



AGENDA

SELECT COMMITTEE - ENERGY SECURITY

Wednesday, 16th December, 2015, at 2.00 pm Ask for: **Denise Fitch/David Price**
Darent Room, Sessions House, County Hall, Maidstone Telephone **03000 416090/414182**

Tea/Coffee will be available 15 minutes before the start of the meeting in the meeting room

Membership

Mr J N Wedgbury (Chairman), Mr D L Brazier, Mr B E Clark, Mr A D Crowther, Mr C P D Hoare, Mr P J Homewood, Mrs E D Rowbotham, Mr C P Smith, Mrs C J Waters and Mr M E Whybrow

UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

- 14:00 – Interview with Andy Morgan (Head of Energy Management, LASER Energy Group) (Pages 3 - 8)
14:45
- 15:00 – Interview with Carolyn McKenzie (Head of Sustainable Business and Community), Dr Adam Morris (Intelligence and Commissioning Officer), Steve Baggs (Energy Manager) & Neil Hilkene (Economic & Spatial Development Officer) (Kent County Council) (Pages 9 - 20)
16:45

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

Peter Sass
Head of Democratic Services
(01622) 694002

Tuesday, 8 December 2015

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Energy Security Select Committee

Andy Morgan

Head of Energy Management for KCC's LASER Energy Group

Biography

Andy has been working in energy efficiency and procurement for 25 years since graduating as an Energy Engineer. Andy has been with LASER for 12 years. His role was initially focussed on energy efficiency within the KCC estate and Kent Schools. Andy is now 2nd in command of the LASER business and directly responsible for 3 of LASER's service areas:

1. Energy Bureau Services (Team of 9)
 - Mandatory energy and carbon reporting
 - Invoice validation
 - Energy data management
2. Energy Surveying (Team of 3)
 - Provide mandatory Display Energy Certificates for KCC, School and other LASER customer sites
 - Provide Energy Surveys and reports on saving energy
3. LED Energy Efficient Lighting service (Team of 3 plus contractor)
 - Provide a lighting upgrade service to LASER customers
 - Typically reducing electricity used for lighting by 60% to 70%

About LASER

LASER is a Commercial Service created by KCC in 1989 to procure gas and electricity through the newly deregulated energy market. LASER has now grown such that it buys around £400 million worth of energy per year for Councils and other public bodies (including Universities and NHS Trusts) across the UK.

In addition to energy procurement KCC LASER provides related services around contract management, energy invoice validation, mandatory Govt. energy and carbon reporting, and energy saving services.

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Energy Security Select Committee

Hearing 6

Wednesday 16th December 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

Andy Morgan, Head of Energy Management, LASER Energy Buying Group

- Please introduce yourself and provide an outline of the main roles and responsibilities that your post involves.
- What is LASER, and what services does it provide?
- In what ways, if any, does LASER promote energy security in Kent?
- What do you consider the most viable energy measures and methods of generation for Kent to best ensure energy security?
- Please discuss Central Government's key initiatives and policies associated with energy security.
- In your opinion, is today's energy industry infrastructure in the UK sufficiently developed to promote energy security now and in the future?
- In your view, how can KCC engage with local residents effectively in order to promote energy security in the county?
- What, in your view, can Kent County Council do to promote energy security across Kent?
- Are there any other issues that you would like to raise with the Committee?

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LASER Long-Run UK Delivered Energy Price Forecast



Electricity Index (2014/15 = 1)

