

March Forecast of TNUoS Tariffs for 2021/22 - Webinar

NGESO Revenue Team

April 2020

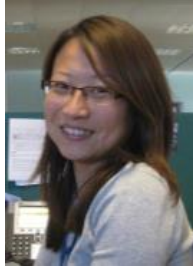
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Agenda

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 - 7 Onshore and offshore local tariffs
 - 8 Demand tariffs
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 - 10 Next Steps
-

Revenue team: TNUoS Tariff Forecasting & Setting



Rebecca Yang

Forecasting, setting and billing TNUoS to recover around £2.8bn of revenue per year from generators, demand and suppliers

Sarah Chleboun



- Offshore
- Annual Load Factors (ALFs)

Jo Zhou



- Revenue
- Onshore Local Circuits

Alice McCormick



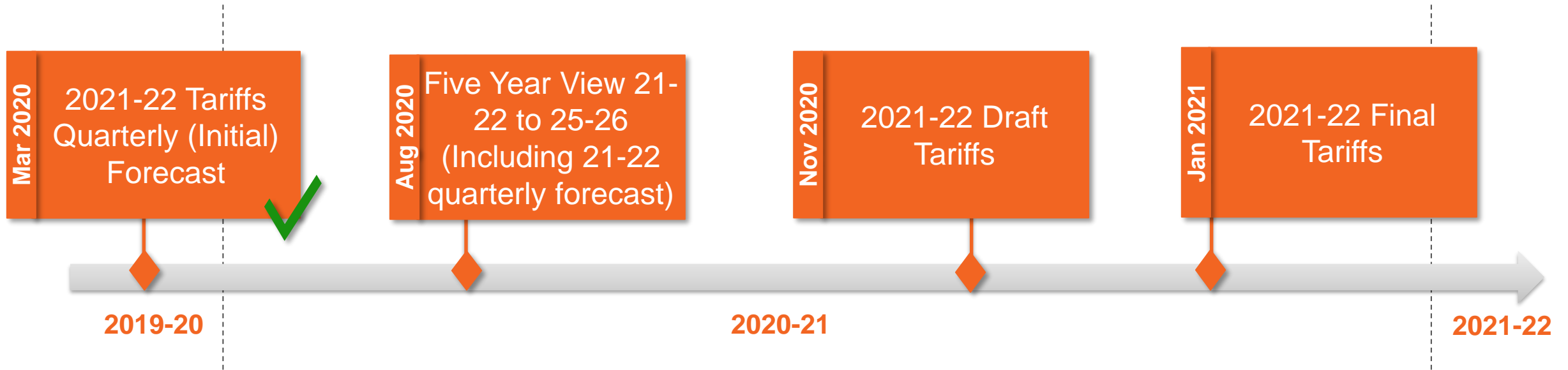
- Generation
- Local substation

Matt Wootton



- Demand
- EET

Tariff Timetable



- These forecast tariffs will be refined throughout the year, the final tariffs will be published by 31st January 2021 and take effect from 01 April 2021.
- Ofgem made decision on the Targeted Charging Review, and CUSC mod proposals have been raised to implement these policy decisions into the CUSC. CMP317/327 (if approved) will affect 2021/22 tariffs.
- 2021/22 tariffs will be affected by RIIO-2 determinations (expected by November/December this year)

Overview of changes in this forecast

TCR: TGR changes have been included in the base case, TDR has been included as a sensitivity case.

RIIO-2: Several parameters must be reset for April 2021, our assumptions for this forecast are listed below. Further indicative RIIO-2 parameters will be included in the 5 Year View, for those where input information becomes available later in the year.

| RIIO-2 Parameters | Forecast Assumptions |
|------------------------------------|---|
| Maximum Allowed Revenue | Based on current onshore TOs' MAR forecast under relevant STC procedures |
| Generation Zones | Base case assumption is 27 zones (as per RIIO-1 zones) with sensitivity cases given for 14 zones (as per CMP324/5) and 48 zones (current methodology). |
| Expansion Constants & Factors | Existing expansion constant inflated by RPI and no change to expansion factors |
| Locational Onshore Security Factor | Security Factor remains as 1.8, as per existing value |
| Avoided GSP Infrastructure Credit | Existing AGIC value, inflated by RPI |
| Local Substation Tariffs | Existing tariffs, inflated by RPI |
| Offshore Local Tariffs | Tariffs have been recalculated to adjust for differences in actual OFTO revenue to forecast revenue in RIIO-T1 Existing Offshore substation discount, inflated by RPI used as part of this calculation |

