June 2018 Forecast of 2019/20 TNUoS Tariffs Webinar

Friday 6 July 2018

10:30 – 11:30

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Agenda

- Introduction
- Timetable
- CUSC modifications
- Forecast inputs
  - Charging bases
  - Demand tariffs
  - Generation tariffs
  - Onshore and offshore local circuits
  - Revenue
- The next forecast of 2019/20 tariffs
- Q&A & Feedback

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National Grid TNUoS Team

Louise Schmitz

Development of Commercial and Charging Arrangements; CUSC and Charging Futures TNUoS forecasting and setting

Paul Wakeley

Forecasting, setting and billing TNUoS to recover £2.7bn of TO Revenue per year from generators, demand and suppliers

Tom Selby

Jo Zhou

Alice Grayson

Jennie Groome

Andrew Havvas

Jessica Rivalland

Paul Hitchcock

TNUoS Tariff forecasting and setting

Billing

Tariff timetable

2019/20 TNUoS

- ✓ Five Year Forecast: Nov 2017
- ✓ Forecast: April 2018
- ✓ Forecast: June 2018
- Draft: November 2018
- Final: January 2019

Five Year View of TNUoS

- ✓ November 2017
- August/September 2018

Changes to 2019/20 Methodology

With the Authority:

- **CMP251:** Removing the error margin in the TNUoS generation revenue cap calculation

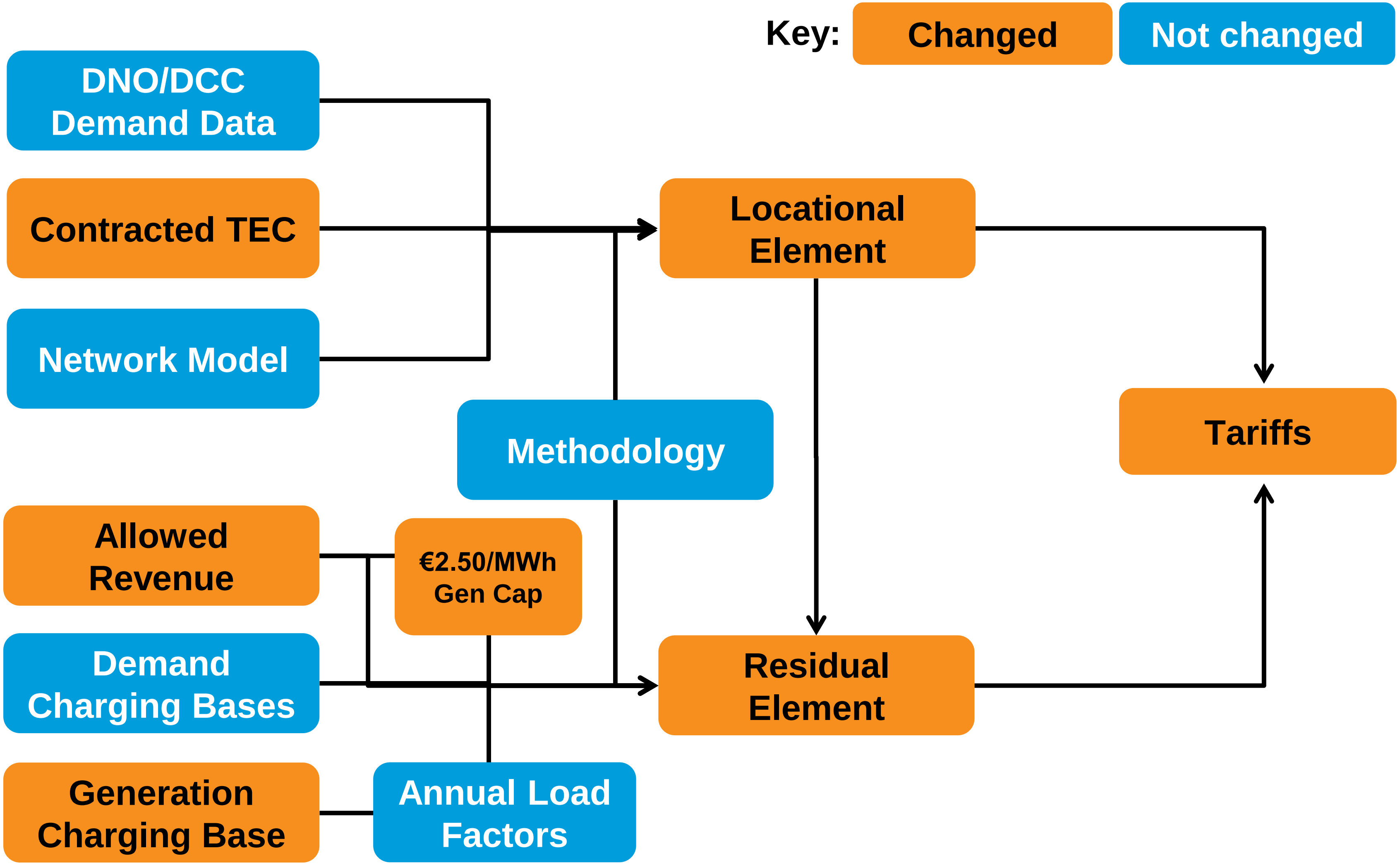
Modification in workgroup

- **CMP280:** Removing liability for TNUoS demand residual charges from generation and storage users
- **CMP286 & CMP287**: Improving TNUoS Predictability through Increased Notice of TNUoS Inputs
- **CMP292**: Introducing a Section 8 cut-off date for changes to the Charging Methodologies

REJECTED	Judicial Review on CMP264/265 – no change to 2018/19 tariffs or to 2019/20 forecast

Forecast Inputs

Changes since the April Forecast



Generation and demand volumes

- Contracted TEC have reduced by 2GW.
- Prior to 31 October, locational tariffs are derived from Best View TEC (increased by 0.2GW).
- After 31 October, locational tariffs are based on contracted TEC as on 31 October.