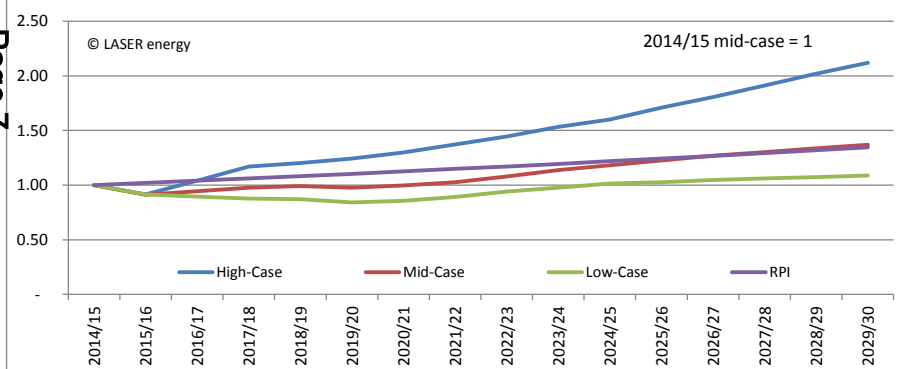
Scenario	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
High-Case	1.00	1.18	1.33	1.42	1.46	1.55	1.66	1.78	1.93	2.07	2.19	2.32	2.45	2.57	2.69	2.82
Mid-Case	1.00	1.10	1.22	1.28	1.33	1.33	1.41	1.50	1.63	1.74	1.85	1.97	2.07	2.18	2.27	2.36
Low-Case	1.00	1.02	1.06	1.11	1.15	1.08	1.14	1.22	1.29	1.36	1.44	1.52	1.59	1.65	1.71	1.77
RPI	1.00	1.02	1.04	1.06	1.08	1.10	1.13	1.15	1.17	1.20	1.22	1.24	1.27	1.29	1.32	1.35

Gas Index (2014/15 = 1)

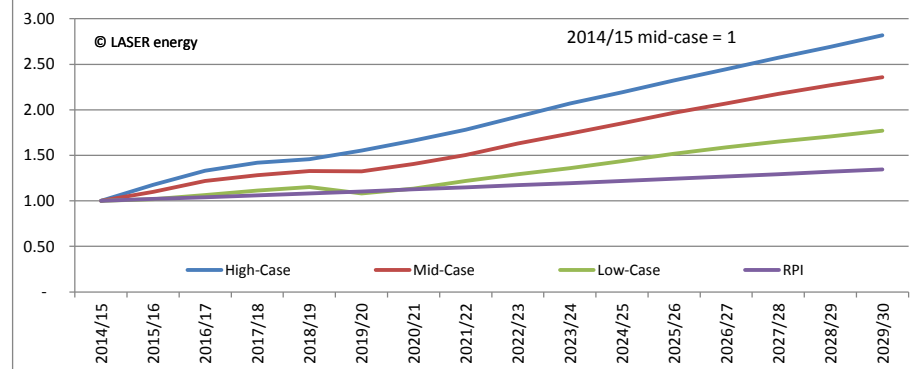
Scenario	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
High-Case	1.00	0.91	1.04	1.17	1.20	1.24	1.30	1.37	1.45	1.53	1.60	1.71	1.81	1.91	2.02	2.12
Mid-Case	1.00	0.91	0.95	0.98	0.99	0.98	1.00	1.03	1.08	1.14	1.18	1.22	1.27	1.30	1.34	1.37
Low-Case	1.00	0.91	0.90	0.88	0.87	0.84	0.86	0.89	0.94	0.98	1.02	1.03	1.05	1.06	1.07	1.09
RPI	1.00	1.02	1.04	1.06	1.08	1.10	1.13	1.15	1.17	1.20	1.22	1.24	1.27	1.29	1.32	1.35

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Projected Delivered Gas Cost Index



Projected Delivered Electricity Cost Index



Notes:

- 1) All prices are nominal (i.e. pounds of the relevant year).
- 2) Delivered energy prices can be exceptionally volatile. Ranges shown represent 90% probability levels.
- 3) Gas commodity and elec commodity price forecasts are based on National Grid Future Energy Scenarios projections 2015.
- 4) Network charge increases are based on published increases where available, then estimated changes thereafter.
- 5) Estimates are provided in good faith only, and no guarantee of future accuracy is provided.
- 6) Estimates are inclusive of estimated EMR rollout costs. At this stage, EMR pass through costs are highly uncertain and subject to change.

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Energy Security Select Committee

Carolyn McKenzie

Head of Sustainable Business and Community – KCC

Biography

Carolyn is Head of Sustainable Business and Community at Kent County Council, covering Kent County Council's environmental performance as a business, as well as the implementation of the Kent Environment Strategy. Carolyn has over 15 years of experience of working in the Low carbon and environmental field across the public, private and not for profit sector.

