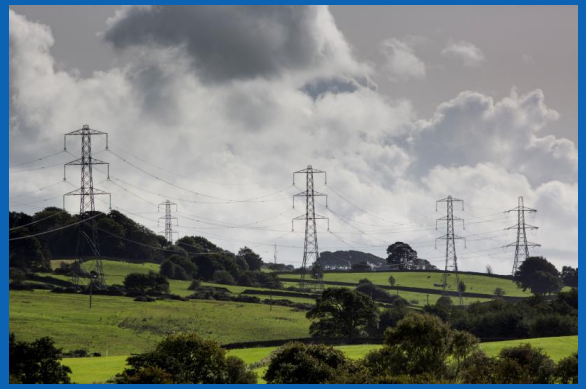
TNUoS Forecasting Seminar





National Grid House, Warwick

23 November 2017

Welcome

Paul Wakeley
Revenue Manager

Housekeeping

National Grid TNUoS Team

Louise Schmitz

Oversees the TNUoS and the CUSC Development Teams

Paul Wakeley

Forecasting, setting and billing TNUoS tariffs

Shiv Dhami	Shona Watt	Jo Zhou	Tom Selby	Jessica Neish	Paul Hitchcock	Elena Gershtanskaya
						

TNUoS Tariff forecasting and setting | **Billing** | **Accounting**

Agenda

Welcome & introduction	**10:00**
TNUoS overview	**10:10**
Coffee Break	**11:30**
TNUoS tariff forecasting process	**11:40**
Longer term CUSC modification proposals and Targeted Charging Review	**12:20**
Q&A	**12:45**
Lunch / Team available for drop in Q&A	**13:00**
Close	**14:00**

Feedback

- We welcome your feedback
- **There will be a feedback questionnaire at the end of today**
- We are always looking at ways to improve these events, and looking at new events and routes to meet your needs

TNUoS Queries

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TNUoS Overview

What is TNUoS and Who Pays

Paul Wakeley

What is TNUoS?

TNUoS
Transmission Network Use of System Charges
£2.6bn TO Revenue

BSUoS
Balancing Services Use of System Charges
£1.2bn SO Revenue

Connection Charges
£200m TO Revenue

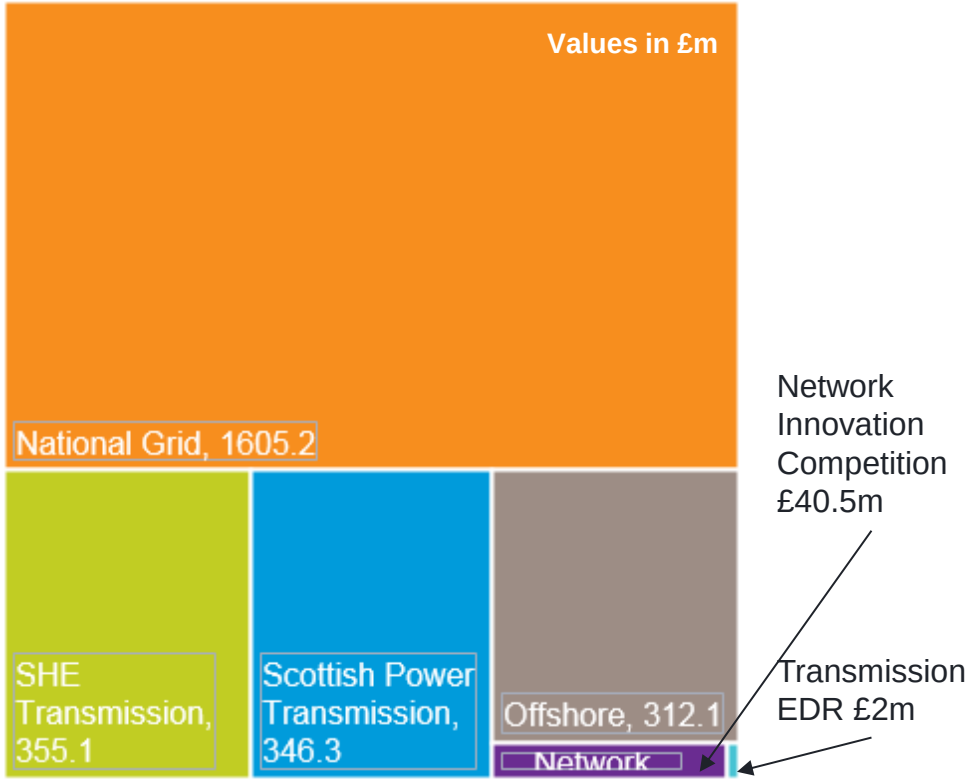
What is TNUoS?

TNUoS
Transmission Network Use of System Charges
£2.6bn TO Revenue

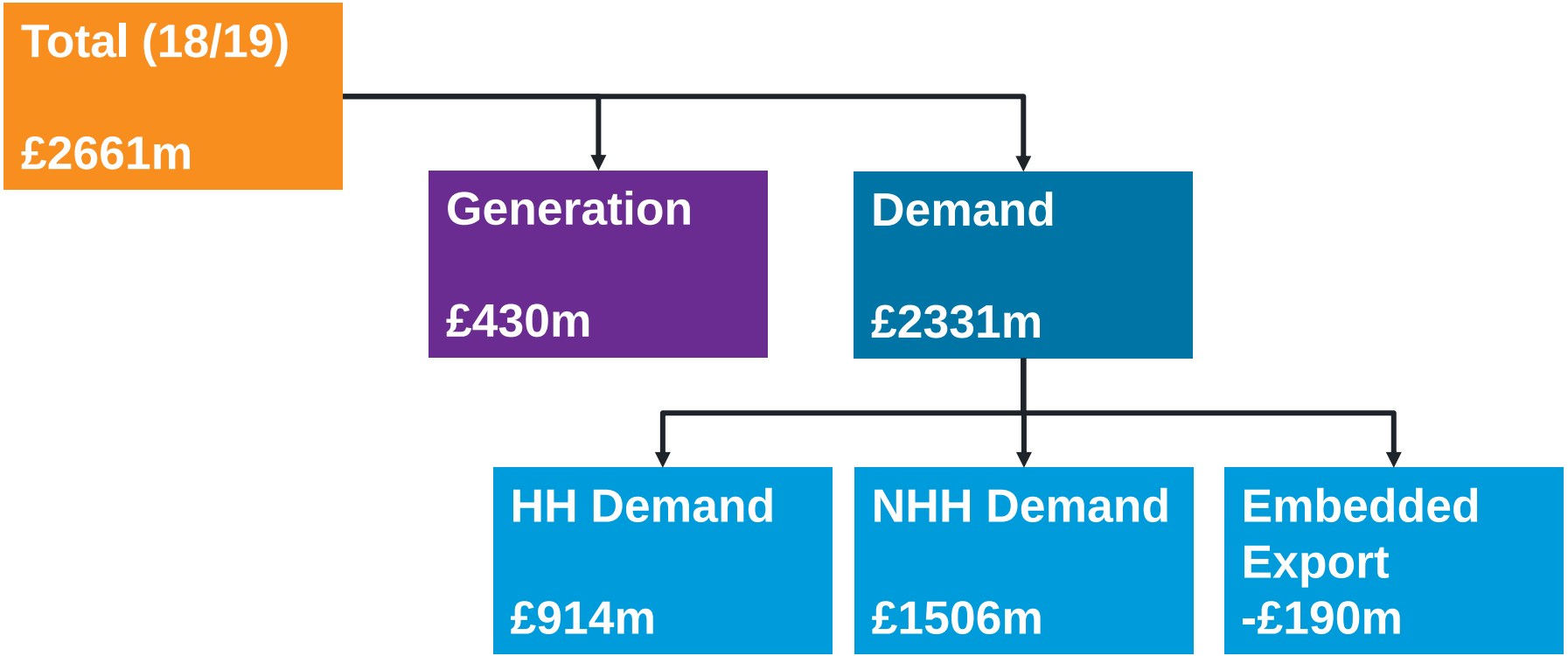
- Recovers Revenue for:
  - National Grid TO,
  - Scottish Power Transmission,
  - Scottish Hydro Electricity Transmission,
  - Offshore TOs
  - Network Innovation Competition Fund
  - Transmission EDR
- Charges calculated *ex ante* and billed by NGSO
- Methodology defined in Section 14 of the CUSC
- Tariffs apply for a whole year from 1 April, and published by 31 Jan.

TNUoS Revenue

- TNUoS Recovers Revenues for all Onshore TOs
- Values determined by Price Control
- **Total: £2.66bn**
- TOs give **final values** to NGSO by **25 January** before charges set on 31 January (STC)



Who pays TNUoS



Who pays TNUoS?

- **Generators**
  - Directly connected to the transmission network
  - Embedded generators >=100MW TEC

- **Generation TNUoS charged on the basis of Transmission Entry Capacity (TEC)**
- Generators also liable for Demand TNUoS if they take demand over Triad

Total (18/19) £2661m

Generation £430m

Who Pays TNUoS

- **Suppliers**
  - All licenced suppliers are liable for TNUoS, for their *gross demand* from the transmission network.
  - Three categories of charge:
    - **Half Hourly** metered demand on the basis of Triads
    - **Embedded Export** credited for export over Triads
    - **Non-Half-Hourly** demand, total 4pm-7pm annual consumption
  - The changes to HH charges were introduced by CMP264/265 from 2018/19 Charging Year
  - All demand is in one of these categories

Total £2661m

Demand £2331m

HH Demand £914m

NHH Demand £1506m

Emb. Export -£190m

Who Pays TNUoS

- **Directly Connected Demand**, pay HH demand charges
- **Embedded Generation** (<100MW) which contracts directly with National Grid can gain Embedded Export payments

Total £2661m

Demand £2331m

HH Demand £914m

NHH Demand £1506m

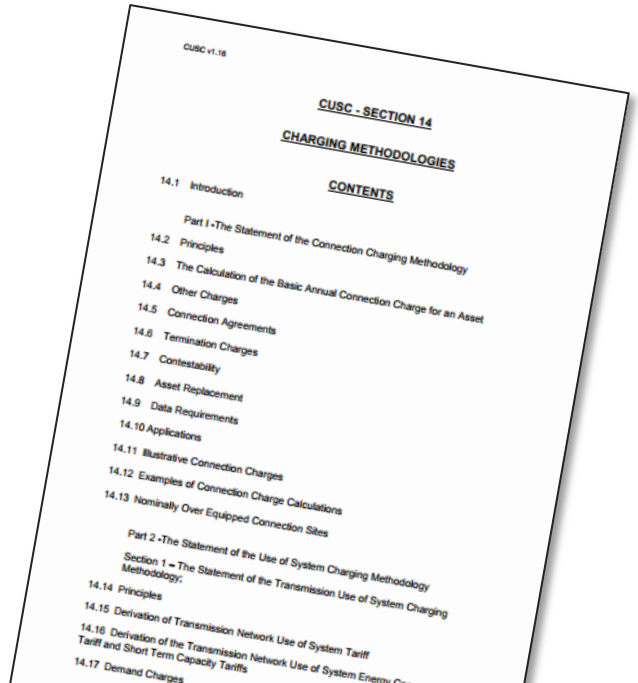
Emb. Export -£190m

Changes to TNUoS Methodology for 2018/19 tariffs

Paul Wakeley

Methodology

- The TNUoS Charging Methodology is in Section 14 of the CUSC
- National Grid applies the methodology to set each year's charges
- Changes to the methodology can be proposed by industry parties
- Ofgem ultimately decides on changes
- **Therefore, the methodology is in a constant state of flux**