Generation (GW)	2018/19	2019/20 Initial Forecast	2019/20 April Forecast	2019/20 June Forecast
Contracted TEC	79.0	85.5	85.9	83.9
Modelled Best View TEC	79.0	77.7	77.5	77.7
Chargeable TEC	71.9	73.8	71.7	71.9

Demand Charging Bases	2019/20 April	2019/20 June
NHH Demand (4pm-7pm TWh)	25.5	25.5
Total Average Gross Triad (GW)	51.3	51.3
HH Demand Average Gross Triad (GW)	18.0	18.0
Embedded Generation Export (GW)	7.8	7.8

Demand Tariffs

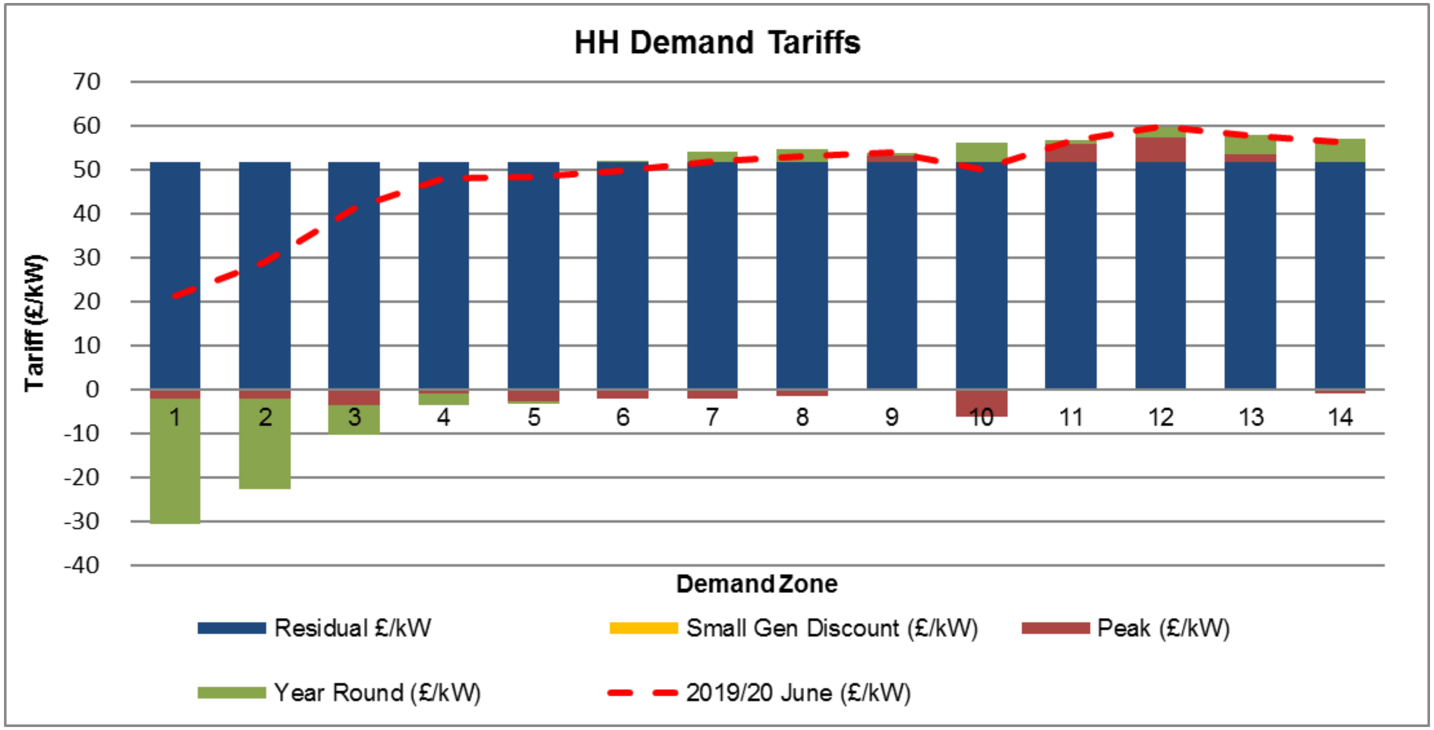
Demand Tariff

Zone	Zone Name	HH Demand Tariff (£/kW)	NHH Demand Tariff (p/kWh)	Embedded Export Tariff (£/kW)
1	Northern Scotland	21.117249	2.842582	0.000000
2	Southern Scotland	28.797132	3.769871	0.000000
3	Northern	41.292129	5.245346	7.572331
4	North West	48.128953	6.240251	14.409155
5	Yorkshire	48.421349	6.162897	14.701551
6	N Wales & Mersey	49.711398	6.267104	15.991600
7	East Midlands	51.861094	6.794004	18.141296
8	Midlands	53.158467	7.008581	19.438669
9	Eastern	53.903967	7.518310	20.184169
10	South Wales	50.052639	5.904038	16.332841
11	South East	56.648128	8.028688	22.928330
12	London	59.762093	6.338400	26.042296
13	Southern	57.828962	7.651950	24.109165
14	South Western	56.141034	7.836469	22.421236