Dr Adam Morris

Intelligence and Commissioning Officer – KCC

Biography

Adam is responsible for supporting the strategic delivery, development and ongoing evaluation of the Kent Environment Strategy. He has previously worked on EU funded projects within Kent County Council which were aimed at supporting the growth and development of the low carbon and environmental services sector in Kent and partner regions. Previous to these roles he has experience from academia, with an MSc and PhD in geology and geochemistry; and from the private sector, with experience in both geotechnical engineering and mining consultancy, working on resource/reserve estimations for international metal and mineral deposits.

Steve Baggs

Energy Manager – KCC

Biography

Steve has 20 Years of experience of working in the energy industry, with a BA(Hons) in Economics and an MSc in Environmental Policy and Technology from Imperial College, London. He has worked for a number of local authorities on energy initiatives to reduce energy consumption and costs, as well as renewable energy initiatives. At KCC he has spent ten years working with schools and KCC estate to reduce energy costs and set up renewable energy projects, such as solar PV on Invicta House and Ashford Highways Depot. He has a background in energy

financing and funding and is currently managing the SALIX fund which allows energy efficiency measures to be installed at 0% finance through a joint KCC/Central Government Fund which is recycled.

Steve works with community organisations across Kent to reduce energy costs and look at innovative ways of financing community schemes, such as Sheppey Community Energy Trust, where he negotiated a community fund with a large solar farm developer.

At present, he is working on a District Heating network for Maidstone which is currently at the feasibility study stage.

Neil Hilkene

Economic & Spatial Development Officer – KCC

Biography

Neil is a qualified town planner and member of the Royal Town Planning Institute with 34 years experience covering development control, strategic and local planning, regeneration, conservation, environment and sustainability. He has been employed by the County Council for the past 17 years. Prior to this he held posts at Woking Borough Council, London Borough of Croydon, London Docklands Development Corporation, Gillingham Borough Council and Medway Council.

Over the past 10 years he has specialised in renewable and low carbon energy, working on projects and studies to realise the economic and community benefits from more sustainable energy solutions. He is currently leading a feasibility study to consider the viability of establishing a district heat network in Maidstone.

Energy Security Select Committee

Hearing 6

Wednesday 16 December 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

Carolyn McKenzie – Head of Sustainable Business & Community (KCC)

Neil Hilkenne – Economic & Spatial Development Officer (KCC)

Steve Baggs – Energy Manager (KCC)

Adam Morris – Intelligence & Commissioning Officer (KCC)

- Please introduce yourselves and provide an outline of the roles and responsibilities of your post.
- What role, if any, can decentralised energy and community energy initiatives play in promoting energy security for Kent?
- How important are energy demand reduction measures to an understanding of energy security?
- What, in your view, are the most viable sources of energy for Kent to take advantage of?
- What should KCC do to ensure that these energy sources are promoted and developed?
- What, in your view, are the best community initiatives or projects for Kent to take advantage of?
- What should KCC do to ensure that these community initiatives or projects are promoted and developed?
- Could you clarify for the Committee the nature of energy subsidies, and explain to what extent various types of energy are subsidised?

- What are the main risks facing Kent with regard to energy security now or in the foreseeable future?
- What steps can be taken to mitigate these risks?
- To what extent does the closure of traditional energy plant in Kent put Kent at risk of energy shortages and any related issues?
- What should KCC (and Kent) do to respond to these closures and ensure there is adequate energy supply to meet ongoing demand?
- What role can new and emerging technologies such as carbon capture and fracking play in replacing traditional power plant, and what role, if any, can KCC play in this area?
- Having heard from OVO Energy and Southend-on-Sea Borough Council: what, in your view, is the potential for KCC to act as an energy supplier to local residents?
- Are there any other issues that you would like to raise with the Committee?