CUSC v1.16

CUSC - SECTION 14

CHARGING METHODOLOGIES

CONTENTS

14.1 Introduction

Part I -The Statement of the Connection Charging Methodology

14.2 Principles

14.3 The Calculation of the Basic Annual Connection Charge for an Asset

14.4 Other Charges

14.5 Connection Agreements

14.6 Termination Charges

14.7 Contestability

14.8 Asset Replacement

14.9 Data Requirements

14.10 Applications

14.11 Illustrative Connection Charges

14.12 Examples of Connection Charge Calculations

14.13 Nominally Over Equipped Connection Sites

Part 2 -The Statement of the Use of System Charging Methodology

Section 1 – The Statement of the Transmission Use of System Charging Methodology:

14.14 Principles

14.15 Derivation of Transmission Network Use of System Tariff

14.16 Derivation of the Transmission Network Use of System Energy Co... Tariff and Short Term Capacity Tariffs

14.17 Demand Charges

Changes to 2018/19 TNUoS Methodology

Approved Modifications

- **Implemented in October Forecast**
  - CMP264/265 – Gross Charging for Demand / Embedded Benefits
  - CMP268 – Conventional Carbon Generation Tariffs

- **Will be implemented in December Draft Tariffs**
  - CMP283 – Interconnector Revenues

Changes to 2018/19 TNUoS Methodology

Awaiting Ofgem decision

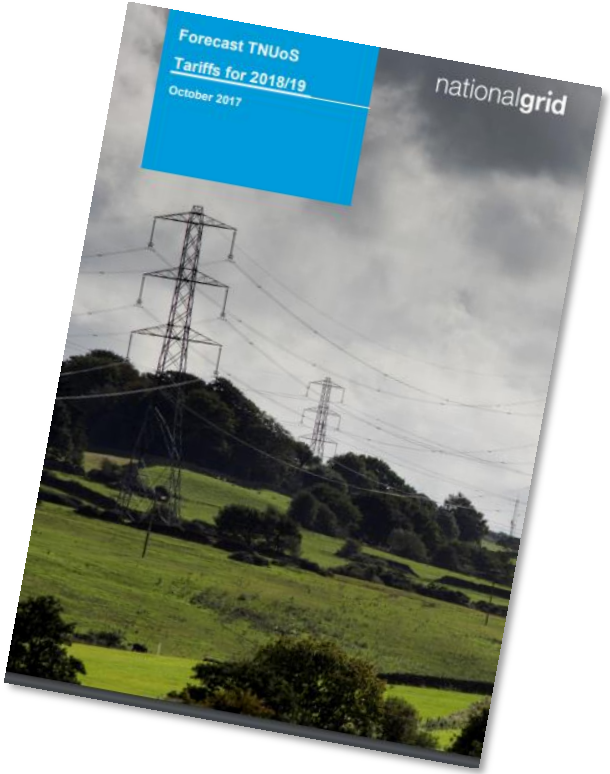
- **Will be implemented in tariffs if approved**
  - CMP282 – Demand Locational [Indicative tariffs in Oct Forecast]
  - CMP251 – enduring changes to Euro Cap

Decided: Modification rejected

- CMP261 - €2.50/MWh for 2015/16 tariffs
  - The existing methodology for the split of charges between generation and demand continues
  - Any changes will be need to be taken forward as a modification to the CUSC. National Grid is not proposing any changes for 2018/19.

Methodology and data in this presentation

- **This presentation uses the methodology, including the approved modifications, for 2018/19.**
- All data in this presentation is from the October 2017 forecast of 2018/19 TNUoS tariffs.



Demand TNUoS

Shiv Dhami

Demand TNUoS Tariffs

- Demand TNUoS recovers £2.2bn of Revenue
- There are **three demand tariffs** for each of the **14 demand zones**

Gross HH Demand

Charged a £/kW tariff for average demand over the Triads

Embedded Export

Credited a £/kW tariff for average export over the Triads

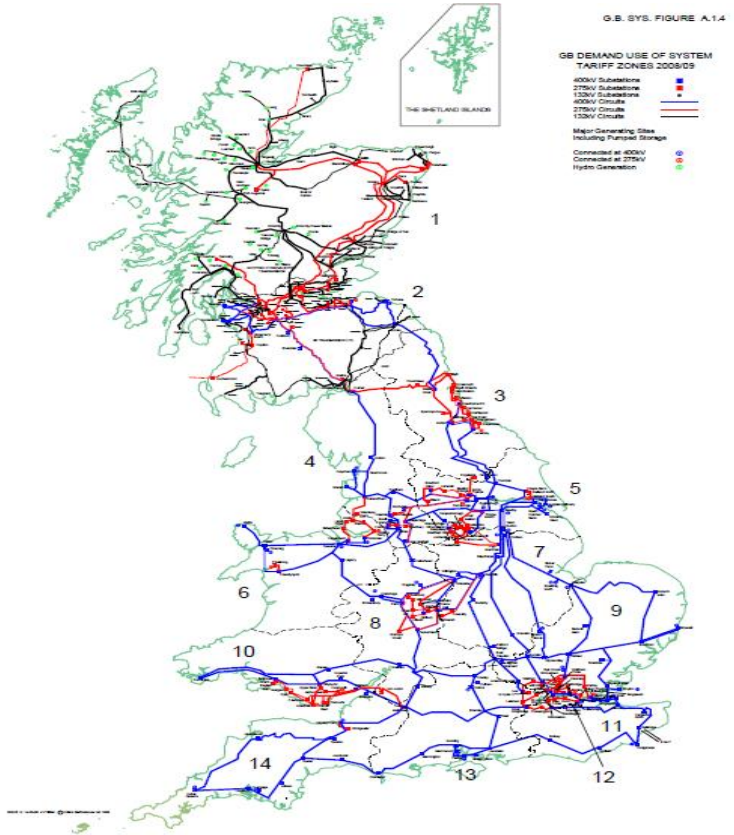
NHH Demand

Charged a p/kWh for consumption between 4pm and 7pm each day

Demand TNUoS Tariffs

Zone	Zone Name	Gross HH Demand (£/kW)	NHH Demand (p/kWh)	Embedded Export (£/kW)
1	Northern Scotland	42.625828	5.685964	27.958110
2	Southern Scotland	25.070187	3.379183	10.402469
3	Northern	36.695152	4.850815	22.027435
4	North West	43.772060	5.877395	29.104342
5	Yorkshire	43.584369	5.721052	28.916651
6	N Wales & Mersey	45.186145	5.886433	30.518427
7	East Midlands	47.142520	6.297143	32.474802
8	Midlands	48.600885	6.705442	33.933167
9	Eastern	49.119669	7.112924	34.451952
10	South Wales	46.533030	5.640875	31.865312
11	South East	52.267998	7.736564	37.600280
12	London	54.590747	6.071088	39.923029
13	Southern	53.551076	7.335475	38.883359
14	South Western	53.611446	7.814511	38.943729

Tariffs include small gen tariff of:	0.591801	0.079965



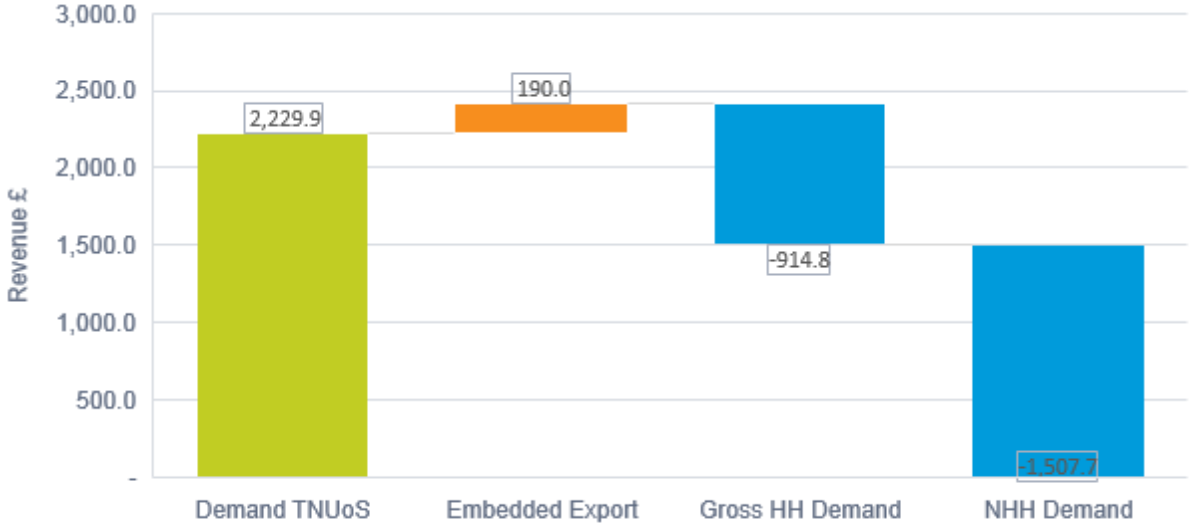
Embedded Export Tariff

EET (£/kW)	=	Demand Locational	+	AGIC (£3.22/kW)	+	Phased Residual
		From Transport Model		Increases by RPI Recalculated at Price Control		18/19 £29.36 /kW 19/20 £14.65 /kW >20/21 zero

- Based on the forecast of **Embedded Generation output,** this will cost **£190m in 2018/19**
- This is added to the revenue to be recovered from the demand residual, to ensure overall revenue recovery is correct

Embedded Export Tariff Revenues

- Forecast to cost £190m in 18/19
- Cost is added to the Demand Gross Residual
- Overall, same value is recovered from Demand



Zone	Final Tariff (£/kW)	EET Revenue (£m)
1	27.958110	27.98
2	10.402469	6.96
3	22.027435	12.79
4	29.104342	9.99
5	28.916651	18.37
6	30.518427	16.42
7	32.474802	15.48
8	33.933167	7.18
9	34.451952	21.51
10	31.865312	10.56
11	37.600280	11.97
12	39.923029	5.95
13	38.883359	16.98
14	38.943729	7.80

Demand TNUoS: HH & NHH Tariffs

Gross HH Tariff (£/kW) = **Demand Locational** + **Residual**

Calculated per zone

From Transport Model per zone

To ensure overall revenue recovery is correct. One value.