Forecast Processes and Key Messages

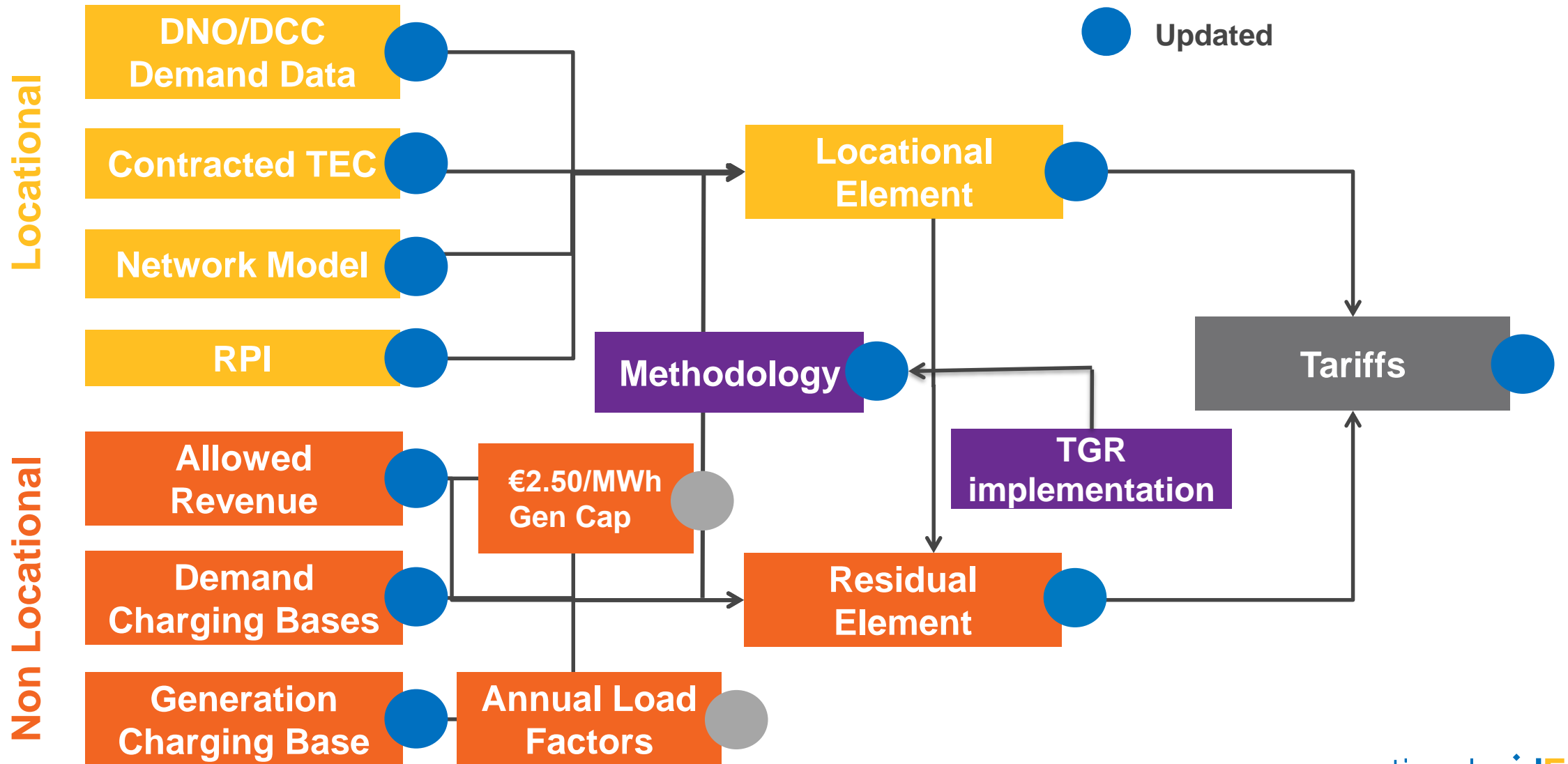


Input changes in our tariff publications

| No new data since last forecast | | Updated | | | Updated and locked down | |
|---------------------------------|---------------------------------|--|-----------------------------|-----------------------------|-----------------------------------|------------------------------|
| | | March | Five-year forecast | August | DRAFT Nov | FINAL Jan |
| Methodology | | Open to industry governance | | | | |
| Locational | DNO/DCC demand data | Demand forecast provided by DNOs/DCCs in 2019 (for charging year 2021/22) | | | DNOs/DCCs update by week24 | As per Draft Tariffs |
| | Contracted TEC | Latest TEC | Latest TEC | Latest TEC | TEC Register frozen at 31 October | As per Draft Tariffs |
| | Network model | As modelled in ETYS 2019 (except new local circuits) for charging year 2021/22 | | | Updated with ETYS 2020 | As per Draft Tariffs |
| Residual | Allowed revenue | Initial revenue forecast | Update financial parameters | Update financial parameters | Latest TO forecasts | Final TO revenue submissions |
| | Demand charging bases | Revised forecast | Revised forecast | Revised forecast | Revised forecast | Final forecast |
| | Generation charging base | ESO best view | ESO best view | ESO best view | ESO best view | ESO final best view |