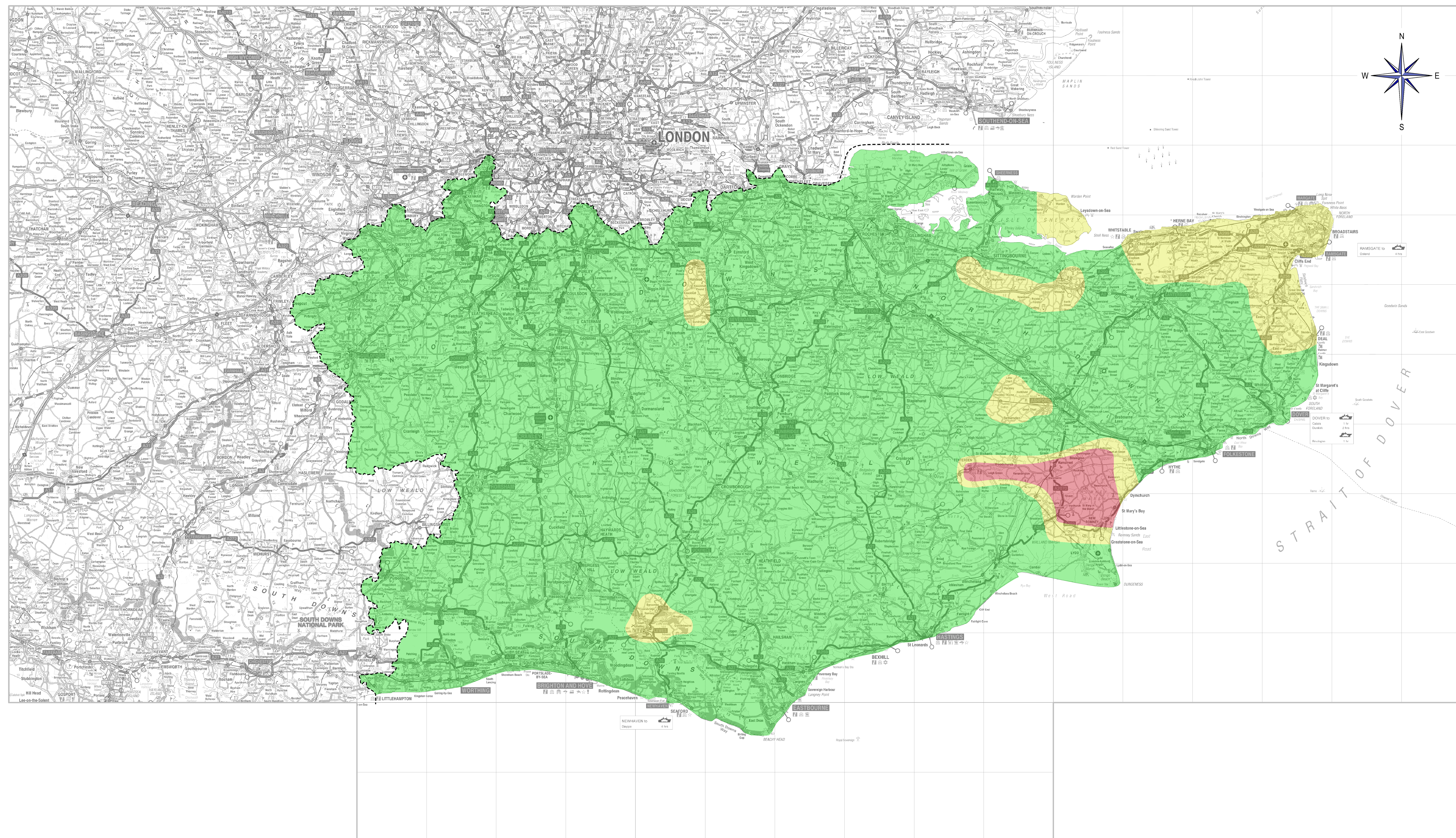
It is generally possible to connect generation equipment to the electricity distribution network at all voltages, but this capability can be restricted by a number of elements. These elements include constraints on :-

- a) the amount of new generation that can be connected relative to the existing load/demand on the system
- b) the proposed location and size of the generator
- c) the nature of our existing equipment and circuit ratings, and
- d) the amount of existing generation equipment already connected or which we are committed to connect.

The map to the left is indicative of the capability of the high voltage electrical network to accept connection of new generation equipment. The area in red indicates that the network in that area is effectively at saturation point with respect to existing generation connections. The amber and green areas indicate those parts of the networks that currently have limited (amber) and spare (green) capacity to connect new generation equipment at high voltage.

The landscape of the map will alter as new generation installations or other network changes occur and it should be used as a guide only. Please note that the map illustrates the position in relation to the high voltage network as a whole and does not distinguish between 11kV, 33kV or 132kV connections. As a general proposition, connection of new generation equipment in any area is possible but those areas in the red zone, for example, are likely to require more substantial customer investment (resulting in a higher connection charge) in order to obtain a point of connection.