NHH Tariff (p/kWh) = [**Revenue Required per zone** − **Revenue recovered from Gross HH**] ÷ **NHH Volume (kWh)**

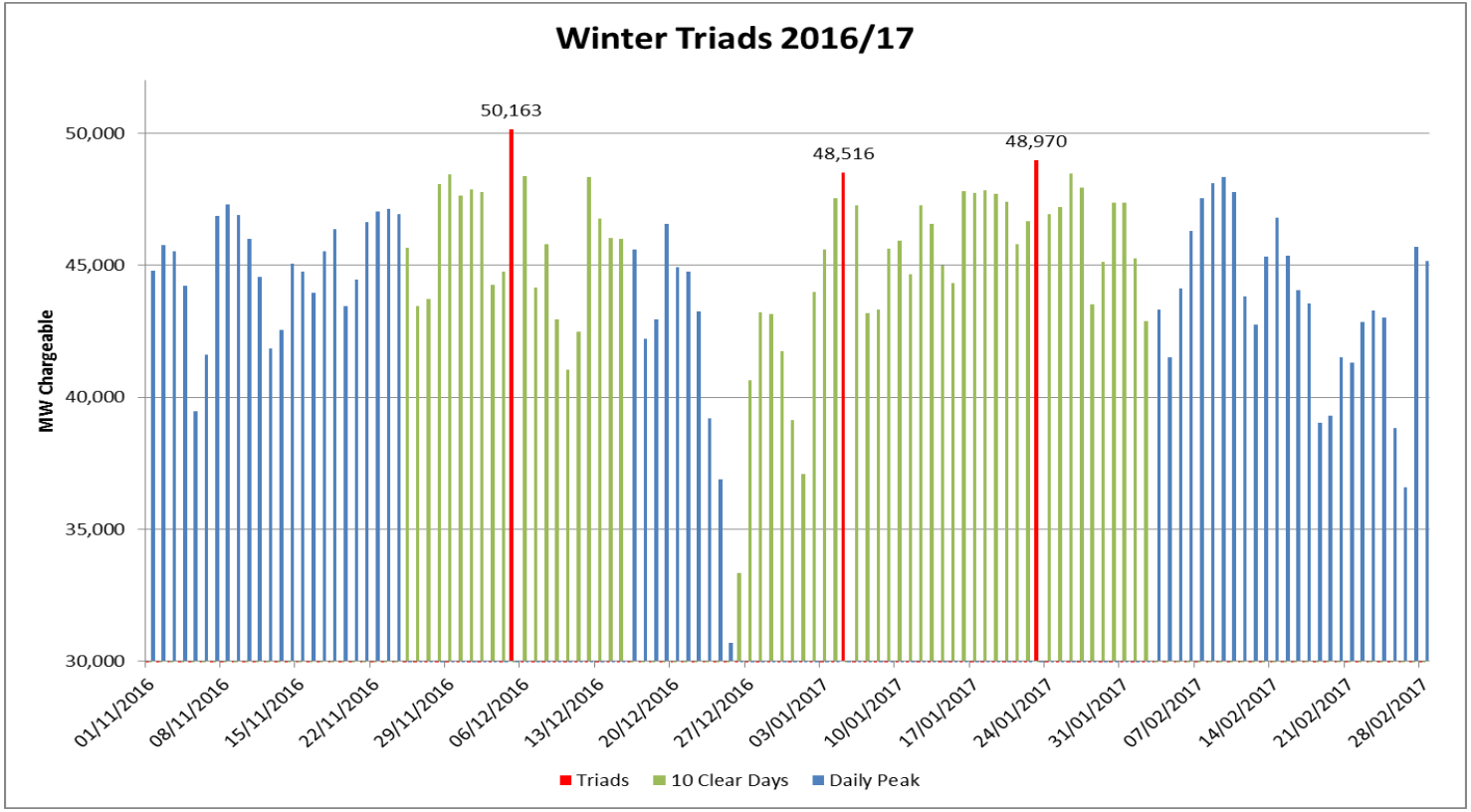
Calculated per zone

From Tariff Model

Triads

- **Three half hour settlement periods of highest GB net demand**
  - 1st November to end of February
  - Separated from each other by a minimum of 10 clear days
- Determined after the event using settlement metering data in March (mixture of SF, R1 & R2).
- Exclude interconnector demand but include pumping and station demand

Triads for Winter 2016/17

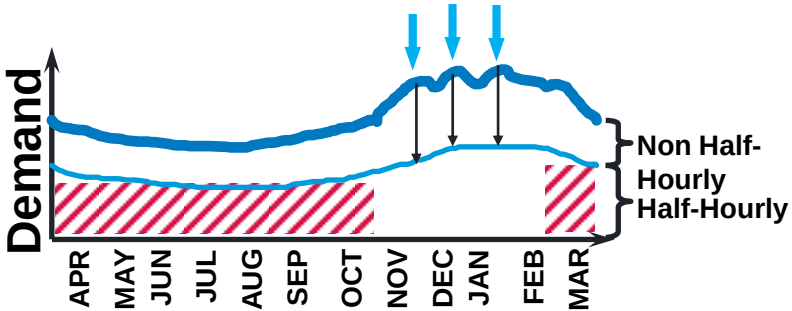


HH Tariff Charges & Embedded Export Payment

HH Demand £914m

Emb. Export -£190m

Half-Hourly gross Metered Demand → [**Average Metered Demand over the Triad (kW)**] **X** [**Zonal Demand Tariff (£/kW)**]



Of the 52GW gross peak 38% is Half Hourly charged

Embedded Export Metered Volume → [**Average Metered Embedded Export over the Triad (kW)**] **X** [**Zonal EET (£/kW)**]

Half-Hour Demand & Embedded Export Tariffs

- Supplier Demand Charge (£)

  = Gross HH Demand Tariff (£/kW) x Average Gross Demand at Triad (kW)

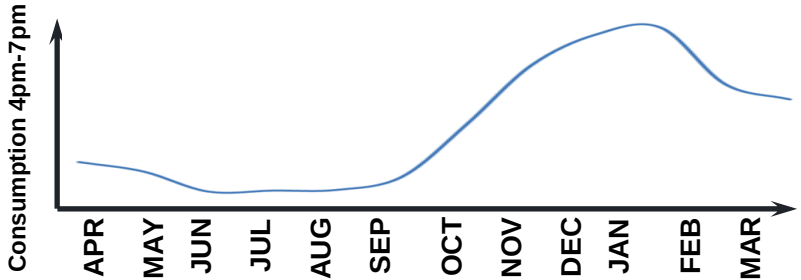
  - Embedded Export Tariff (£/kW) x Average Export at Triad (kW)

- Suppliers billed based on forecast Gross HH and Export volumes:
  - Liability is floored at zero, as today, so can not accumulate credit.

NHH Tariff Charges

Non-Half-Hourly Metered Demand → [**Energy Consumption between 4pm- 7pm each day (kWh)**] **X** [**Zonal Energy Tariff (p/kWh)**] **/ 1000**

NHH Demand £1506m



Non Half-Hour Demand Tariffs

- Suppliers are charged based on their average demand usage between 16:00 – 19:00 on every day of the year.
- Liability = NHH Zonal demand x p/kWh Tariff per zone
- Demand TNUoS bills throughout the year are based on Supplier forecasts: submitted in March, and can be resubmitted as required

Supplier Reconciliation

- Demand TNUoS bills throughout the year are based on Supplier forecasts: submitted in March, and can be resubmitted as required

- Suppliers are billed (1/12)th of the annual liability every month

- Supplier forecasts are reconciled to settlement data from Elexon:
  - June Y+1 Initial Reconciliation
  - Autumn Y+2 Final Reconciliation (when RF settlement data available)

Generation TNUoS

Tom Selby

Generation TNUoS

- Generation TNUoS recovers charges from Transmission connected generation and large embedded generation
- Maximum revenue from generation set by EU Regulation
- Tariffs are composed of **wider** and **local** elements
- Final tariffs are generator specific

Total (18/19) £2661m

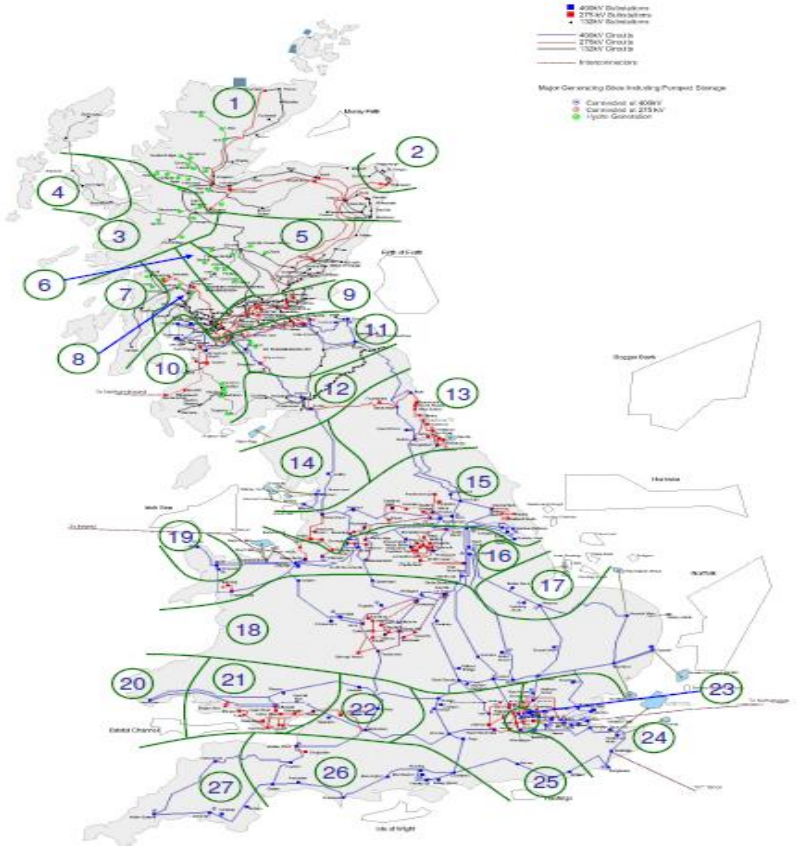
Generation £430m

Generation Wider Tariffs

- Wider tariffs are calculated per zone – 27 generation zones
- Components apply based on connection and generation type

Wider Tariff components:

Peak Security	**Year Round Shared**
Year Round Not Shared	**Generator Residual**



Wider Generation Charging Categories (CMP268)

