an outline of the roles and responsibilities of your post.
- In your view, to what extent is energy security an important issue and why?
- Please provide a brief outline of the current situation in relation to offshore wind in Kent and the UK.
- Please discuss your community and supply chain engagement in relation to Kent offshore wind.
- In what ways – if any – can a company such as Vattenfall work with Kent County Council in order to promote energy security in the county?
- Please describe wind farming initiatives, if any, undertaken by Vattenfall with other local authorities.
- How can local communities in Kent benefit from energy generated through offshore wind?
- What else should KCC do, in your view, to promote increased energy security?
- Are there any other issues that you would like to raise with the Committee?

**This page is intentionally left blank**

# Kentish Flats Extension

Stakeholder Newsletter

October 2014

## Work to begin on Kentish Flats Extension

Preparation work is set to begin this October on the Kentish Flats Extension (“KFE”) project. This is ahead of the main construction programme in 2015. We will be providing regular updates throughout the project to keep you informed.

### Meet Melanie!



“For those of you who haven’t met me, I am the local communications officer for KFE.”

“It’s great to see work starting on this project after all our preparation works. My main role day to day is to keep you informed, and be the main point of contact for stakeholders and communities. I’m currently putting together a new KFE blog which will act as a “one stop shop” for all the latest project news – from construction activity to our work out and about in the area. Once this is “live” I will notify you and you will be able to register for regular updates. I look forward to hopefully seeing you soon!”

### In this edition

#### Keeping you informed!



- Construction works
- Out and about
- Keeping it local

# What's coming up in 2014...

## September

### Potential Unexploded Ordnance Inspection

Prior to the work below, for safety reasons, we will be carrying out a UXO inspection concentrating on cable corridors. We will focus on areas where anomalies have been highlighted in our Geophysical surveys which took place earlier in the year. A team of expert divers will carry out this work.

## October

### Preparatory cable works

We will commence the project with preparatory cable works along the offshore cable routes. Our contractors, Bohlen & Doyen will use a water jet tool to fluidise the area of the seabed beneath and around the cable. Using the same tool, we will be able to lay the cables at their required depth with more ease when cabling activities commence in May 2015.

This work is being carried out early to ensure that any obstructions along the sea bed are dealt with to avoid delay to the project at a later stage.



Trenching

### Protecting existing cables

During the same period, concrete mattresses will be laid to protect cables belonging to the existing Kentish Flats Wind Farm and cables associated with London Array Wind Farm.



Sample of concrete mattress protection

## November

We will commence installation of our onshore cables at the end of November. All residents have been notified about this and once a finalised schedule is in place, we will hold an information day giving residents the opportunity to meet Vattenfall and its contractors, J Murphy & Sons, face to face.



We have been working closely with stakeholders (both on and offshore) and will continue to do so throughout the programme.

## Marine Environmental and Renewable Energy Programme 2014

---



Vattenfall, Crown Estates, P1 Marine Foundation and Foreshore Services continue to work with children from both Kent and London on the Marine Environment and Renewable Energy Programme 2014.

It was good to work with Tom Hawkins from Foreshore Services and we met children from Kent (including Whitstable, Herne Bay, Canterbury) and London. Many children in London seldom visit the beach, let alone have a marine expert to build on their classroom studies and bring it all to life.

### The Giant Picnic



Vattenfall/KFE recently sponsored The Giant Picnic in Herne Bay. Hundreds of people from the local community supported and attended the event.

---

*“A fantastic day for all concerned and great to make such a difference to a community event.”*

---

# Keeping it local

Vattenfall's KFE Project Team continue with their work with local companies to give them the opportunity to benefit from work associated with the project.



This year we have held two supplier events and regularly attend networking events. Kent 2020 is a great showcase for Kent businesses and we co-sponsored the Herne Bay Business Showcase back in March.

We are beginning to see a few success stories as our contractors procure their own suppliers.

#### **UK Company used for concrete mattresses**

Subsea Protection Systems Limited from Great Yarmouth, have been chosen to supply the concrete mattresses to protect existing cables.

#### **Canterbury Business Equipment to furnish our temporary accommodation at Ramsgate**

Based in Whitstable, CBE have secured a contract to supply furniture to our temporary accommodation in Ramsgate.

#### **Extra space at Whitstable Harbour to be leased**

Bohlen & Doyen will lease extra space at Whitstable Harbour for the duration of the electrical works of our project.