Residual charge for demand:	£ 51.697066

- Increase in demand tariffs
  - Increase in revenue
- Changes to generation affect network flows, changes locational
- £111m payable to Embedded Exports (7.75GW) through EET (unchanged)

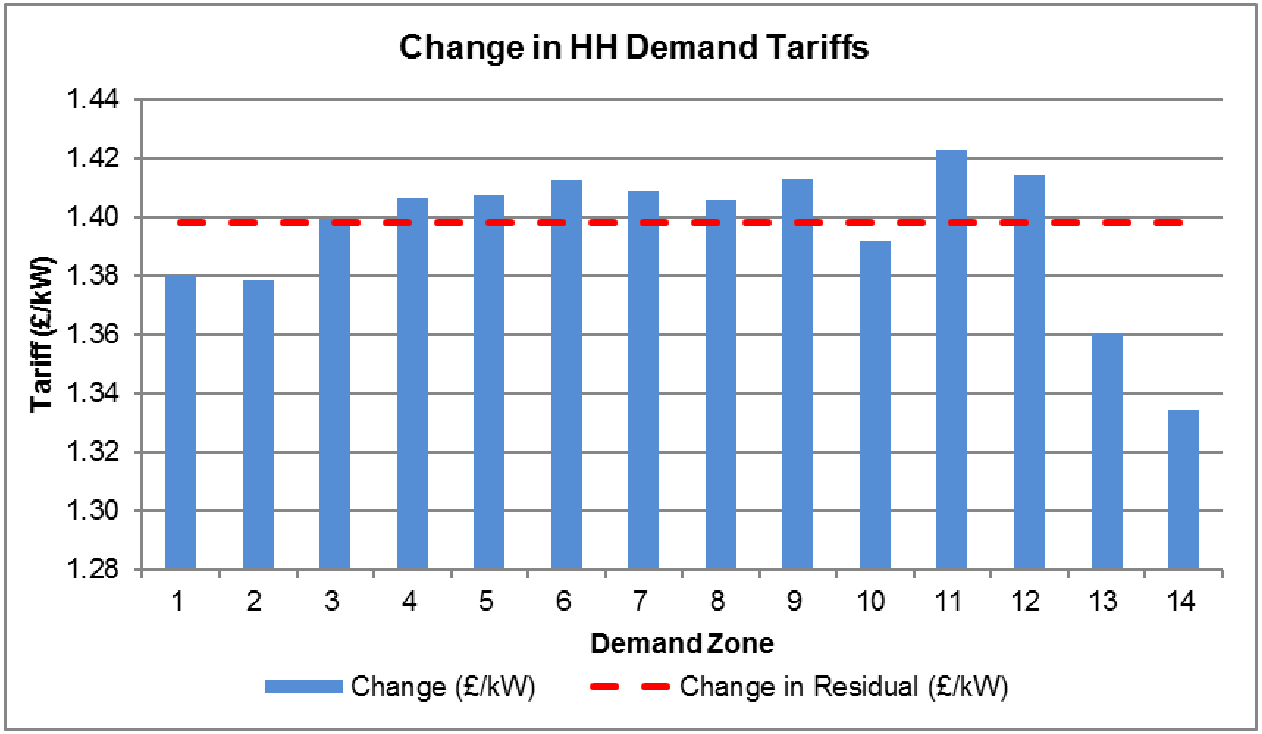
HH Gross Demand Tariff



- The average tariff is £50.75/kW, an increase of £1.39/kW due to the increase in revenue.
- The residual element of the tariffs has increased by £1.39/kW.

Changes to HH tariffs

- All tariffs change roughly by the value of the residual
- Zones 1, 2, 13, 14 affected by generation changes