Intermittent

Conventional Low Carbon, e.g. Nuclear, Hydro

Conventional Carbon, e.g. Coal, Oil, Gas, Pumped Storage

Generation TNUoS Tariffs

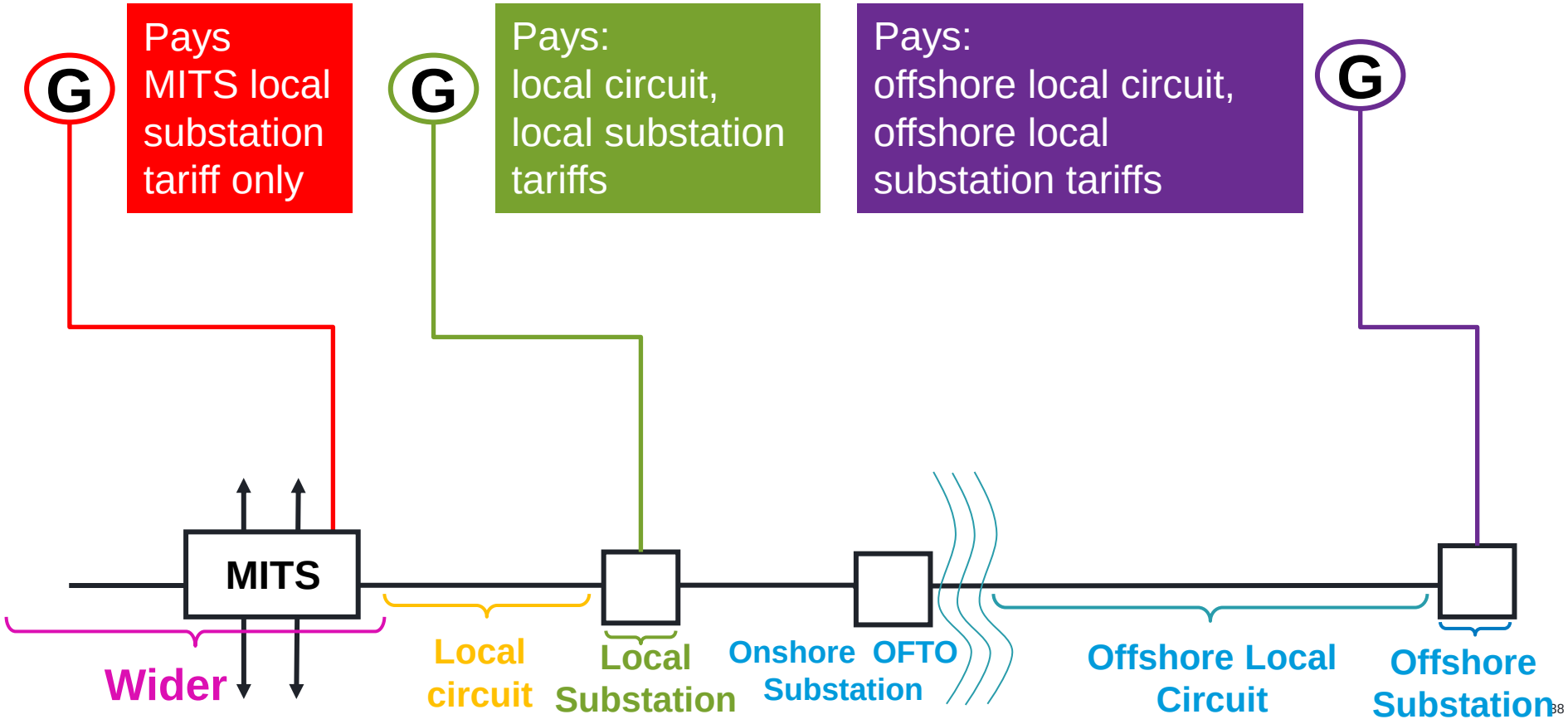
Zone	Zone Name	System Peak Tariff (£/kW)	Shared Year Round Tariff (£/kW)	Not Shared Year Round Tariff (£/kW)	Residual Tariff (£/kW)
1	North Scotland	2.241534	19.713585	15.377881	-2.337478
2	East Aberdeenshire	4.493625	10.286068	15.377881	-2.337478
3	Western Highlands	1.718980	18.661795	15.377881	-2.337478
4	Skye and Lochalsh	1.734185	18.661795	21.196840	-2.337478
5	Eastern Grampian and Tayside	2.733254	15.780106	14.954896	-2.337478
6	Central Grampian	3.471545	14.914731	14.666316	-2.337478
7	Argyll	3.139357	11.744597	24.331456	-2.337478
8	The Trossachs	3.485394	11.744597	13.541154	-2.337478
9	Stirlingshire and Fife	2.070737	8.812135	12.887017	-2.337478
10	South West Scotlands	2.393557	9.503815	13.011889	-2.337478
11	Lothian and Borders	3.458965	9.503815	7.441956	-2.337478
12	Solway and Cheviot	1.872723	5.515458	7.419831	-2.337478
13	North East England	3.655606	3.273478	4.026336	-2.337478
14	North Lancashire and The Lakes	1.456718	3.273478	2.570818	-2.337478
15	South Lancashire, Yorkshire and Humber	4.255805	1.224412		-2.337478
16	North Midlands and North Wales	3.343571	-0.250677		-2.337478
17	South Lincolnshire and North Norfolk	2.090057	-0.187801		-2.337478
18	Mid Wales and The Midlands	1.213214	0.109926		-2.337478
19	Anglesey and Snowdon	3.582852	0.177756		-2.337478
20	Pembrokeshire	8.301451	-4.582854		-2.337478
21	South Wales & Gloucester	5.288730	-4.667698		-2.337478
22	Cotswold	2.164427	2.332048	-7.067750	-2.337478
23	Central London	-5.574745	2.332048	-6.261715	-2.337478
24	Essex and Kent	-3.954549	2.332048		-2.337478
25	Oxfordshire, Surrey and Sussex	-1.408390	-2.526834		-2.337478
26	Somerset and Wessex	-2.157555	-4.571951		-2.337478
27	West Devon and Cornwall	-1.564246	-6.853369		-2.337478

We publish wider tariff components by zone

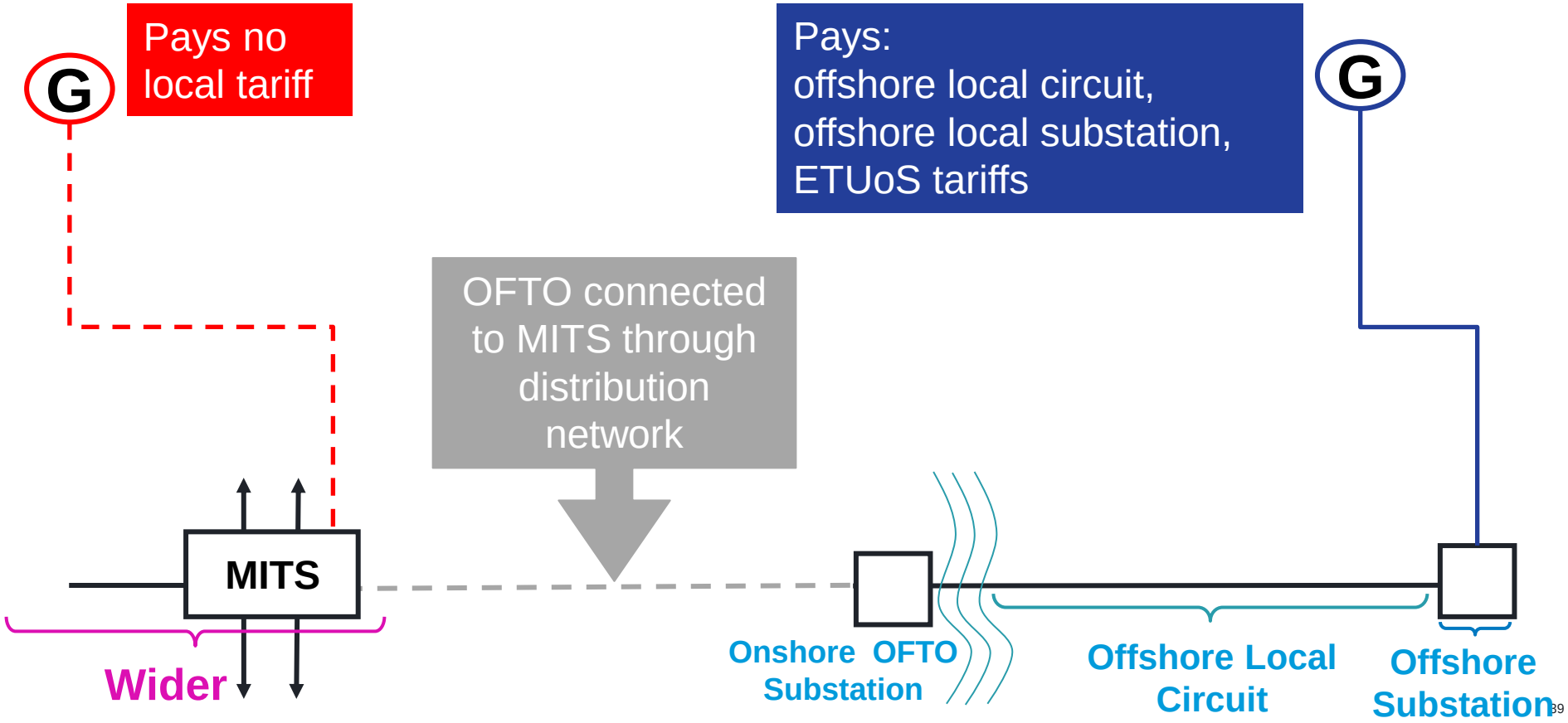
We publish example wider tariffs for 3 types of generator

	Example Tariffs:		
Zone	Conventional Carbon 80% Tariff (£/kW)	Conventional Low Carbon 80% Tariff (£/kW)	Intermittent 40% Tariff (£/kW)
1	27.977229	31.052805	20.925837
2	22.687306	25.762882	17.154830
3	26.613242	29.688818	20.505120
4	31.283614	35.522982	26.324080
5	24.983777	27.974756	18.929460

Local Generation Tariffs: Directly Connected



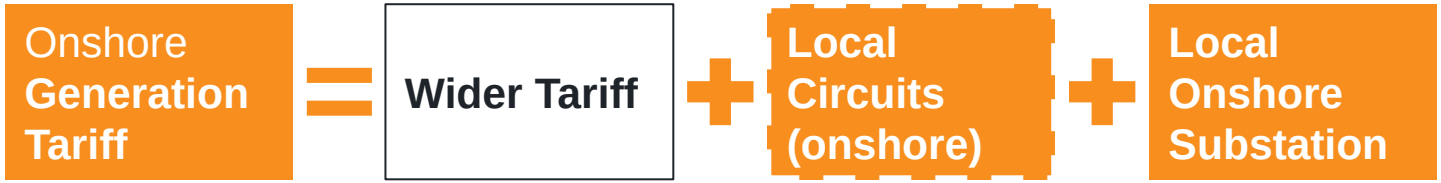
Local Generation Tariffs: Embedded generators



Final Generation Tariff

- Onshore

Based on voltage, capacity and redundancy



Specific to substations

- Offshore

OFTO Specific

If connected via DNO

Generator Charges where tariffs are positive

- **If the tariff is positive multiply tariff by max TEC:**
  - TNUoS Wider Charge(£)

    = Wider Tariff (£/kW) x TEC(MW) x 1000
  - TNUoS Local Substation Charge(£)

    = Local Substation Tariff(£/kW) x TEC(MW) x 1000
  - TNUoS Local Circuit Charge(£)

    = Local Circuit Tariff(£/kW) x TEC(MW) x 1000

Generator Charges where tariffs are negative

- TNUoS Wider Charge(£)

  = TNUoS Wider Tariff (£/kW) x (average of 3 highest metered volumes kW, 10 days apart between Nov-Feb)

- TNUoS Circuit Charge(£)

  = TNUoS Local Circuit Tariff (£/kW) x (average of 3 highest metered volumes kW, 10 days apart between Nov-Feb)

- These “3 highest metered volumes” are specific to the generator, and are not the same as the Demand Triads.