Procurement still continues and we hope to have further news as the project progresses.

## *Get others involved*

We want to keep as many people informed as possible as the project progresses. We are therefore in the process of constructing blog notifications and e-newsletters which will be available within the next few weeks. This information will also contain photos and water safety information and links to interesting footage as the project moves forward.

## *Meet the Project Team*

**Do you have questions about the Project?** Come along and talk to the team. We will be organising sessions prior to construction in May 2015. Keep an eye on newsletters and blogs for further information.

#### **Contact us**

Melanie Rogers, Local Communications Advisor

Military Road, Ramsgate, Kent, CT11 9LG

**T** 07817 944359

**E** melanie.rogers@vattenfall.com



# Kent County Council

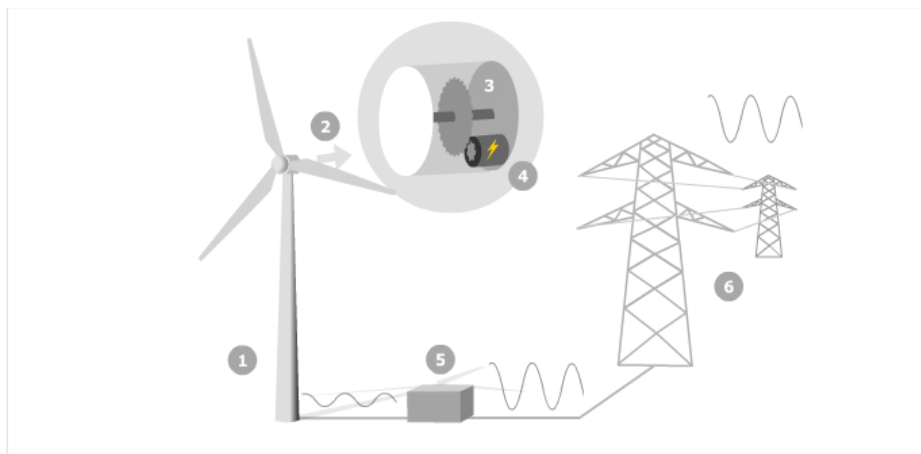
## Energy Security Select Committee

### Wind Power – An Overview

Wind power is one form of renewable energy, meaning it is not depleted when used (unlike fossil fuels such as coal and oil).

### **How It Works**

Both onshore and offshore wind turbines operate on the same principle: blades on the turbine spin a rotor connected to a gearbox and generator. As the blades spin, this movement is converted into electrical energy.



1. The wind turns the blades.
2. The blades turns a shaft inside the nacelle (the box at the top of the turbine).
3. The shaft goes into a gearbox which increases the rotation speed.
4. The generator converts the rotational energy into electrical energy.
5. The transformer converts the electricity from around 700 Volts (V) to the right voltage for distribution, typically 33,000V.
6. The National Grid transmits the power around the country.

### **Facts and Figures**

The UK is the global leader for offshore wind energy, with the potential for up to 18GW of energy to come from offshore turbines by 2020.<sup>1</sup>

The average onshore wind turbine has a capacity of 2.2MW (offshore turbines = 3.6MW). This is enough to meet the electricity needs of over 1,200 homes for a year, or fuel over 2,300 electric cars.<sup>2</sup>

<sup>1</sup> DECC (2011) UK Renewable Energy Roadmap.

<sup>2</sup> EWEA (European Wind Energy Association, 2012) Wind Energy Statistics and Targets [online] available at: [http://www.ewea.org/uploads/pics/EWEA\\_Wind\\_energy\\_factsheet.png](http://www.ewea.org/uploads/pics/EWEA_Wind_energy_factsheet.png)

As of December 2014, there are 7,826 onshore wind turbine sites in the UK, and 28 offshore sites, with wind making up 20% of the UK's renewable energy mix.<sup>3</sup>

The onshore wind industry generated £906 million in gross value added (GVA) revenue to the UK economy in 2014.<sup>4</sup>

### **Public Opinion**

As of 2015, 75% of the public support the use of renewables, with 24% strongly supporting their use. 4% oppose the use of renewables, with 1% strongly opposed.<sup>5</sup>

---

<sup>3</sup> DECC (2015) Digest of UK Energy Statistics (DUKES) 2015.