| | Generation ALFs | As in 2019 ALF report | | | As in 2020 ALF report | As per Draft Tariffs |
| | Generation revenue | Forecast | Forecast | Fixed gen rev £m | As per August | As per August |

Key Inputs for March TNUoS Tariffs

- Not changed since last Tariffs
- Updated



Key Messages



- Total revenue is forecast to be £3,053m, an increase of £210m since 2020/21. The forecast was provided by the TOs', in advance of the publication of RIIO-2 determinations.
- Generation revenue is forecast to be £821m, an increase of £445.7m from 2020/21, mainly driven by TGR change. The proposed TGR change (CMP317/327) is still under development with the industry.
- The average generation tariff has increased by £5.39/kW to £10.69/kW, and the generation residual tariff has increased by £4.48/kW to -£0.37/kW.
- Demand revenue is forecast to be £2,233m in 2021/22, a decrease of £236m compared to 2020/21. Thus the average gross HH demand tariff is forecast to decrease by £4.31/kW to £45.25/kW, and the average NHH demand tariff is forecast to be 5.72p/kWh, a decrease of 0.30p/kWh.
- Small Generator Discount is expected to discontinue from April 2021.
- A few sensitivity scenarios are included due to the uncertainties in methodology changes.
- The TNUoS impact on the end consumer is forecast to be £32.02 per year, a reduction of £1.72 from 2020/21 as a result of the reduced NHH tariffs.