Annual Load Factors (ALFs)

Annual Load Factor (ALF)

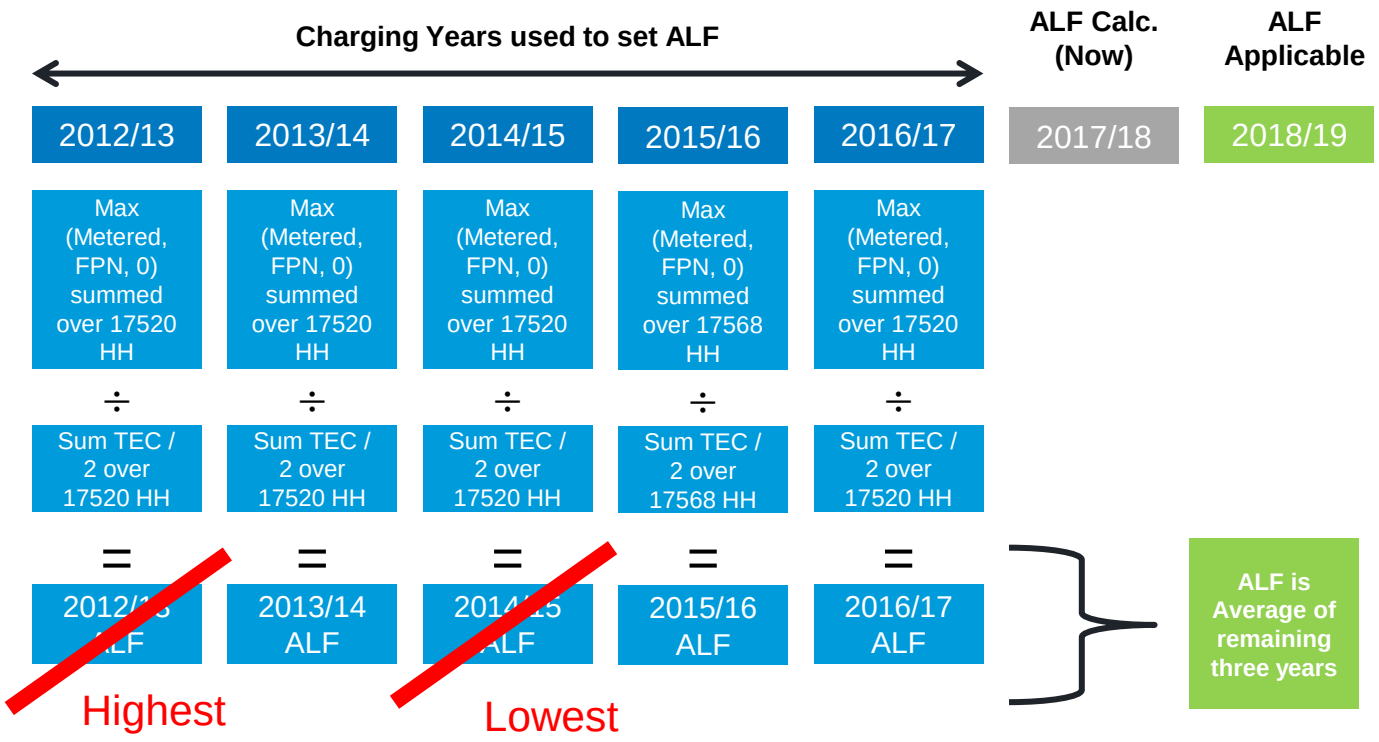
- ALFs give a measure, over five years, of a generator's output compared to TEC, using:
  - Transmission Entry Capacity (TEC),
  - Metered Flows (MF) and
  - Final Position Notifications (FPN)

- **ALFs for 2018/19** are based on data from charging years 2012/13, 2013/14, 2014/15, 2015/16 and 2016/17

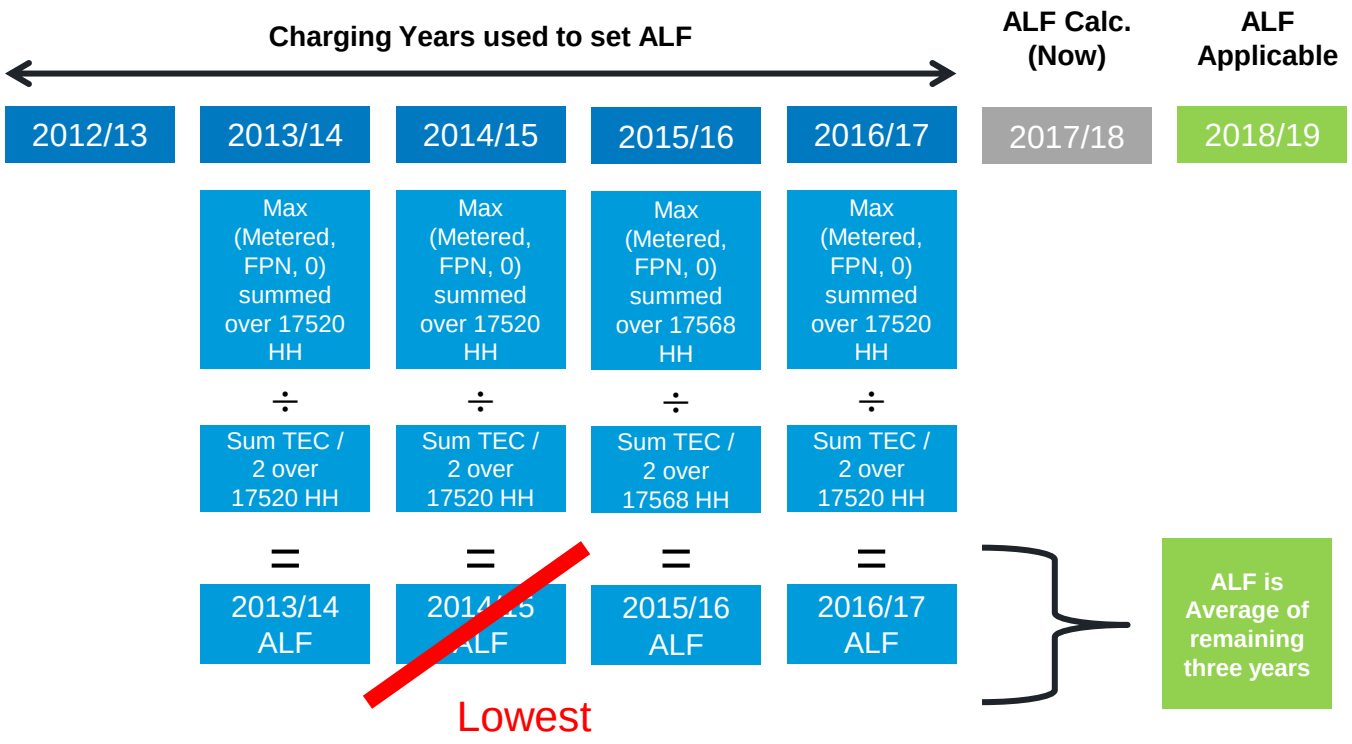
Annual Load Factors (ALFs)

- **ALFs are calculated at power station level.**
  - For a power station with multiple Balancing Mechanism Units (BMU) representing generating sets and/or station demand, the BMUs are aggregated before calculating the ALF.
- **Cascade hydro schemes**
  - These may have multiple power stations included in a BMU. For these the ALF is calculated at scheme level by aggregating stations and their associated BMU before calculating the ALF. The scheme level ALF is applied to each station in the scheme.

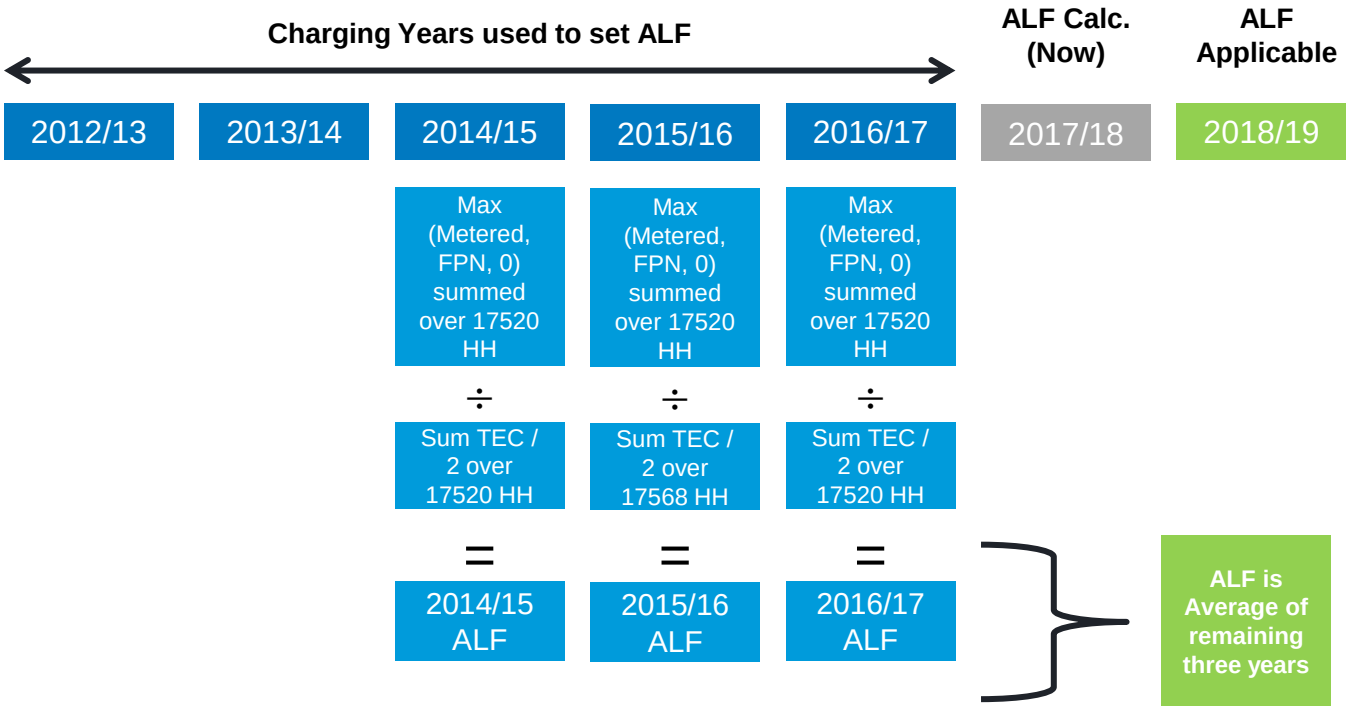
How to calculate an ALF….