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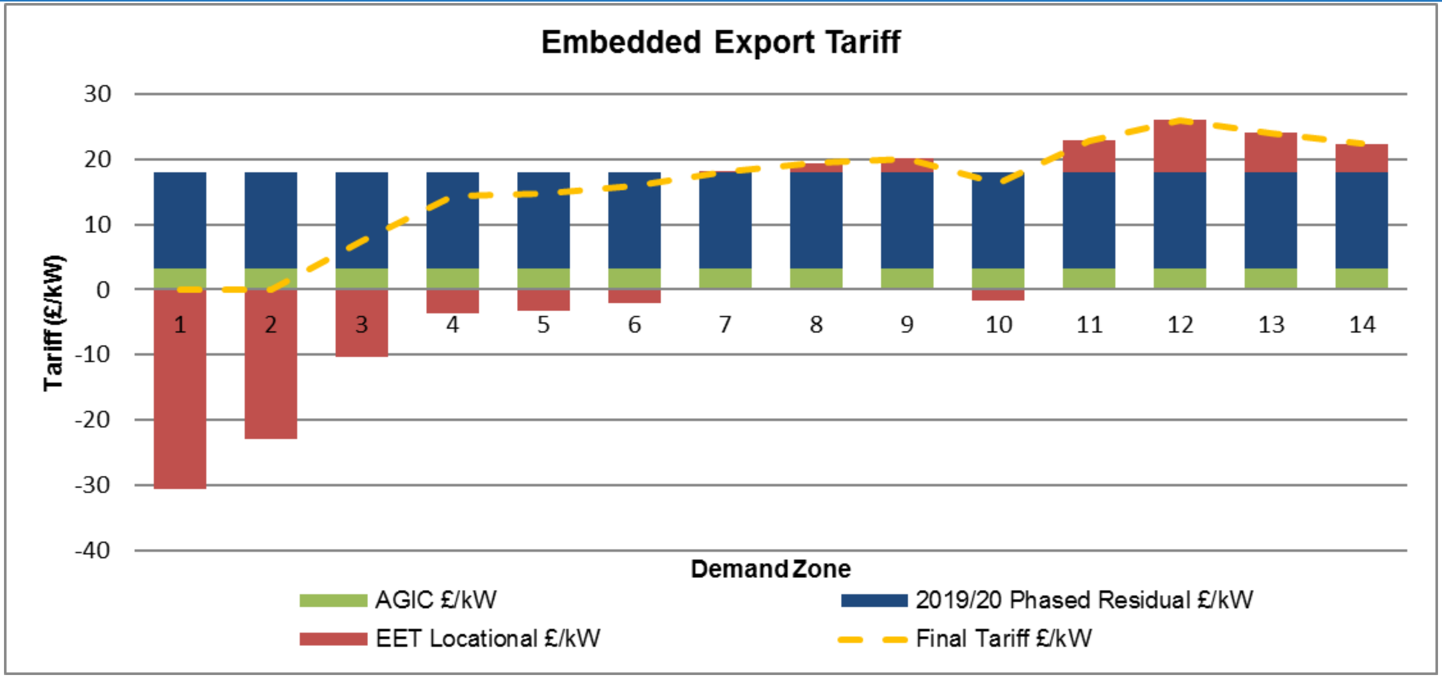
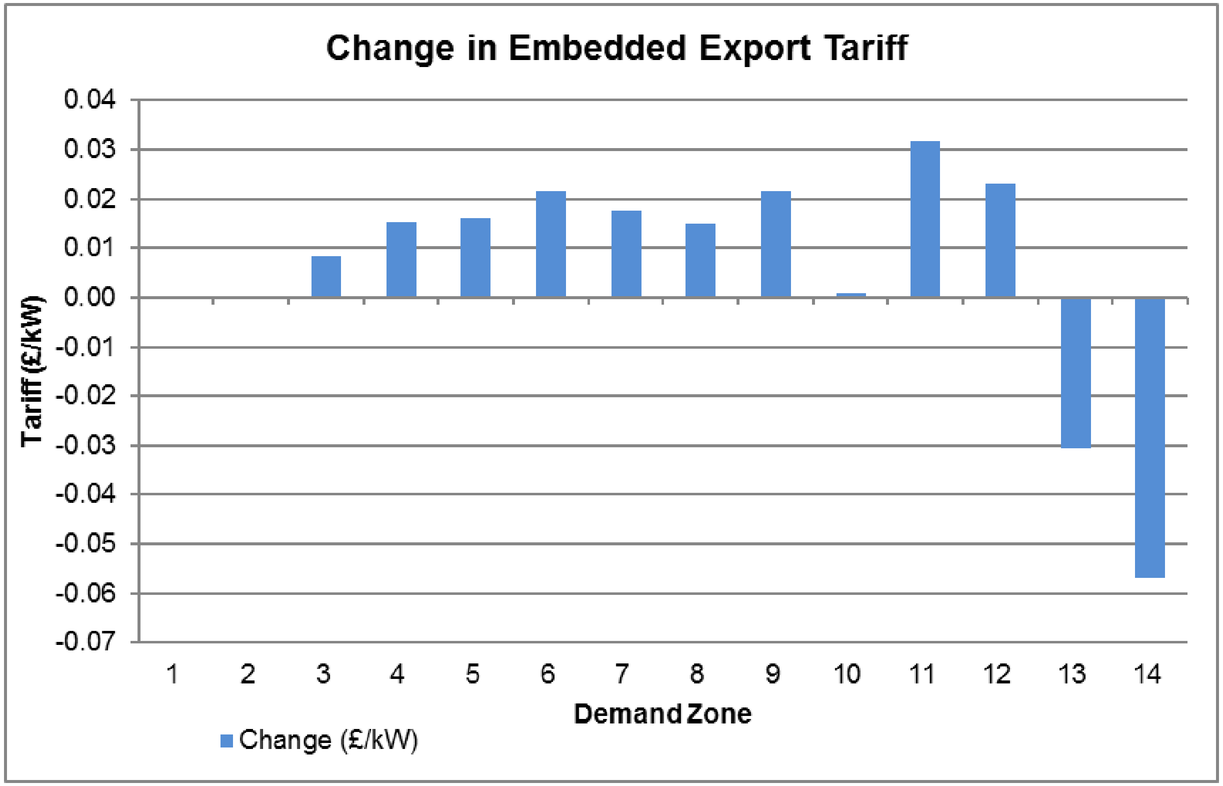
Embedded Export Tariff