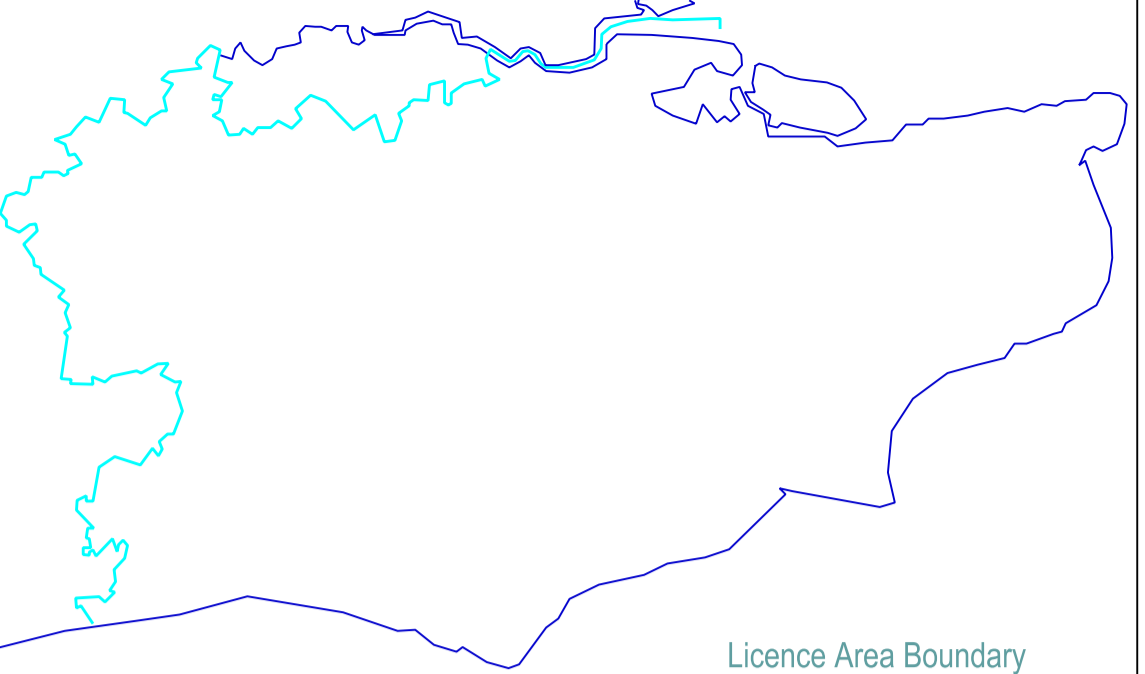
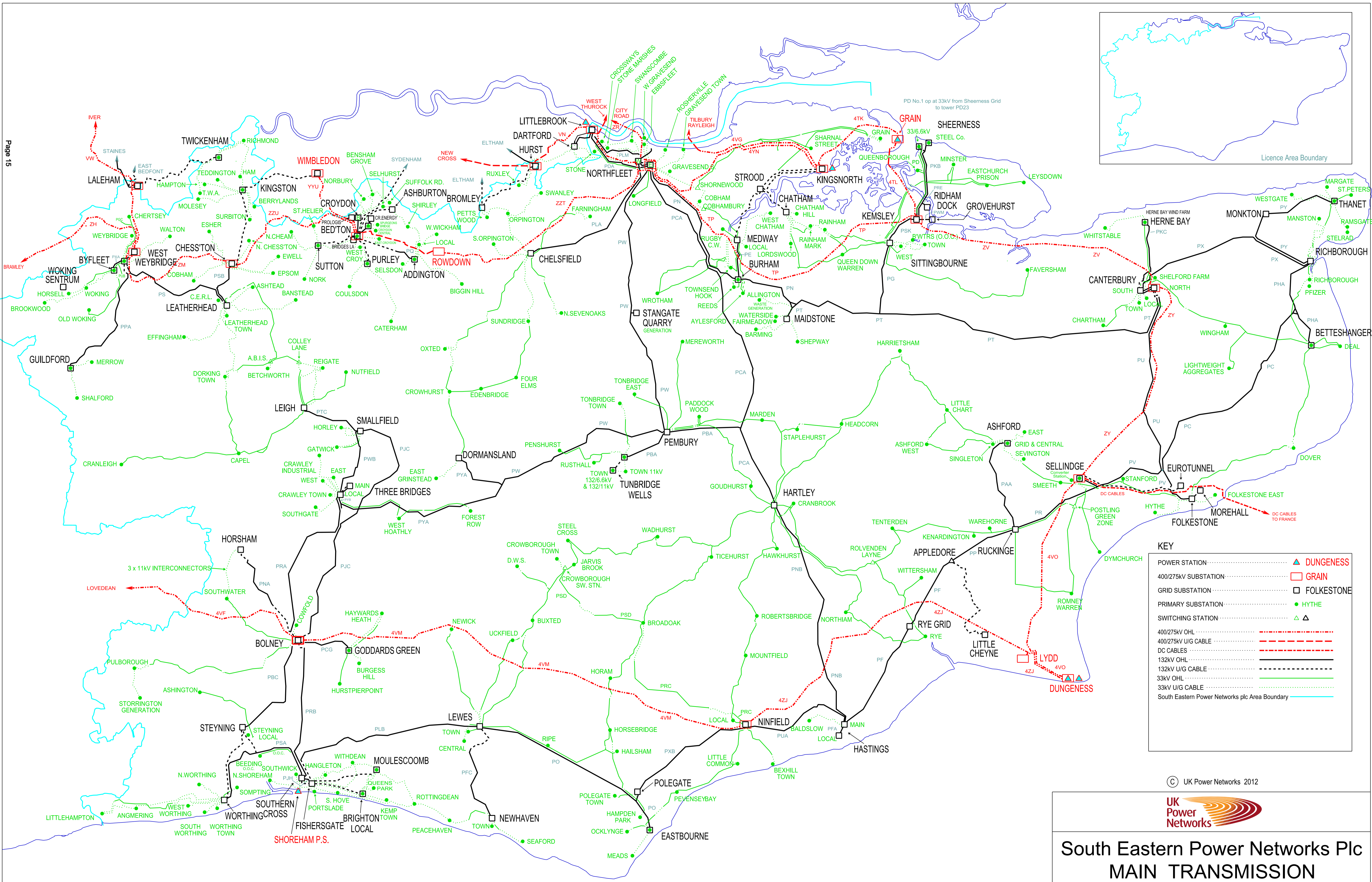
Map last updated 20th June 2013



