

Safety Moment



Jade Clarke

Driving whilst tired

Why is it dangerous?

- You may feel in control
- It will slow your reaction time
- You may fall asleep

Who is most at risk?

- Professions – truck drivers / taxi drivers
- Shift workers
- Drive for a long period of time
- Driving on motorways / dual carriageways

Is it against the law?

- Not against the law
- Chances of you committing a driving offence when tired increases
- Could be charged with dangerous driving

Preventing accidents

Sleep!

- Avoid driving
- Power nap in a safe place



Time

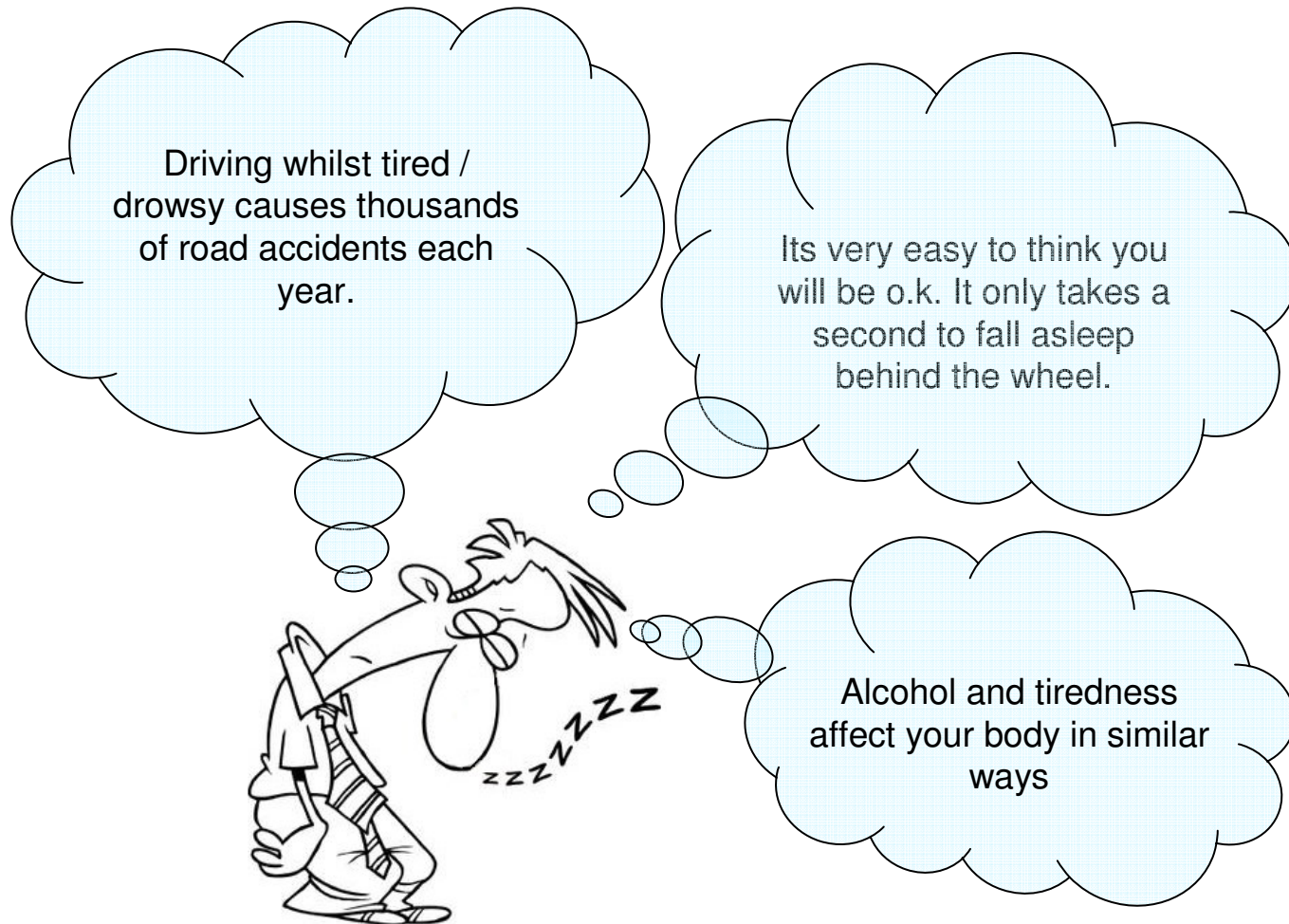
- 00:00 – 08:00
- Long Distance

Short term alertness

- Drink Coffee
- Fresh air



Thoughts to take away



Confirmation of the Defect



Defects to be considered

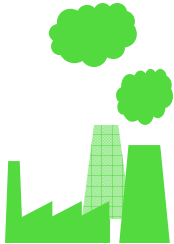
- Defects:
 - Cost reflectivity of transmission charges on distribution connected generation
 - Impact of transmission charges on competition between transmission and distribution connected generation