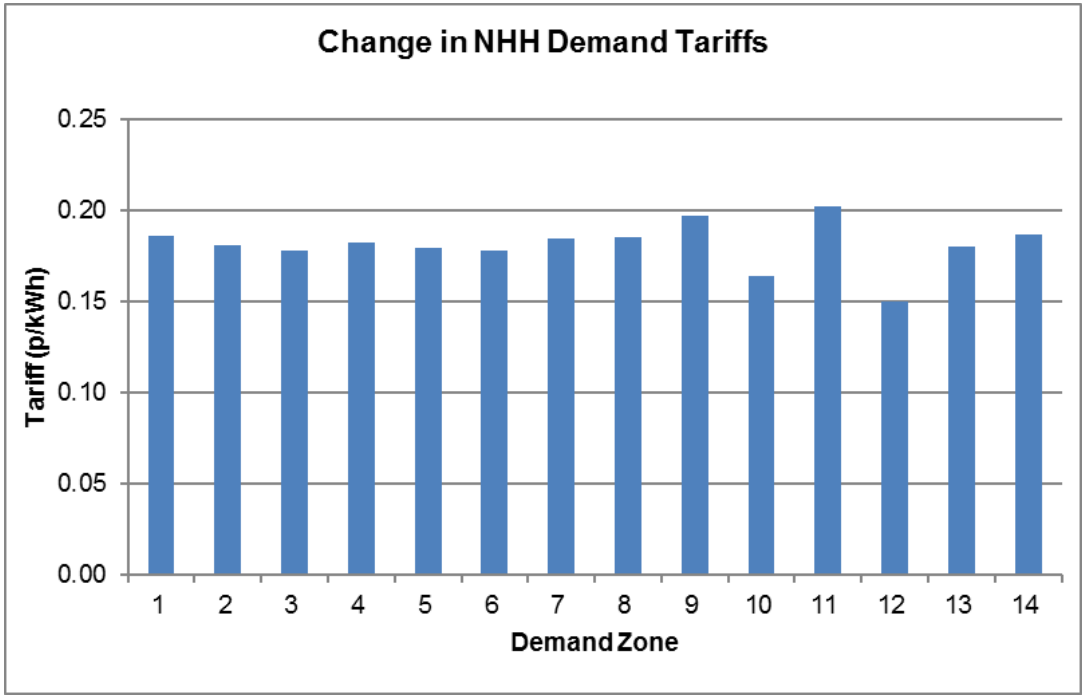
- The average tariff is £14.31/kW, increased by £0.01/kW.
- The total volume of embedded export remains 7.75GW.
- Zones 1 and 2 have an EET of £0.00/kW due to the scheduled reduction in the phased residual.

Changes to EETs

- Very small changes; consistent with HH tariff zonal changes



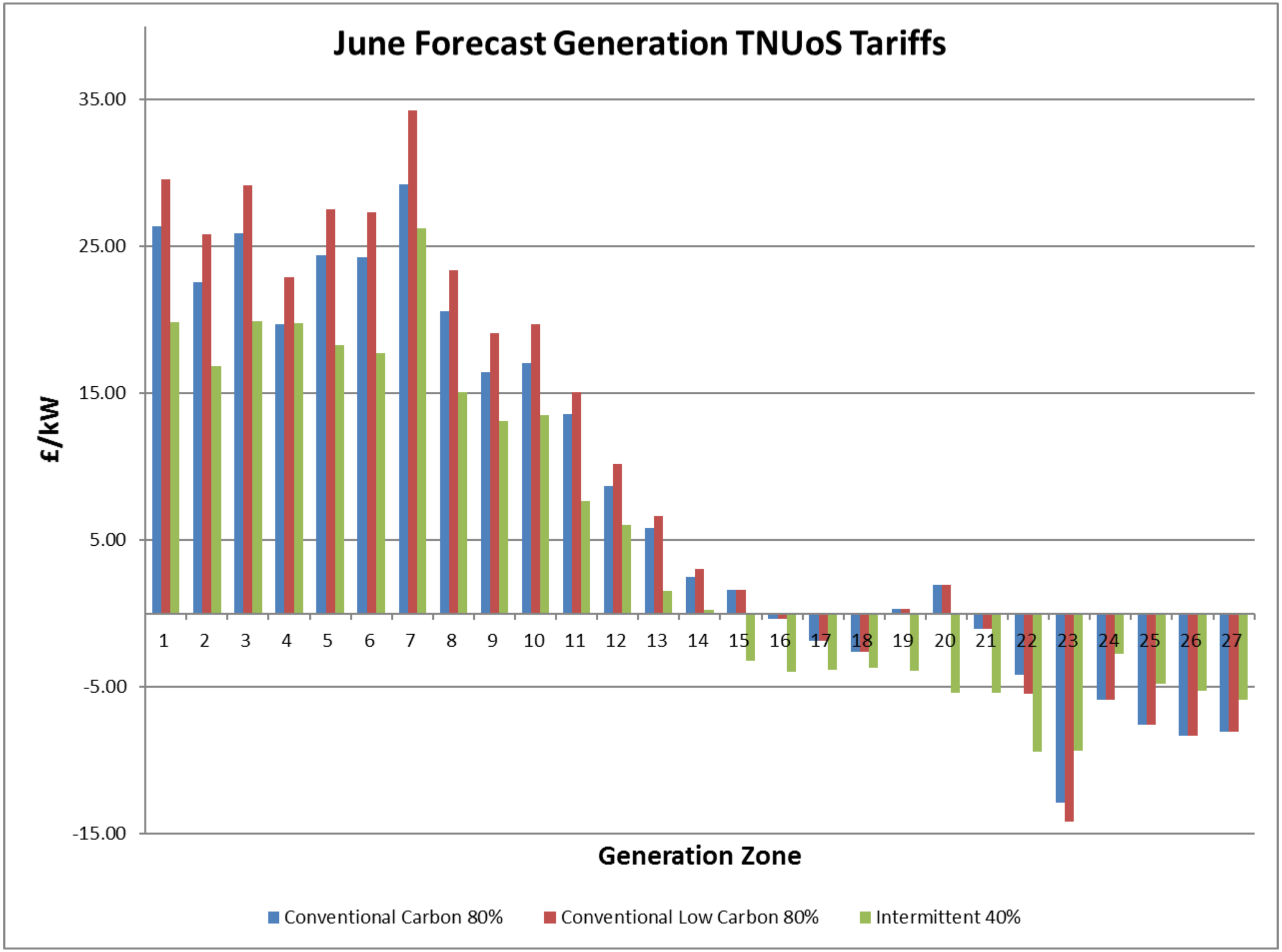
NHH Tariffs



- Average NHH tariffs have increased by 0.18p/kWh as amount of revenue to be collected has increased.
- Minimal change to HH tariffs means NHH tariffs have not varied significantly.