Revenue



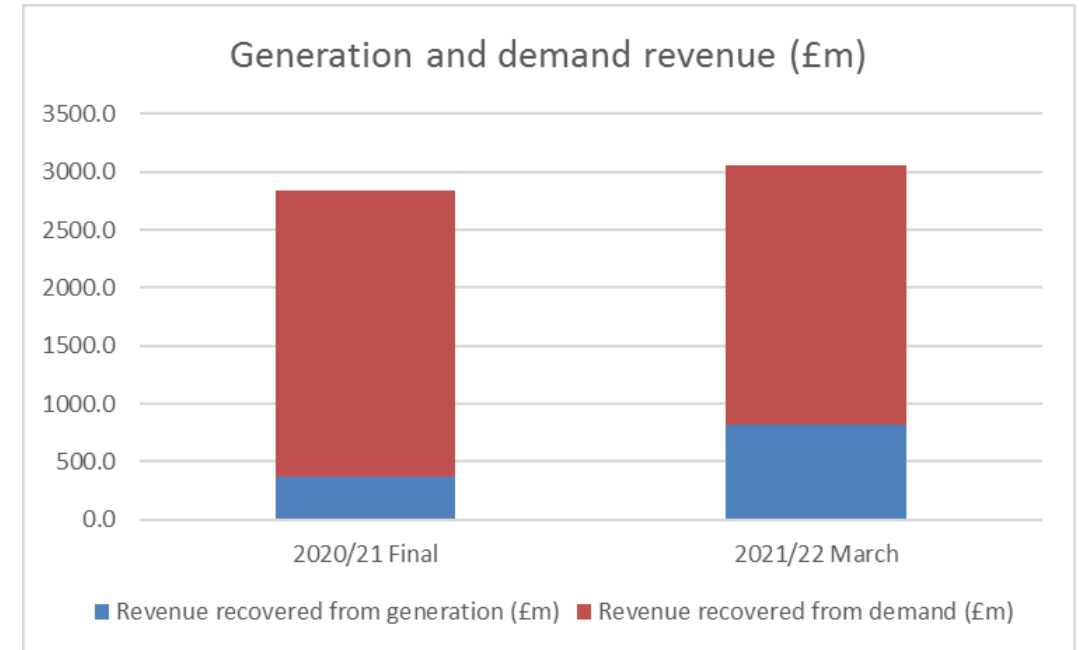
Revenue

| £m Nominal | 2021/22 TNUoS Revenue | | | |
|--|-----------------------|-----------------|-----------|-----------|
| | March Forecast | August Forecast | Nov Draft | Jan Final |
| NGET Income from TNUoS | 1754.9 | | | |
| SPT Income from TNUoS | 376.7 | | | |
| SHE Income from TNUoS | 374.0 | | | |
| Other Pass-through from TNUoS | 17.4 | | | |
| Offshore (plus IFA contribution / allowance) | 529.9 | | | |
| Total to Collect from TNUoS | 3053.1 | | | |

- Total revenue is forecast to be £3,053m, an increase by £210m from 2020/21.
- This figure is highly indicative, and is based on February 2020 forecast by TOs.
- RIIO-2 determination is expected to be published by late 2020 (draft determination to be published this summer).

Summary of revenue to be recovered

| Revenue | The G/D Split | |
|--|------------------|------------------|
| | 2020/21 Final | 2021/22 March |
| Total Revenue (£m) | 2,843.0 | 3,053.1 |
| Generation Output (TWh) | 199.8 | 199.8 |
| % of revenue from generation | 13.2% | 26.9% |
| % of revenue from demand | 86.8% | 73.1% |
| Revenue recovered from generation (£m) | 374.9 | 820.6 |
| Revenue recovered from demand (£m) | 2468.1 | 2232.6 |



- Generation revenue increased by £446m as a result of TGR (TNUoS Generation Residual) change
- CMP317/327 seek to remove “assets required for connection” from calculation of “EU gen cap”, and to remove generation residual
- Further information (and various options being developed) are available from the CMP317/327 workgroup

The image features four Edison-style light bulbs hanging in a row from top to bottom, slightly out of focus. They are illuminated, casting a warm, yellowish glow. The background is a soft, warm orange gradient. A white curved shape on the right side of the image contains the title text.

Generation Tariffs

Transmission Generation Residual (TGR)

- For this forecast we have modelled the tariffs based on Ofgem’s final decision for the Targeted Charging Review (TCR) .
- As part of our modelling of the changes to the TGR, we have assumed that local onshore and offshore tariffs are not included in the European €2.50/MWh cap as proposed under CMP317.
- This has resulted in residual tariff being greatly increased, becoming less negative. This would increase the amount generators pay for TNUoS.

| Generation Tariffs (£/kW) | 2020/21 Final | 2021/22 March | Change since last forecast |
|----------------------------|---------------|---------------|----------------------------|
| Residual | - 4.849145 | - 0.365971 | 4.483175 |
| Average Generation Tariff* | 5.299849 | 10.690216 | 5.390367 |

* The average generation tariff is calculated by dividing the total revenue payable by generation over the generation charging base in GW.