KEY	
	HIGHLY UTILISED
	CAPACITY AVAILABLE
	SIGNIFICANT CAPACITY AVAILABLE

B	19-06-2013	CAPABILITY AREAS CHANGED - CHRIS WINCH	P.E.
A	15-05-2013	ORIGINAL	T.R.
Version	Date	DESCRIPTION	Drawn
SPN AREA GENERATION CAPACITY MAP 1:100,000 GEOGRAPHIC			
SCALE	1:250,000 @ A0	APPROVED	P.E. 19-06-13
DRAWING NO.	HQ-2000-4702/2	Version	B
SITE	General Drawings		

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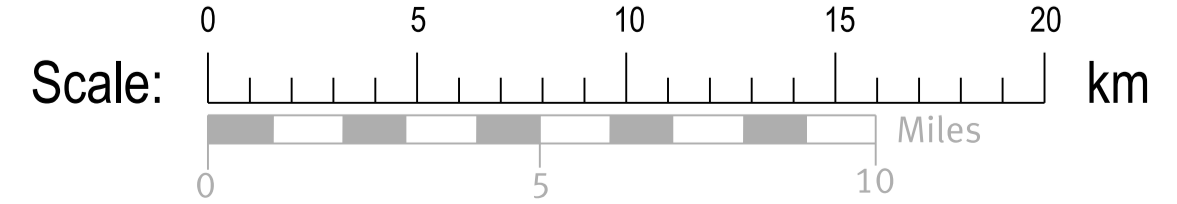
KEY

POWER STATION	▲ DUNGESS
400/275kV SUBSTATION	□ GRAIN
GRID SUBSTATION	□ FOLKESTONE
PRIMARY SUBSTATION	● HYPHE
SWITCHING STATION	△
400/275kV OHL	---
400/275kV U/G CABLE	---
DC CABLES	---
132kV OHL	---
132kV U/G CABLE	---
33kV OHL	---
33kV U/G CABLE	---
South Eastern Power Networks plc Area Boundary	---