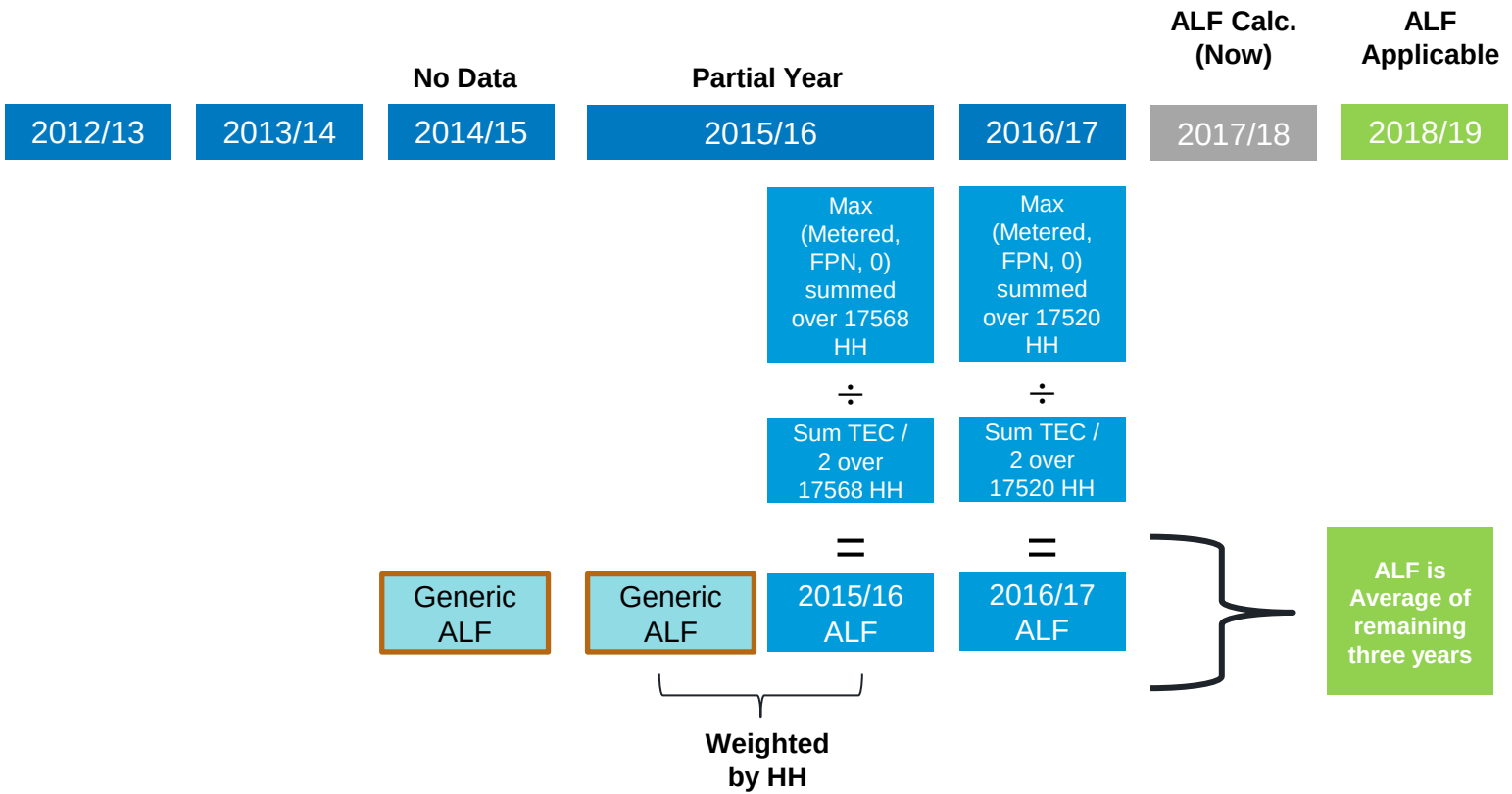
Four Full Years of Data



Three Full Years of Data

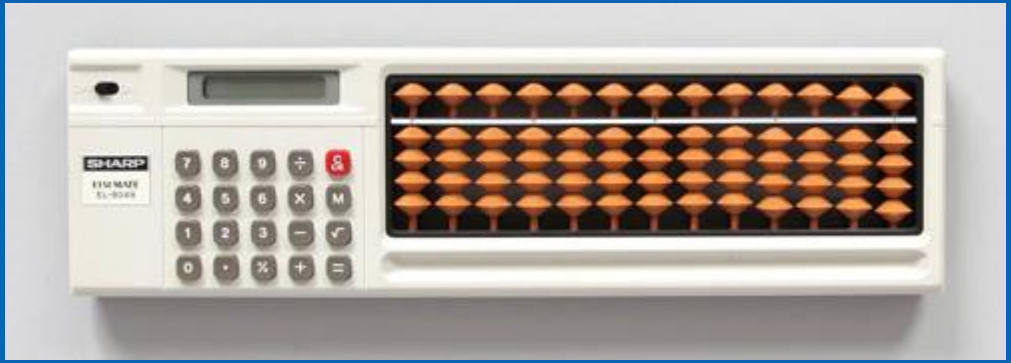


Less than 3 full years, e.g.



nationalgrid

TNUoS Transport and Tariff Model



Jo Zhou

Structure and Purpose of TNUoS Model

Transport Module

calculates locational signals (on nodal basis)

Tariff Module

- **aggregates locational signals from nodal to zonal tariffs**
- **calculates residual tariffs**

Aim

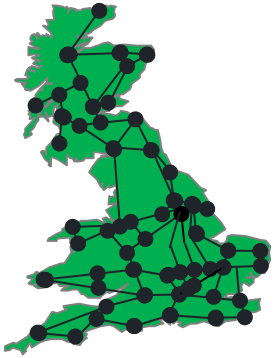
- Cost reflectivity – quantifying incremental MW*km (cost) at each node
- Transparency – “contractual” background

Aim

- Stability & predictability - zones
- Recovery of total network costs - non-locational residual tariffs
- Target revenue recovery from generators and overall

Transport Model – dual backgrounds

Peak Security - Reflects what we build to for demand security, under peak demand "stress"

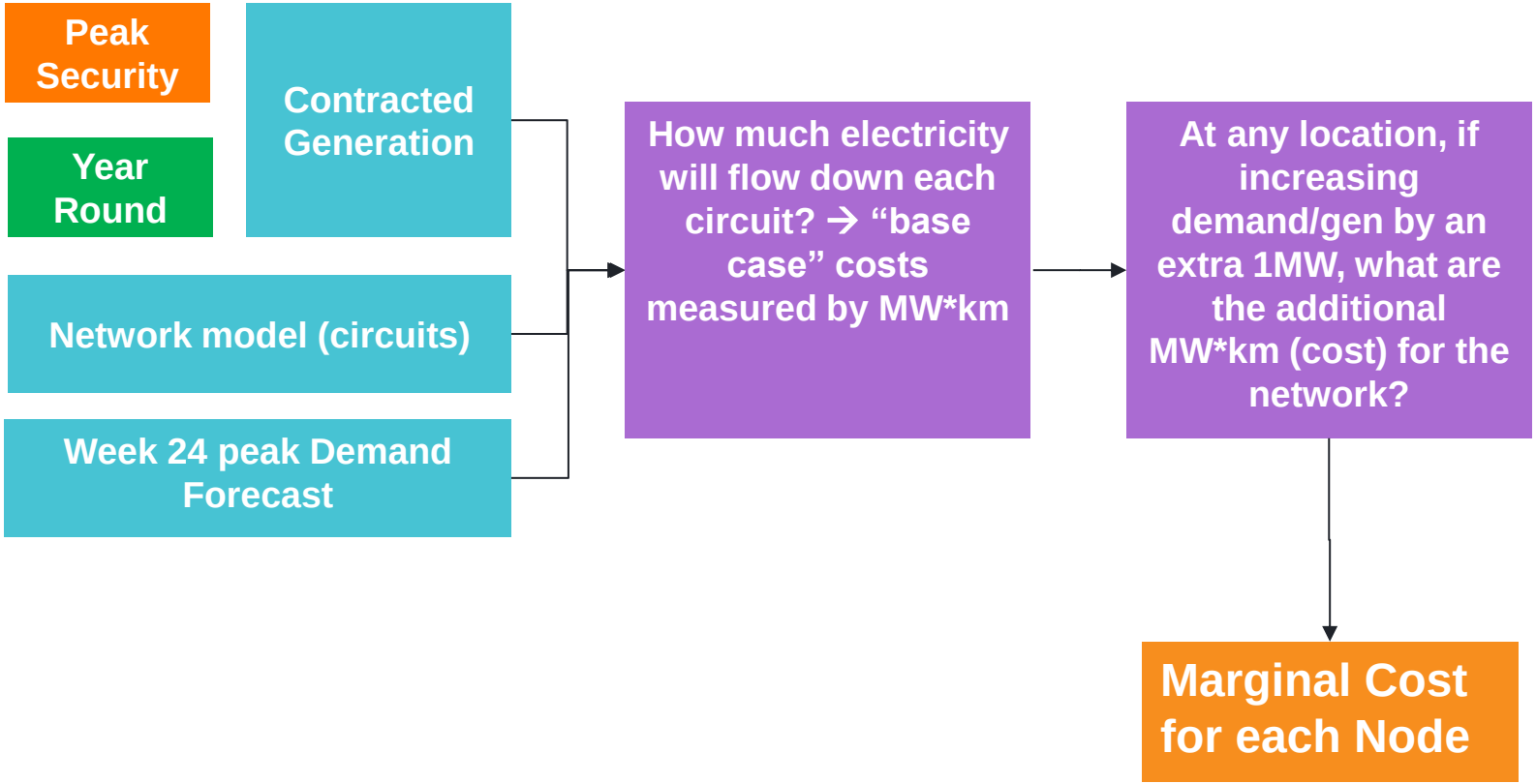


Year Round - Reflects what we build under SQSS economic criteria

Load Factor Scaling for Contracted Generation		
	Peak	**Year Round**
Wind, Solar, Tidal	Fixed 0%	Fixed 70%
Nuclear	Variable	Fixed 85%
Interconnectors	Fixed 0%	Fixed 100%
Hydro	Variable	Variable
Pumped Storage	Variable	Fixed 50%
Peaking	Variable	Fixed 0%
Other	Variable	Variable

Transport Model Demand	
Peak	**Year Round**
Winter Peak from Week 24 Data	

Transport Model – how to derive locational signals



Principles of locational signal

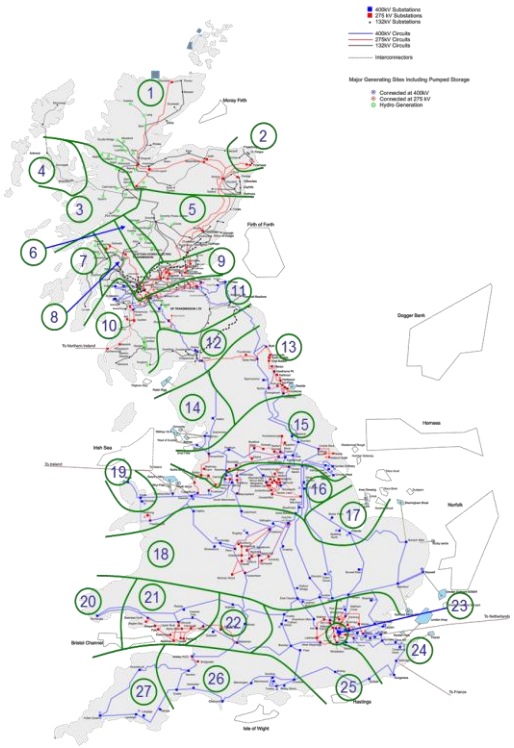
North: More Generation than Demand
Higher Generation Charges
Lower Demand Charges

South: More Demand than Generation
Lower Generation Charges
Higher Demand Charges

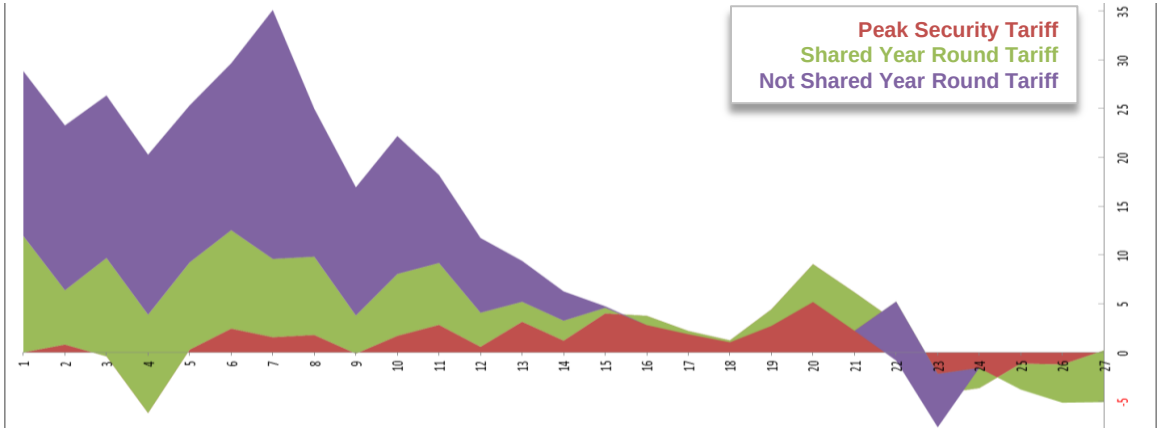
Flow of electricity under both backgrounds