<sup>4</sup> Renewable UK (2015) Onshore wind industry adds £906 million a year to UK economy [online] available at: <http://www.renewableuk.com/en/news/press-releases.cfm/onshore-wind-industry-adds-906-million-a-year-to-uk-economy>

<sup>5</sup> DECC (2015) DECC Public Attitudes Tracker – Wave 14, London.

## Energy Security Select Committee

### Philip Jackson

**Director (Daedalus Environmental Ltd. & E3 Ltd.)**

### Biography

Philip is a director of Daedalus Environmental Limited and of Energy Enterprise and Education (E3) Ltd.

### About Daedalus Environmental & E3

Daedalus Environmental Limited is a sustainable design consultancy based in Kent. Daedalus provides an extensive array of services to the built environment industry, both to the public and private sectors. The Daedalus team is made up of experts in their respective fields, with extensive experience of sustainable buildings design. Their clients include Barratt Homes, Swale Borough Council, Taylor Wimpey, Gladedale, Gleeson Strategic Land, South East England Development Agency, BBP Regeneration, and Swan Housing. Daedalus specialises (amongst other areas) in:

- Sustainability statements for planning applications
- Energy strategies and renewable energy assessments
- Sustainable retrofitting of existing buildings
- BREEAM assessments (building sustainability certification)
- Energy audits and surveys

E3 is a not for profit organisation incorporated as a company limited by guarantee. E3 aims to work with County Councils, Boroughs and Districts, as well as LEPs, the education and private sectors to:

- Deliver carbon and energy savings
- Improve housing sustainability standards and performance
- Roll out the delivery of sustainable property standards into:
  - the “civic” estate and other non-residential property owned more generally by the public sector
  - private residential and commercial premises
- Up skill the workforce to work in the retrofit and sustainable construction sectors
- Create new business opportunities in the sector and consequently a strong, local workforce
- Use the improvements to the community as a developing “case study” to improve performance and create new R&D opportunities

**This page is intentionally left blank**

# **Energy Security Select Committee**

## **Hearing 3**

**Thursday 26 November 2015**

### **Witness Guide for Members**

*Below are suggested themes and questions. They have been provided in advance to the witnesses to allow them to prepare for the types of issues that Members may be interested to explore. All Members are welcome to ask these questions or pose additional ones to the witnesses via the Committee Chairman.*

### **Themes and Questions**

#### **Philip Jackson – Director, Daedalus Environmental Limited and Energy Enterprise and Education (E3) Ltd**

- Please introduce yourself and provide an outline of the roles and responsibilities of your post.
- Please provide a brief outline of the array of services offered by Deadalus.
- Please discuss the main issues in relation to the energy performance of new housing developments (for example, in terms of construction methods, u-values and different forms of energy supply).
- What are the key issues, if any, with regard to building regulations and planning policies?
- What is the state of the market in relation to the retrofitting of buildings? What are the main issues and barriers to implementation, if any?
- In your view, what role can KCC and local housing provider play in promoting energy security in the county? What are the benefits, if any?
- Please outline emerging retrofit technologies and opportunities.
- Are there any other issues that you would like to raise with the Committee?

**This page is intentionally left blank**

# Kent County Council

## Energy Security Select Committee

### Energy Efficiency and Retrofitting – An Overview

Retrofitting refers to the process of fitting a variety of energy saving and energy efficiency measures to existing domestic, public and private sector buildings, so as to ultimately reduce the buildings energy demand.

### How It Works

A range of energy efficiency and retrofitting measures are available to increase energy efficiency and reduce energy consumption, such as:

- Solar panels
- Double glazing
- Loft insulation (LI), cavity wall insulation (CWI) and solid wall insulation (SWI)
- Floor insulation
- Energy efficient appliances and light bulbs
- Curtains and draught excluders
- Biomass stove/boiler