© UK Power Networks 2012



South Eastern Power Networks Plc MAIN TRANSMISSION NETWORK



ISSUE 20	SCALE	DRAWN	CHECKED	APPROVED	DRAWING NUMBER	ISSUE
Medway-Burham 132kV OH Link on Tower Route PE	1/200,000	R.D.Hawkes (P.J.Kerr 08-01-91)			132_33NET.DGN	20

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FIT Installations Statistical Report

This report provides details of the following with regard to the Feed in Tariff (FIT) scheme:-

- Total FIT installations by technology and installation type
- Total installed capacity by technology and installation type

This report details accredited FIT installations on the Central FIT Register at the time the report was requested and run.

Confirmation dates between 01/04/2010 and 24/11/2015

Tariff Codes Selected : All

Geographical Locations Selected :

Country/s Selected : England
 Government Office Region/s Selected : South East
 Local Authority/s Selected :
 Ashford, Canterbury, Dartford, Dover, Gravesham, Maidstone, Medway, Sevenoaks, Shepway, Swale, Thanet, Tonbridge and Malling, Tunbridge Wells

Technology Types Selected : All

Technology	Domestic Installations	Domestic Installations Installed Capacity (MW)	Commercial Installations	Commercial Installations Installed Capacity (MW)	Industrial Installations	Industrial Installations Installed Capacity (MW)	Community Installations	Community Installations Installed Capacity (MW)	Total Installations	Total Installed Capacity (MW)
Hydro	1	0.004	0	0.000	0	0.000	0	0.000	1	0.004
Micro CHP	16	0.016	0	0.000	0	0.000	1	0.001	17	0.017
Photovoltaic	16503	55.595	344	9.816	14	0.374	39	0.445	16900	66.231
Wind	18	0.107	6	0.049	0	0.000	4	0.043	28	0.199
Total Installed Capacity (MW)	55.721		9.865		0.374		0.489			66.450
Total Installations	16538		350		14		44		16946	

Hydro = 12,299 kWh per annum (Load factor 35.1%)
 Micro CHP = 22,338 kWh per annum (Load factor 15%)
 Photovoltaics = 59,178,723 kWh per annum (Load factor 10.2%)
 Wind = 503,796 kWh per annum (Load factor 28.9%)

Total renewable energy generated under the FIT = 59,717,156 kWh

Please note that GB and constituent country/regional/LA totals may not match due to some installation locations not being allocated to postcode areas

Please note that the Central FIT Register is populated with data from FIT licensees and relates to a live scheme. Therefore data is subject to change without notice.

Please be aware that the category of 'community' under 'installation type' has been captured for installations since the start of the FIT scheme and can relate to all technologies. It does not refer to the Comprehensive Review Phase 2B 2012 'community energy' status for PV tariff guarantee and energy efficiency. Information relating to this can be found on the Ofgem website in the detailed quarterly installation reports.

Please note that the total number of FIT installations is a count of both original installations and any subsequent extensions.

Please note that this report does not provide details of installations that have been suspended, withdrawn, removed or terminated from the Central FIT Register and the FIT Scheme.

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Large Power Stations in Kent

(operational or under construction May 2015)⁽¹⁾

Company Name	Station Name	Fuel	Installed Capacity (MW)	Year of commission or year generation began	Location
EDF	Dungeness B	Nuclear	1050.0	1983	South East (Kent)
E.On UK	Grain CHP	CCGT	1365.0	2010	South East (Kent)
London Array Ltd	London Array	Wind (offshore)	630.0	2012	South East (Kent)
RWE Innogy UK Ltd (Part of RWE Npower)	Little Cheyne Court	Wind	59.8	2008	South East (Kent)
SSE	Medway	CCGT	700.0	1995	South East (Kent)
Vattenfall Wind Power	Kentish Flats	Wind (offshore)	90.0	2005	South East (Kent)
	Kentish Flats Extension (under construction)	Wind (offshore)	49.5	2015	South East (Kent)
	Thanet	Wind (offshore)	300.0	2010	South East (Kent)
Total			4244.3		

Interconnectors	Capacity (MW)
England (Kent) - France	2,000

Footnotes
 (1) This list covers stations owned or operated by Major Power Producers - Other power stations including many renewable sites are not included in the table.

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