2012/13 value of embedded benefits



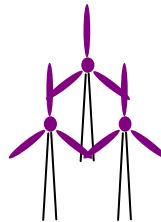
Illustrative examples: 2012/13 prices

Generator A



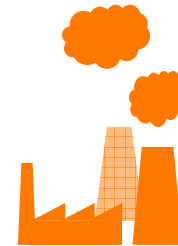
Output at peak: 90%
LF across year: 90%

Generator B



Output at peak: 5%
LF across year: 30%

Generator C



Output at peak: 90%
LF across year: 5%

Scenario 2: Generators
located in South West



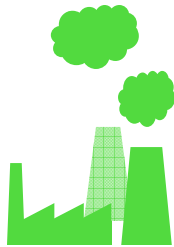
Scenario 1: Generators
located in North Scotland

Per kW

nationalgrid

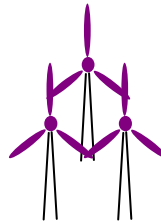
North Scotland

Generator A



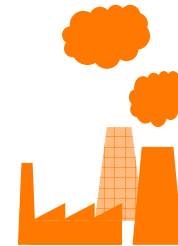
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LF across year: 30%

Generator C



Output at peak: 90%
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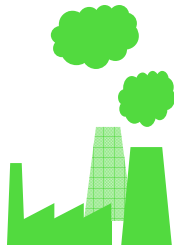
TNUoS G	£21.96	£21.96	£21.96
TNUoS D	£9.67	£0.54	£9.67
TNUoS tot	£31.63	£22.50	£31.63
BSUoS	£23.14	£7.71	£1.29
Losses	£0.66	£0.22	£0.04

Per MWh

nationalgrid

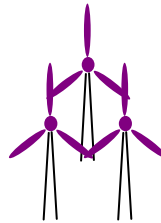
North Scotland

Generator A



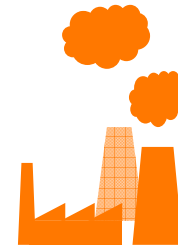
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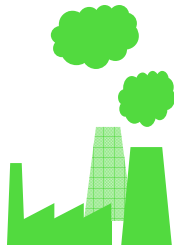
TNUoS	£4.01	£8.56	£72.20
BSUoS	£2.93	£2.93	£2.93
Losses	£2.00	£2.00	£2.00

Per kW

nationalgrid

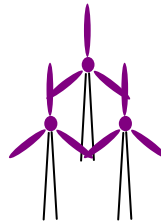
South West

Generator A



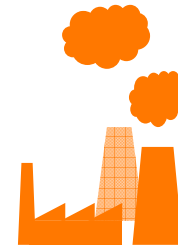
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Generator C



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LF across year: 5%

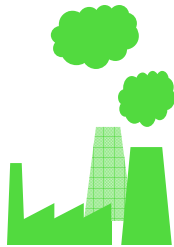
TNUoS G	-£5.68	-£5.68	-£5.68
TNUoS D	£27.96	£1.55	£27.96
TNUoS tot	£22.28	-£4.12	£22.28
BSUoS	£23.14	£7.71	£1.29
Losses	£0.66	£0.22	£0.04

Per MWh

nationalgrid

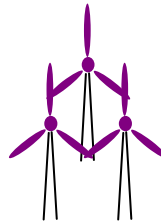
South West

Generator A



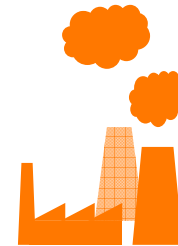
Output at peak: 90%
LF across year: 90%

Generator B



Output at peak: 5%
LF across year: 30%

Generator C



Output at peak: 90%
LF across year: 5%

TNUoS	£2.83	-£1.57	£50.87
BSUoS	£2.93	£2.93	£2.93
Losses	£2.00	£2.00	£2.00

Impact of charging bases



TNUoS Charging Bases

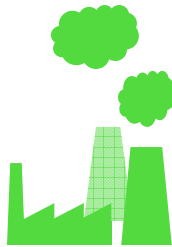
Generation +ve charging zone	Capacity (TEC)
Generation -ve charging zone	3 highest outputs Nov - Feb
Demand HH	Outputs at Triad
Demand NHH	Energy supplied period 16:00-19:00 across year

Per kW

nationalgrid

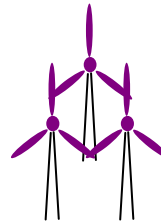
Examples

Generator A



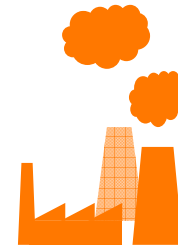
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North Scotland

TNUoS G	£21.96	£21.96	£21.96
TNUoS D	£9.67	£0.54	£9.67
TNUoS tot	£31.63	£22.50	£31.63

SW England

TNUoS G	-£5.68	-£5.68	-£5.68
TNUoS D	£27.96	£1.55	£27.96
TNUoS tot	£22.28	-£4.12	£22.28