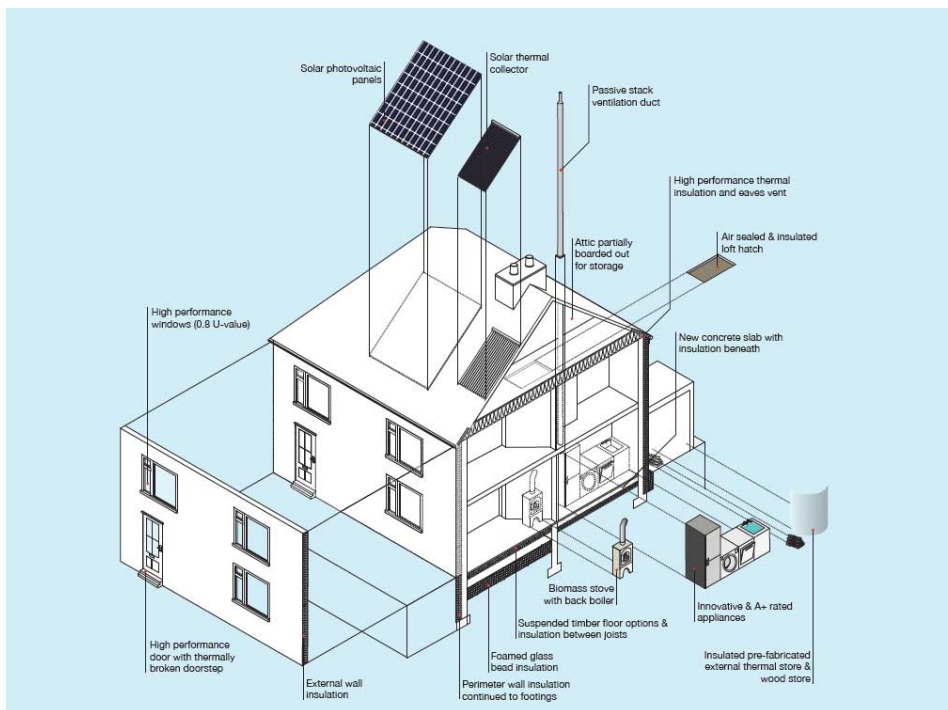


Figure 1 - Domestic Retrofitting Measures<sup>1</sup>

<sup>1</sup> URBED (2011) Community Green Deal [online] available at: <http://urbed.coop/projects/community-green-deal>

## Facts and Figures

Buildings account for 40% of total UK greenhouse gas emissions<sup>2</sup> with housing accounting for 26% of final energy consumption<sup>3</sup>

Previous government regulations (now rescinded) required non-domestic developments to be 'zero carbon' from 2019. However, new buildings account for less than 1% of the UK's overall building stock each year, suggesting that retrofitting has a significant role to play in improving energy efficiency.<sup>4</sup>

Out of a total sample of 16 financially and climatically comparable EU countries, UK housing stock achieves the following rankings (where 1 = best and 16 = worst):

- Affordability of space heating: 14<sup>th</sup> out of 15
- Share of household expenditure spent on energy: 11<sup>th</sup> out of 13
- Percentage of households in energy poverty: 13<sup>th</sup> out of 13
- Homes in poor state of repair: 11<sup>th</sup> out of 15
- Efficacy of wall insulation: 6<sup>th</sup> out of 8<sup>5</sup>

Of houses in the UK that have received an Energy Performance Certificate (EPC), 33% are rated E, F or G for energy efficiency, indicative of poor energy efficiency.<sup>6</sup>

During winter 2014/15, cold homes were an identifiable contributing factor in 13,800 deaths, and have contributed to 46,700 deaths for all winters since 2010.<sup>7</sup>

The commercial and public sector retrofitting market presents an investment need of around £3bn to 2020.<sup>8</sup>

## Public Opinion

45% of people in Kent give a lot of thought to saving energy in their home (this figure is higher for residents of Dover, Medway Thanet and Shepway), with 49% thinking about it a fair amount.<sup>9</sup>

---

<sup>2</sup> Green Investment Bank (2015) Smarter, Greener Cities: Ten Ways to Modernise and Improve UK Urban Infrastructure.

<sup>3</sup> Association for the Conservation of Energy (2013) Fact-file: The Cold Man of Europe [online] available at: <http://www.ukace.org/wp-content/uploads/2013/03/ACE-and-EBR-fact-file-2013-03-Cold-man-of-Europe.pdf>

<sup>4</sup> Green Investment Bank (2015) Smarter, Greener Cities: Ten Ways to Modernise and Improve UK Urban Infrastructure.

<sup>5</sup> Association for the Conservation of Energy (2013) Fact-file: The Cold Man of Europe.