Generation Tariffs

Generation Tariffs



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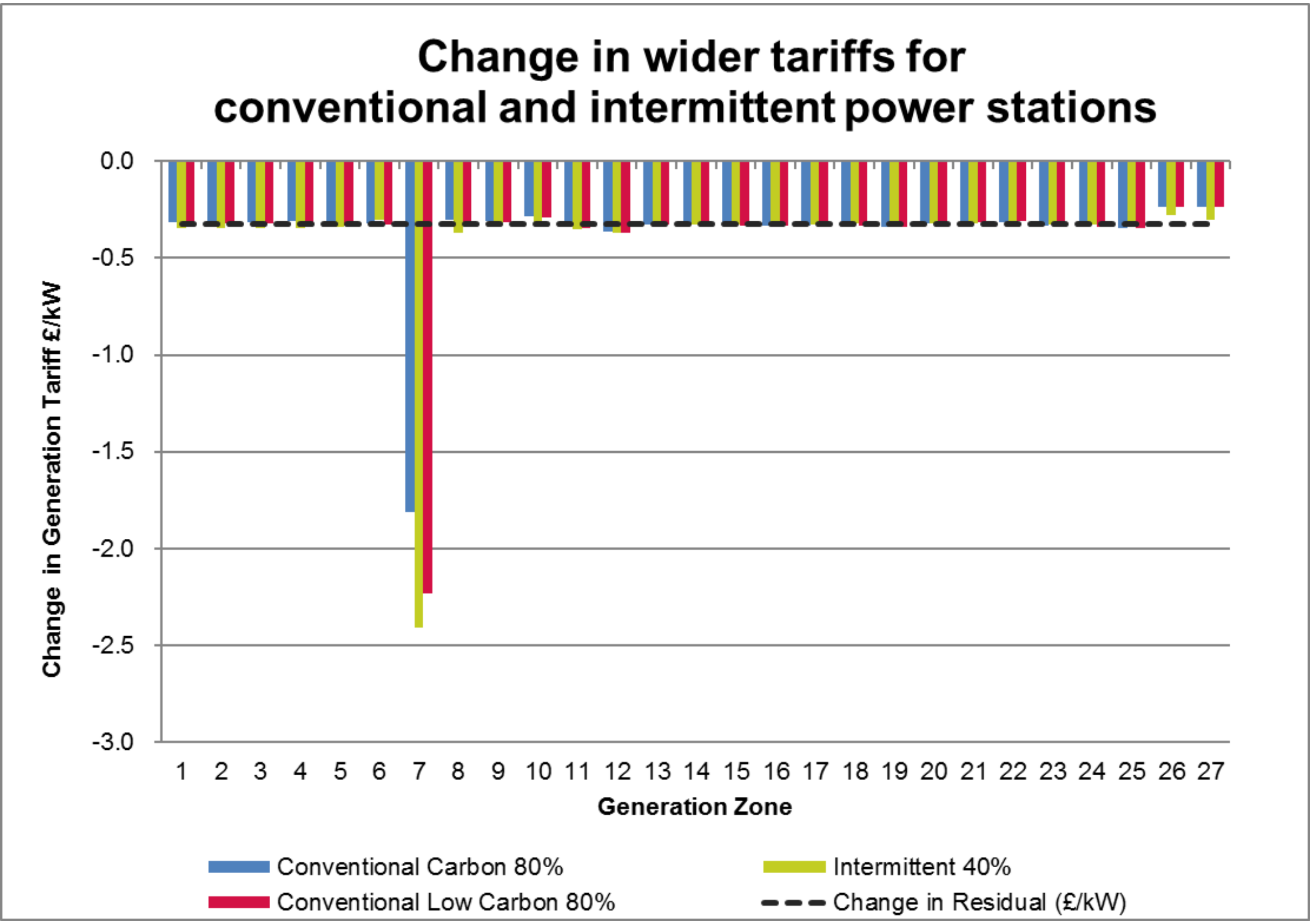
Generation Tariff Changes



- Minimal change compared to April
- Residual decreased by £0.32p
- Zone 7 volatility; reduction in generation in this zone reduce costs
- Zone 26 & 27: increase in generation

TEC changes since April

- Sizewell C, NNG anticipated in April best view of generation – no impact on Modelled TEC or Chargeable TEC in June
- Zone 7 – reduction of 50MW
- Zone 26 – increase of 140MW

Power Station	Node	MW Change	Generation Zone
Blacklaw Extension	-9	BLKX10	11
Cowes	140	FAWL40	26
Didcot B	-100	DIDC40	25
Liberty Steel Dalzell	18	WISH10	11
Morlais	120	WYLF40	19
Neart Na Gaoithe Offshore Wind Farm	-450	CRYR40	11
Beinn an Tuirc 3	-50	CAAD1Q	7
Sizewell C	-1670	SIZE40	18

Local Circuits

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Local Circuits

- In general, system flow changes are minimal on local circuits, so local circuit tariffs are relatively stable.
- Most local circuit tariffs have reduced slightly, due to a small decrease in the expansion constant caused by RPI.
- A flip of the local generation/demand balance around Nant has led to a significant reduction to its local circuit tariff.