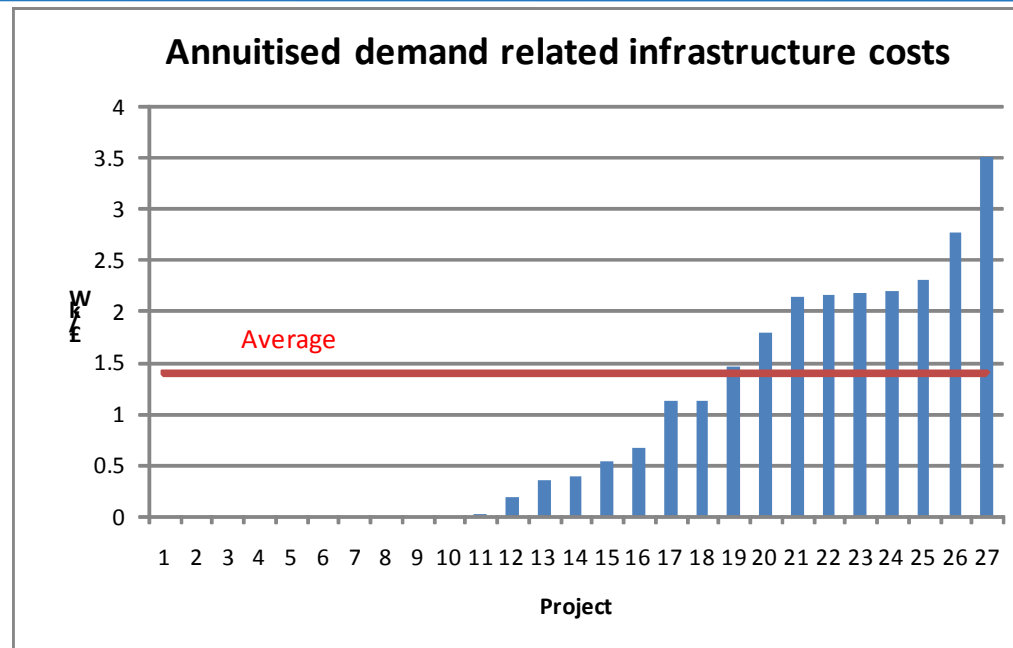
“De-facto” benefit of Embedded Generation



De-facto Benefit

- Objective:
 - Establish a value of embedding versus transmission connection
 - Refresh of previous method based on:
 - \cong Avoided GSP investment + avoided connection investment
- Approach:
 - GSP Investment: Annuitized projects for RIIO timeframe.
 - Connection Investment: avoided substation costs
 - This cost already reflected within the tariff

De-Facto Benefit



Year	De-facto	Residual
2012/13	£1.58/kW	£27.07/kW
2009/10	£1.30/kW (equates to £1.47/kW in 2012/13) ¹	£20.74/kW (equates to £23.53/kW in 2012/13) ¹

¹ RPI factor for 2009/10 to 2012/13 = 1.132992

CVA / SVA Volumes



UK Future Energy Scenarios – Gone Green

Fuel Type	2012	2013	2014
Biomass	2,520	2,542	2,565
Offshore Wind	678	678	752
Onshore Wind	2310	2455	2742
CHP	4,442	4,472	4,502
Marine	11	12	14
Hydro	541	541	541
Total	10503	10700	11117

Published 23rd July:

<http://www.nationalgrid.com/uk/Gas/OperationalInfo/TBE/Future+Energy+Scenarios>

Background

- Discussed at previous focus group meeting
 - Assertion that tx G residual similar to EDCM export capacity charge
- Comparison circulated (see next slide)
- Comments received;
 - No consideration of CDCM
 - Consideration required of other EDCM charging elements
- Full set of components for generation EDCM & CDCM charges to be discussed at next focus group meeting

CDCM & EDCM charge comparisons



EDCM export capacity charges

GSP	Company	DNO	Export capacity rate (p/kVA/day)	£/kVA/pa
P	SSE	Scottish Hydro	0.15	0.55
N	Scottish Power	SP Distribution	0.39	1.42
M	Northern Powergrid	Yorkshire	0.14	0.51
L	Western Power	South West	0.07	0.26
K	Western Power	South Wales	0.08	0.29
J	UK Power Networks	South Eastern Power Networks	0.05	0.18
H	SSE	Southern	0.08	0.29
G	Electricity North West	North West	0.11	0.40
F	Northern Powergrid	North East	0.08	0.29
E	Western Power	West Midlands	0.05	0.18
D	Scottish Power	Manweb	0.65	2.37
C	UK Power Networks	London Power Networks	0.05	0.18
B	Western Power	East Midlands	0.18	0.66
A	UK Power Networks	Eastern Power Networks	0.10	0.37

2013/14 TNUoS residual element: £4.81/kW

CDCM charge components for HV generation

Component	Equivalent T component	Notes
Unit rate 1		
Unit rate 2		
Unit rate 3		
Fixed charge		
Reactive power charge		

<http://www.energynetworks.org/electricity/regulation/duos-charges/distribution-use-of-system-final-charges-2013.html>

EDCM charge components for EHV generation

Component	Equivalent T component	Notes
Import super-red		
Import fixed		
Import capacity		
Import exceeded capacity		
Export super-red		
Export fixed		
Export capacity	Generation residual	
Export exceeded capacity		