<sup>6</sup> Gov.uk, Energy Performance Certificate rating of residential properties [online] available at: <https://www.gov.uk/government/publications/energy-performance-certificate-epc-rating-of-residential-properties>

<sup>7</sup> Association for the Conservation of Energy (2015) Chilled to Death: The Human Cost of Cold Homes [online] available at: <http://www.ukace.org/wp-content/uploads/2015/03/ACE-and-EBR-fact-file-2015-03-Chilled-to-death.pdf>

<sup>8</sup> Green Investment Bank (2015) Smarter, Greener Cities: Ten Ways to Modernise and Improve UK Urban Infrastructure.

<sup>9</sup> From a representative sample of 601 Kent residents, conducted for KCC by Facts International.

## Energy Security Select Committee

### Dr Zach Gill

#### Senior Energy Solutions Engineer (Willmott Dixon)

#### Biography

Zach is Senior Energy Solutions Engineer and CoRE (Centre of Refurbishment Excellent) Retrofit Coordinator for Willmott Dixon. Zach specialises in Building Performance, Low Energy Retrofit and Energy Performance Contracting. His work focuses primarily on the demand side of energy use, although it also includes localised energy generation and district solutions.

#### About Willmott Dixon

Established in 1852, and with an annual turnover of £1bn, Willmott Dixon are experts in construction, residential development and property support services. Across the country Willmott Dixon teams work closely a range of partners and local people to deliver sustainable developments and effective services, with a focus on long-term value. Willmott Dixons design and construction projects include:

- Affordable homes
- Energy efficiency
- Secondary schools
- Universities
- Housebuilding
- Office construction
- Local authorities
- Private rent/sale homes

Willmott Dixon provides a fully-managed service in partnership with housing providers to develop and deliver ECO schemes. An approved Green Deal provider, they also work with local authorities, registered providers, private landlords and home owners to deliver the Green Deal across the country. Willmott Dixon are actively involved in the Green Deal and co-chair the Green Deal Providers Group.

**This page is intentionally left blank**

# **Energy Security Select Committee**

## **Hearing 3**

**Thursday 26 November 2015**

### **Witness Guide for Members**

*Below are suggested themes and questions. They have been provided in advance to the witnesses to allow them to prepare for the types of issues that Members may be interested to explore. All Members are welcome to ask these questions or pose additional ones to the witnesses via the Committee Chairman.*

### **Themes and Questions**

**Dr Zachary Gill - Senior Energy Solutions Engineer, Willmott Dixon Energy Services Ltd**

- Please introduce yourself and provide an outline of the roles and responsibilities that your post involves.
- Please provide an outline of the main services provided by Willmott Dixon.
- In your view, what are the effects of increasing commercial and residential construction on Kent's energy usage?
- What challenges and opportunities may this increased construction present?
- What effects will the likely future energy needs of the UK have on the housing and construction sectors?
- In what ways does Willmott Dixon work with central government and local communities?
- In what ways is Willmott Dixon involved in promoting localised energy generation?
- In your view, what can KCC do to promote energy security in the county?
- Are there any other issues that you would like to raise with the Committee?

**This page is intentionally left blank**

## **Energy Security Select Committee**

### **News story**

## **Government announces plans to close coal power stations by 2025**

**From: Department of Energy & Climate Change and The Rt Hon Amber Rudd MP**

**First published: 18 November 2015**

The Government has announced plans to close all coal-fired power stations by 2025 and restrict their use by 2023.

Announcing the decision ahead of a major speech this morning which will set out a new direction for energy policy which has energy security at the heart of it and delivers for families and businesses, Energy and Climate Change Secretary Amber Rudd said:

“Energy security comes first and I am determined to ensure that the UK has secure, affordable, and clean energy supplies that hardworking families and businesses can rely on now and in the future.

“We are tackling a legacy of underinvestment and ageing power stations which we need to replace with alternatives that are reliable, good value for money, and help to reduce our emissions.

“It cannot be satisfactory for an advanced economy like the UK to be relying on polluting, carbon intensive 50-year-old coal-fired power stations.

“Let me be clear: this is not the future.

“We need to build a new energy infrastructure, fit for the 21st century.

“Our determination to cut carbon emissions as cost effectively as possible is crystal clear and this step will make us one of the first developed countries to commit to taking coal off our system”.

### **Notes to Editors**

The Government will consult early next year on when to close all coal-fired power stations. The consultation will set out proposals to close unabated coal-fired power stations by 2025 - and restrict use from 2023.

**This page is intentionally left blank**