Substation Name	(£/kW)	Substation Name	(£/kW)	Substation Name	(£/kW)	Substation Name	(£/kW)
Achruach	4.232856	Dunlaw Extension	1.479750	Lochay	0.360820	Millennium South	0.928492
Aigas	0.644872	Dunhill	1.412272	Luichart	0.565474	Aberdeen Bay	2.570844
An Suidhe	-0.941070	Dunmaglass	1.830606	Mark Hill	0.863311	Killingholme	0.700742
Arecleoch	2.047871	Edinbane	6.748067	Marchwood	0.376314	Middleton	0.109785
Baglan Bay	0.750115	Ewe Hill	1.354956	Millennium Wind	1.800785		
Beinneun Wind Farm	1.480947	Fallago	0.199323	Moffat	0.169407		
Bhlaraidh Wind Farm	0.648822	Farr	3.515507	Mossford	0.441921		
Black Hill	1.531255	Fernoch	4.337104	Nant	-1.211288		
BlackCraig Wind Farm	6.206946	Ffestiniogg	0.249457	Necton	-0.362164		
Black Law	1.722917	Finlarig	0.315718	Rhigos	0.100370		
BlackLaw Extension	3.653668	Foyers	0.742448	Rocksavage	0.017456		
Carrington	-0.032834	Galawhistle	1.458315	Saltend	0.336210		
Clyde (North)	0.108132	Glendoe	1.813672	South Humber Bank	0.934230		
Clyde (South)	0.125049	Glenglass	2.938353	Spalding	0.277642		
Corriegarth	3.108511	Gordonbush	0.196905	Strathbrora	0.069949		
Corriemoillie	1.640460	Griffin Wind	9.566769	Stronelairg	1.417537		
Coryton	0.051513	Hadyard Hill	2.729153	Strathy Wind	2.028917		
Cruachan	1.865376	Harestanes	2.474147	Wester Dod	0.368855		
Crystal Rig	0.033342	Hartlepool	0.592021	Whitelee	0.104644		
Culligran	1.708927	Hedon	0.178419	Whitelee Extension	0.290910		
Deanie	2.807523	Invergarry	1.399007	Gills Bay	2.483116		
Dersalloch	2.375095	Kilgallioch	1.037718	Kype Muir	1.462492		
Didcot	0.515265	Kilmorack	0.194729	Middle Muir	1.954443		
Dinorwig	2.365700	Langage	0.648563	Dorenell	2.069263		

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Offshore Local Tariffs

- Increased each year by RPI (May-Oct average)
- Burbo Bank Ext., Dudgeon & Race Bank tariffs will be set at asset transfer, expected during 2018/19

Offshore Generator	Tariff Component (£/kW)		
	Substation	Circuit	ETUoS
Barrow	7.975072	41.725570	1.036103
Burbo Bank	*Tariff will be published in November 2018*		
Greater Gabbard	14.952323	34.358966	0.000000
Gunfleet	17.259781	15.845830	2.961677
Gwynt Y Mor	18.209536	17.938643	0.000000
Humber Gateway	14.490628	32.695686	0.000000
Lincs	14.904088	58.352912	0.000000
London Array	10.145604	34.555363	0.000000
Ormonde	24.654641	45.929286	0.366018
Robin Rigg East	-0.456078	30.211238	9.363853
Robin Rigg West	-0.456078	30.211238	9.363853
Sheringham Shoal	23.820656	27.936049	0.607248
Thanet	18.140295	33.801853	0.813730
Walney 1	21.278124	42.375328	0.000000
Walney 2	21.123374	42.748657	0.000000
West of Duddon Sands	8.210647	40.514454	0.000000
Westermost Rough	17.288863	29.245358	0.000000

Revenue

G/D Split: revenue recovered from generation decreased

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€2.50 per MWh
x 21% Error Margin

= €1.98/MWh

Caused reduction in generation residual: -£0.32

€1.98 ÷
£:€ exchange rate of €1.12

Decreased

= £1.76/MWh

(FES Generation Forecast)
230TWh

Decreased

X

£1.76/MWh

= £403.5m Revenue to be recovered from generation

Summary of revenue to be recovered

- Generation revenue has reduced by £28m as overall revenue to be recovered has increased by £42.5m (indicative only); resulting in an increase in revenue recovered from demand of £71m

	2019/20 April	2019/20 June
Limit on generation tariff (€/MWh)	2.50	2.50
Error Margin	21.0%	21.0%
Exchange Rate (€/£)	1.13	1.12
Total Revenue (£m)	2,835.8	2,879.3
Generation Output (TWh)	247.0	229.8
% of revenue from generation	15.2%	14.0%
% of revenue from demand	84.8%	86.0%
Revenue recovered from generation (£m)	431.8	403.5
Revenue recovered from demand (£m)	2404.0	2475.7

Revenue

- Total revenue is £2879.3m, £43.5m more than the April forecast.
- We have included a £42.5m forecast of the correction item, for under-recovery in 2017/8, and £1m in additional OFTO revenue.
- Major update expected in November, following TOs' annual regulatory reporting, as per the relevant STC procedures