Cost reflective signal reflects incremental network development to meet flows

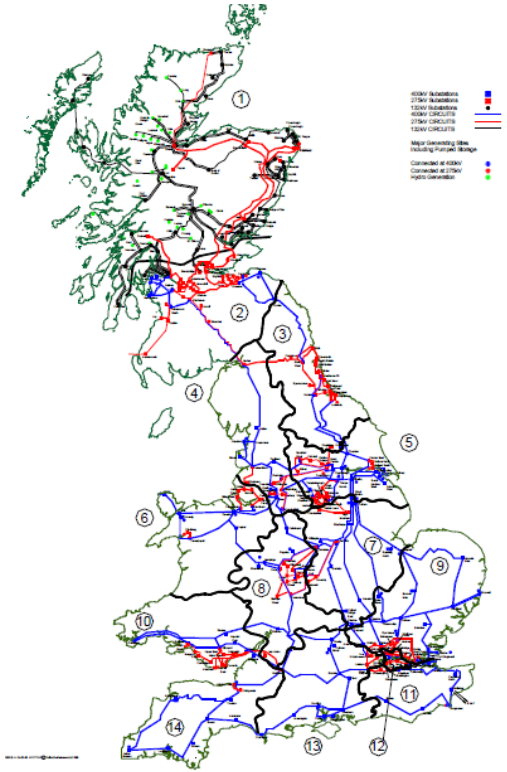
Tariff Model: Nodal to Zonal Signals



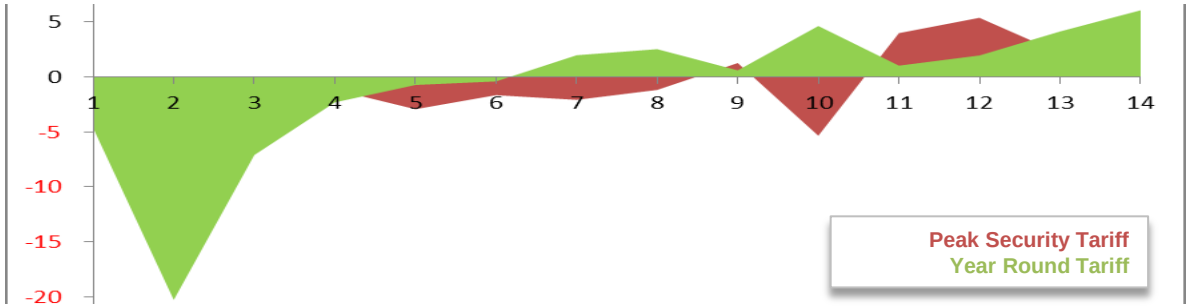
- **Generation**
- Converts nodal signals into zonal tariffs to provide more stability and predictability
- Gen Zone fixed for each price control



Tariff Model: Nodal to Zonal Signals



- **Demand**
- Converts nodal signals into zonal tariffs to provide more stability and predictability
- Demand Zones fixed as DNO Areas

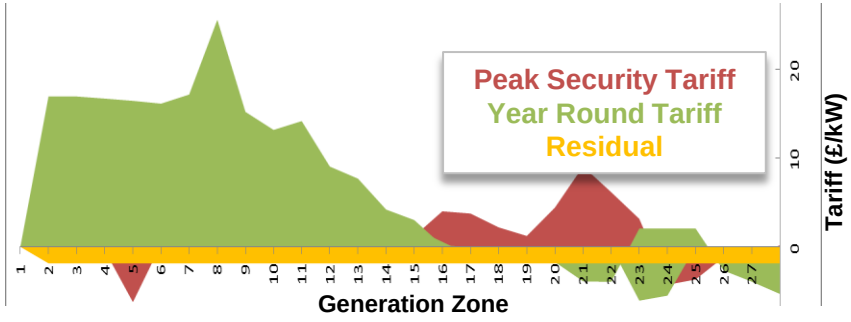


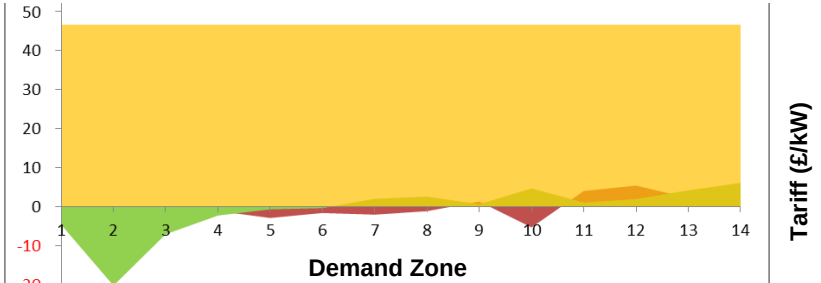
Tariff Model: Revenues & Residuals

- Revenue collected from zonal and local charges doesn't recover all of allowed revenue.
- **Residual Tariffs ensure overall revenue recovery in the correct pots**

Generation Residual: Ensures that total generation recovered is within the €2.50/MWh Cap

Demand Residual: Ensure s total recovery is equal to allowed revenue





Generation Revenue 2018/19

€2.50 per MWh
x 21% Error Margin

= €1.98/MWh

OBR Spring Forecast

€1.98 ÷
£:€ exchange rate of €1.16

= £1.70/MWh

FES Forecast

Forecast of Generation
253TWh

X

£1.70/MWh

= £430m Revenue to be recovered from generation

Residuals 2018/19

GENERATION	£m
Wider	322.2
Offshore Local	244
Local Circuits	20.7
Local Substation	18.5
Subtotal	**605.2**
Gen Residual	-175.2
Total	**430**

DEMAND	£m
Total TNUoS	2661
Less Generation	-430
Demand TNUoS	2231
Revenue from locational	-26.6
Paid to Embedded Export	-189.9
Demand Residual	2447.5

Equivalent to -2.34 £/kW on charging base of 75GW

Equivalent to 46.66 £/kW on HH tariffs (charging base 52.5GW)

Small Generators' Discount

- Small generators (<100MW) connected at 132kV transmission receive a £11/kW reduction in their TNUoS
- This is recovered from demand customers
- The licence condition and the scheme **expire 31 March 2019**

- **For 2018/19**
  - Total cost: £30.8m for 2.78GW of eligible generation
  - Gross HH rate = 30.8m / 52.4GW

    = **0.58 £/kW, for 19.8GW of HH demand**
  - **NHH rate = (30.8 - 0.58 * 19.8GW) / 24.2TWh**

    = 0.08 p/kWh for 24TWh of NHH demand

Coffee Break

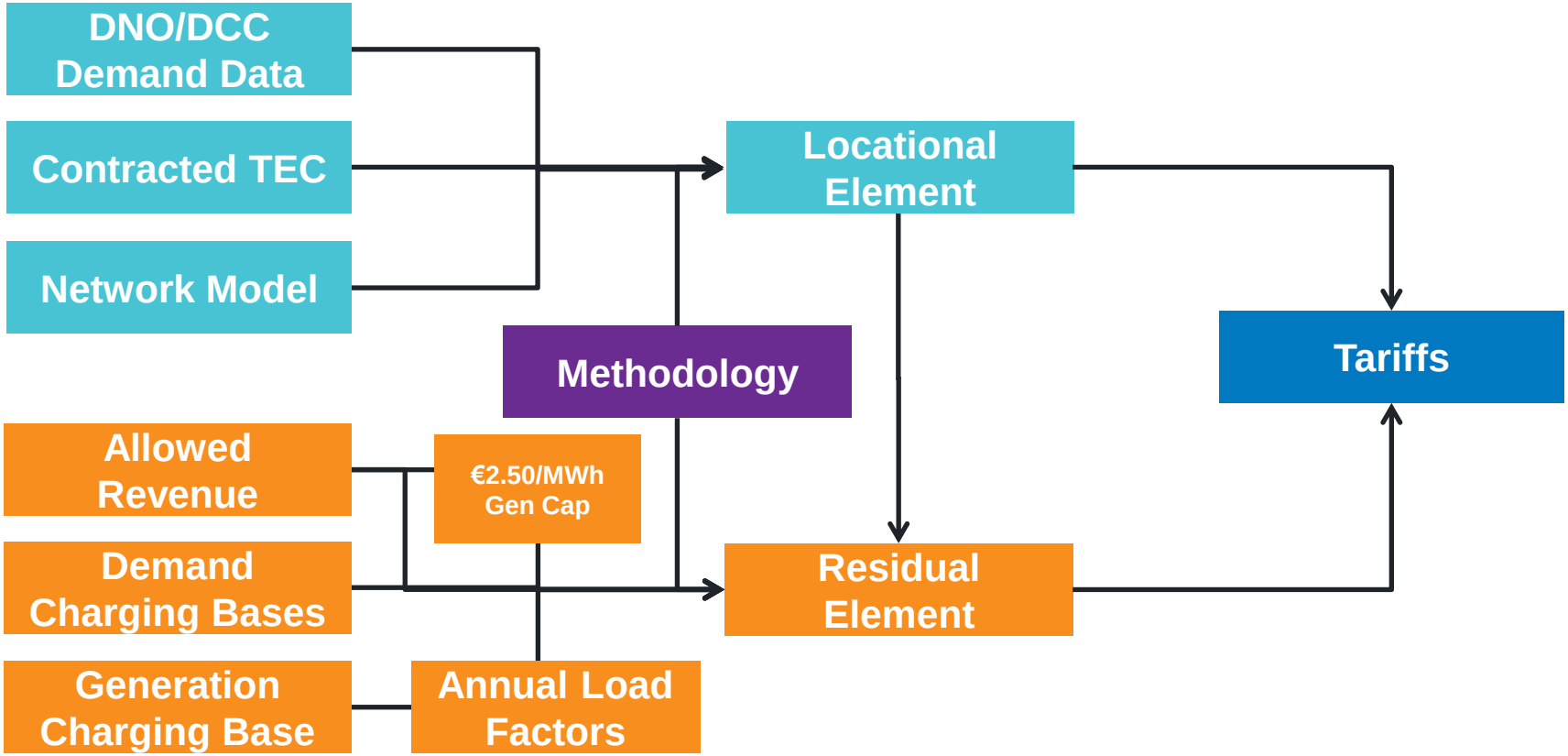
Around 10 minutes

TNUoS tariff forecasting process

Modelling Inputs and Timescales

Tom Selby

Inputs in to TNUoS Charges



Which inputs change in quarterly forecasts

nationalgrid

		March	June	Oct	DRAFT Dec	FINAL Jan
Methodology		Open to industry governance				
Locational	**DNO/DCC Demand Data**	Previous year			**Week 24 updated**	
	Contracted TEC	Latest TEC Register	Latest TEC Register	Latest TEC Register	**TEC Register Frozen at 31 October**	
	Network Model	Previous year (except new local circuits)		**Latest version based on ETYS**		
Residual	**Allowed Revenue**	Update financial parameters	Update financial parameters	Latest onshore TO Forecasts	Latest TO Forecasts	**From TOs**
	Demand Charging Bases	Previous Year	Revised Forecast	**Final Forecast**		
	Generation Charging Base	NG Best View	NG Best View	NG Best View	NG Best View	**NG Final Best View**
	Generation ALFs	Previous Year			**New ALFs published**	
	Generation Revenue	Forecast	**Fixed Gen Rev £m**			

Demand Charging Base Monte Carlo Model

- Demand modelling process (Monte Carlo) changed for inclusion of embedded generation export and gross demand under CMP264/265 modifications.
- Factors/variables being assessed include:
  - Historical trends of metered triad demand & export volume provided by Elexon under P348/349.
  - Weather conditions/patterns.
  - Future demand shifts on the transmission system.
  - Triad behaviour.
  - Levels of renewable generation & forecast growth.