£m Nominal Value	2018/19 TNUoS Revenue	2019/20 TNUoS Revenue				
	2018/19 (fixed forecast)	Initial Forecast	April Forecast	June Forecast	Nov Draft	Jan 2019 Final
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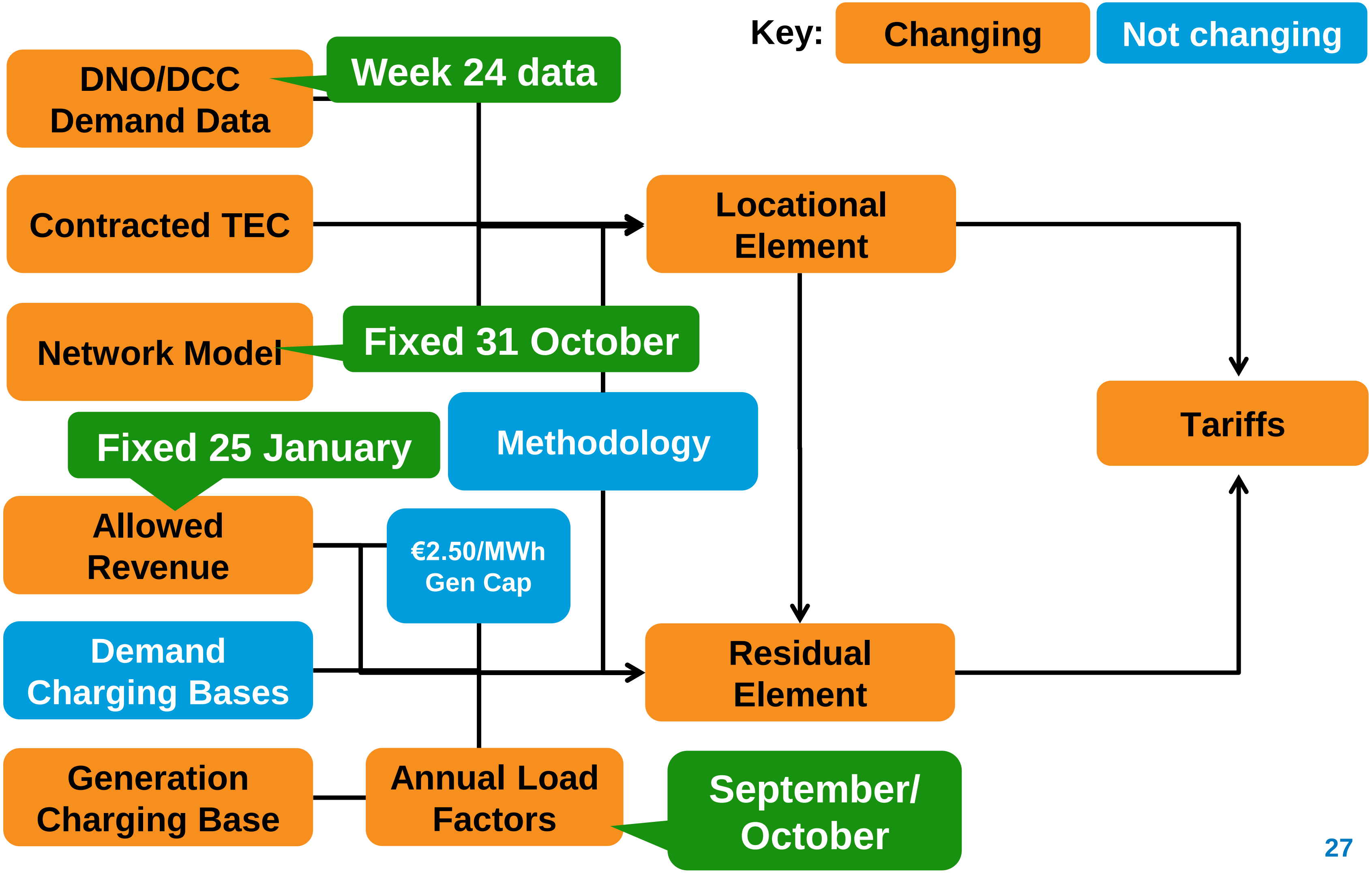
Price controlled revenue	*1,653.9*	*1768.5*	*1728.1*	*1,770.6*		
Less income from connections	*44.0*	*41.9*	*44.0*	*44.0*		
Income from TNUoS	**1,609.9**	**1,726.6**	**1,684.1**	**1,726.6**		
Scottish Power Transmission						
Price controlled revenue	*364.8*	*404.5*	*404.5*	*404.5*		
Less income from connections	*14.9*	*14.5*	*14.5*	*14.5*		
Income from TNUoS	**350.0**	**390.0**	**390.0**	**390.0**		
SHE Transmission						
Price controlled revenue	*369.8*	*352.9*	*352.9*	*352.9*		
Less income from connections	*3.4*	*3.5*	*3.5*	*3.5*		
Income from TNUoS	**366.4**	**349.4**	**349.4**	**349.4**		
Offshore	*318.1*	*466.7*	*386.5*	*387.4*		
Network Innovation Competition	*32.7*	*42.5*	*32.7*	*32.7*		
EDR						
Interconnectors (Cap & Floor)	*(6.8)*	*(6.8)*	*(6.8)*	*(6.8)*		
Total to Collect from TNUoS	**2,670.3**	**2,968.4**	**2,835.8**	**2,879.3**		

Next forecast of 2019/20 TNUoS tariffs

Updates due in the November forecast



Q & A

Contact Us charging.enquiries@nationalgrid.com 01926 654633

Next forecast: Five-Year View of TNUoS

- We published an open letter seeking feedback on the content of our next Five-Year View to be published this summer
- The deadline for responses is Friday 6 July...
- The letter can be found here on our website:

www.nationalgrid.com/TNUoS

https://www.nationalgrid.com/sites/default/files/documents/TNUoS%20FYV%20June%202018.pdf

Feedback

- We are looking at ways we can improve the experience of all our customers.
- We welcome your feedback on your experiences of the TNUoS tariff forecasting and setting process.

https://www.surveymonkey.co.uk/r/9JKLPTN

- We are happy to discuss TNUoS queries at **charging.enquiries@nationalgrid.com**

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Thank You

Contact Us charging.enquiries@nationalgrid.com 01926 654633