Timetable for Future TNUoS Tariff Publications

Paul Wakeley

Timetable for future publications

2018/19 Tariffs	21/12/17 Draft Tariffs	31/1/18 Final Tariffs				
2019/20 Tariffs			By 31/3/18 March Update	By 30/6/18 June Update	By 31/10/18 October Update	By 24/12/18 Draft Tariffs	31/1/19 Final Tariffs
Five Year Forecast	31/11/17 Five Year Forecast			By 31/7/18 Five Year Forecast		

Timetable to be confirmed early 2018

Impact of next price control on Tariffs

- The next RIIO-T2 price control is expected to start on 1 April 2021.
- The CUSC requires **various parameters** to be updated at that point for the 2021/22 tariffs, but are dependent on each TOs RIIO ‘deal’

Assumption in Five Year Forecast for 2021/22

Maximum Allowed Revenue	**AGIC**	**Security Factor = 1.8**	**Generation Zones = 27**
Expansion Constant (£/MWkm)	**Offshore Tariffs**	**Expansion Constant**	
Increase by RPI		**Modelled as no change**	

Opportunities to engage

- Quarterly publications
- Webinars occur ~ 1 week after each tariff publication
- Contact us for a copy of the T&T model
- Model Training sessions

15 Mar	20 Apr	17 May	12 Jul	17 Aug	19 Sep

- Also in planning for 2018
  - New supplier training
  - Tailored “Charging events” with TNUoS, BSUoS for group of customers
  - Refresh our information on our website New online training guides

Longer Term CUSC Modifications

Jon Wisdom

New Modifications and Ofgem decisions

- **Two new Modifications tabled at the October CUSC Panel**

Mod Ref	Mod area	Customer impacted	Proposal raised by	Process stage	Key activities since last update	next steps
CMP286	Improve the predictability of TNUoS demand charges by bringing forward the date at which the target revenue used in TNUoS tariff setting is fixed to allow customer prices to more accurately reflect final TNUoS rates.	Suppliers, Generators, embedded generators and National Grid	Npower	Workgroup nominations open ~ close date 8 Nov 17	n/a	9 nominations received to sit on the Workgroup. No date arranged for first WG
CMP287	Improve the predictability of TNUoS demand charges by bringing forward the date at which certain parameters used in TNUoS tariff setting (such as demand forecasts) are fixed to allow customer prices to more accurately reflect final TNUoS rates	Suppliers, Generators, embedded generators and National Grid	Npower	Workgroup nominations open ~ close date 8 Nov 17	n/a	9 nominations received to sit on the Workgroup. No date arranged for first WG

Modifications with Ofgem

Mod Ref	Mod area	Customer impacted	Proposal raised by	Process stage
CMP251	Ensuring that there is no risk of non-compliance with European Regulation 838/2010 by removing the error margin introduced by CMP224 and by introducing a new charging element to the calculation of TNUoS	Suppliers and Generators	British Gas	With the Authority for decision (expected Dec 17).
CMP261	Ensuring the TNUoS paid by Generators in GB in Charging Year 2015/16 is in compliance with EU Regulations	Users who pay either Generation or Demand TNUoS tariffs	SSE	Rejected 16th Nov-17
CMP283	Facilitate the Interconnector Cap and Floor regime through creating the process for data provision between Interconnectors and National Grid within the CUSC	Interconnectors and the SO	NGET	Approved
CMP282	TNUoS tariff setting	Suppliers and Embedded Generators	NGET	With the Authority for decision (expected 28th Nov 17).

Ongoing modification proposals

Mod Ref	Mod area	Customer impacted	Proposal raised by	Process stage	Key activities since last update	next steps
CMP271	Improving the cost reflectivity of demand transmission charges	Generators, Suppliers, Embedded Generators	RWE	Workgroup meetings ~ suspended	WG received update on impact of SCR on CMP271	Panel at its September meeting agreed to provide an extension based on a fixed event e.g. the publication by Ofgem on its further thinking and that the Workgroup should reconvene w/c 13 November 2017 as by this point the industry will have information from Ofgem.
CMP274	Winter TNUoS Time of Use Tariff (TToUT) for Demand TNUoS	Generators, Suppliers, Embedded Generation, Transmission Network Operators, HH Demand Customers	UK Power Reserve	Workgroup meetings ~ suspended	WG received update on impact of SCR on CMP274	Panel at its September meeting agreed to provide an extension based on a fixed event e.g. the publication by Ofgem on its further thinking and that the Workgroup should reconvene w/c 13 November 2017 as by this point the industry will have information from Ofgem.

Given the overlap in the issues to be discussed as part of these two modifications, the Workgroup meetings will be arranged on the same day and are being progressed following a normal timetable.

Ongoing modification proposals

Mod Ref	Mod area	Customer impacted	Proposal raised by	Process stage	Key activities since last update	next steps
CMP276	Socialising TO costs associated with 'green polices' (reduction in the demand residual element of the TNUoS £/kW ("Triad") charge by creating two new charge lines for all demand offtakes	Parties that manage demand during Triad periods, i.e. embedded generators and those half hourly metered consumers who respond to Triad	Alkane Energy	Workgroup meetings ~ suspended	WG received update on impact of SCR on CMP276	Panel at its September meeting agreed to provide an extension based on a fixed event e.g. the publication by Ofgem on its further thinking and that the Workgroup should reconvene w/c 13 November 2017 as by this point the industry will have information from Ofgem.
CMP280	Removing liability for the TNUoS demand residual from directly connected generators	Suppliers	Scottish Power	WG 3rd WG held 16 October	WG to continue developing the Proposal. Meeting due at start of December 17	Workgroup to continue developing options and progress to a consultation.

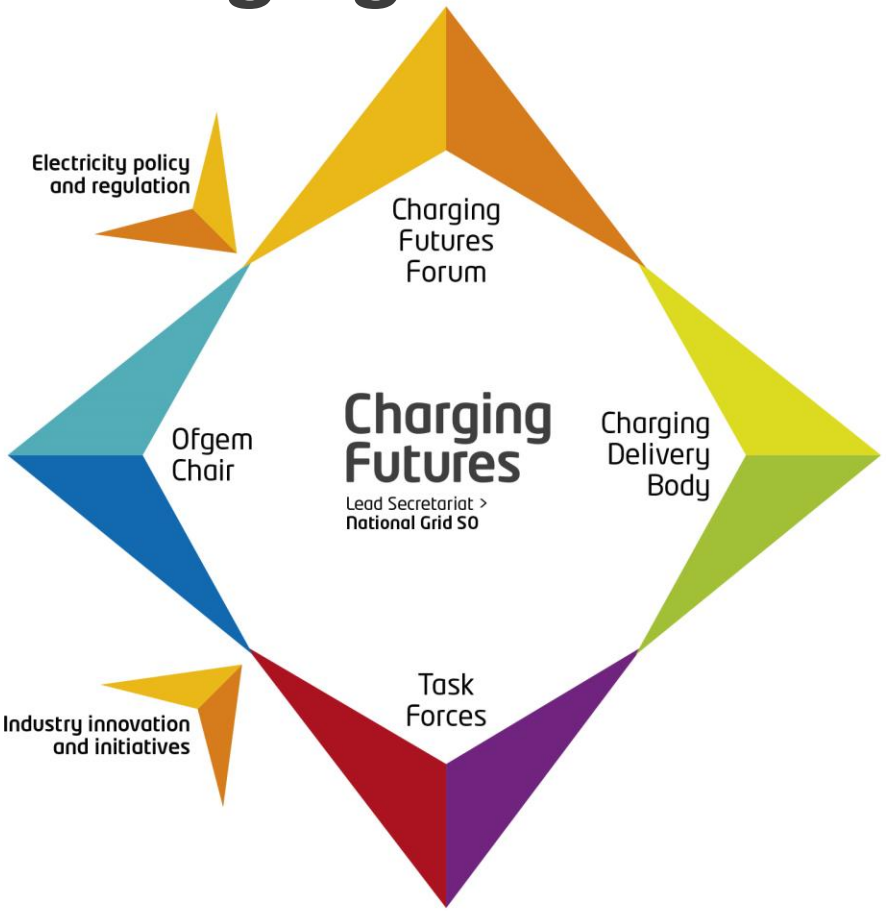
Ongoing modification proposals

Mod Ref	Mod area	Customer impacted	Proposal raised by	Process stage	Next steps
CMP284	Improving TNUoS cost reflectivity (Reference Node)	Suppliers, Generators and end customers that pay TNUoS	PeakGen	Initial meeting for CMP284 was held on the 11 September. The Authority confirmed that they did not see any overlap with this modification and the launch of the SCR. The Workgroup requested a teach in session a session on 'modelling'. Following the modelling session a formal workgroup meeting will be scheduled to discuss the outputs from these sessions.	**Proposer has withdrawn the modification**

Charging Futures and the Targeted Charging Review

Alice Grayson

The Charging Futures ecosystem



INDUSTRY CODE GOVERNANCE

CUSC
Connection and Use of System Code (for transmission)

Code admin > **National Grid**

DCUSA
Distribution Connection and Use of System Agreement

Code admin > **Electralink**

BSC
Balancing and Settlement Code

Code admin > **Elexon**

How will Charging Futures help you?

Resource

> Portal

> Training material

> Access to Charging experts

Navigate

> Single access point

> Sign posting

> Plain English

Influence

> Strategic change

> Whole system

> Implementation

Your involvement

Learn

Ask

Contribute

Charging Futures

Charging Futures

Reforming electricity charging together

Forum

Visit the new website

www.chargingfutures.com

Question and Answer

Paul Wakeley

Feedback

- We welcome your feedback
- **We are circulating a feedback form about your experiences today**
- Please help us to understand how we can improve these events, and how we can support you further

TNUoS Queries

charging.enquries@nationalgrid.com
01926 654633

Q&A

Lunch, Networking and Experts

Our Team are available to answer any further questions

Our lunchtime experts

Shiv Dhami		Demand Tariffs	Jessica Neish		Billing and AAHEDC
Shona Watt		Offshore	Paul Hitchcock		
Jo Zhou		Revenue & Circuits	Alice Grayson		Charging Futures
Tom Selby		Generation Tariffs	Jon Wisdom		CUSC Mods