Generation charging base changes

- TEC values have been updated in line with the February 2020 TEC register
- Generation chargeable TEC is forecast to increase by 6.1GW in 2021/22 due to new generation connecting. This includes our internal best view.
- An increase to the charging base has decreased the generation tariffs, but the increase in the residual tariff has overall increased generation tariffs.

| Generation (GW) | 2020/21 | 2021/22 |
|------------------------|---------|---------|
| | Final | March |
| Contracted TEC | 84.9 | 93.6 |
| Modelled Best View TEC | 84.9 | 85.8 |
| Chargeable TEC | 70.7 | 76.8 |

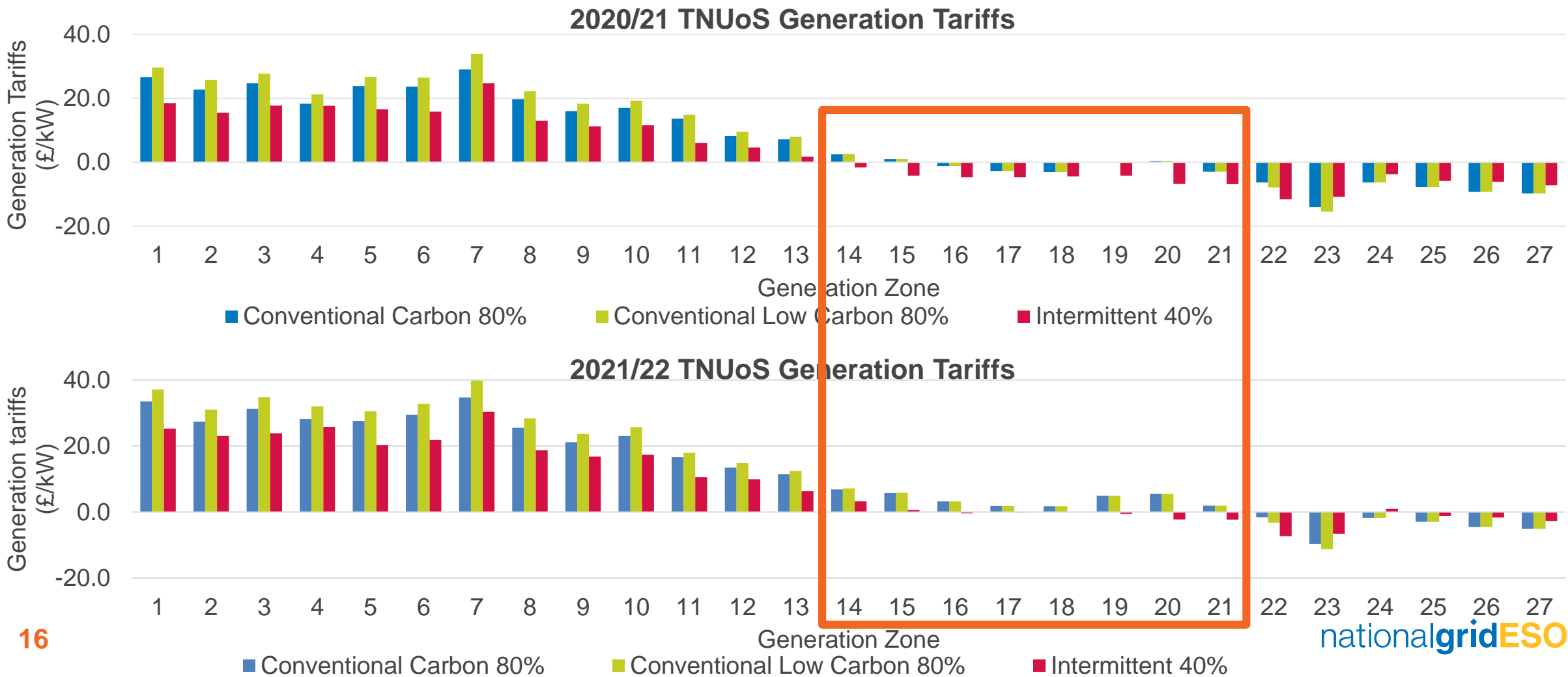
Contracted TEC – TEC as set out in the TEC register.

Modelled Best View Locational TEC – best view that the NGESO has for the forecasted locational TEC.

Chargeable TEC – our best view, taking into account the TEC used for charging purposes from the TEC register, excluding non chargeable generators, for example interconnectors.

Generation tariffs for 2021/22 – comparison to 2020/21

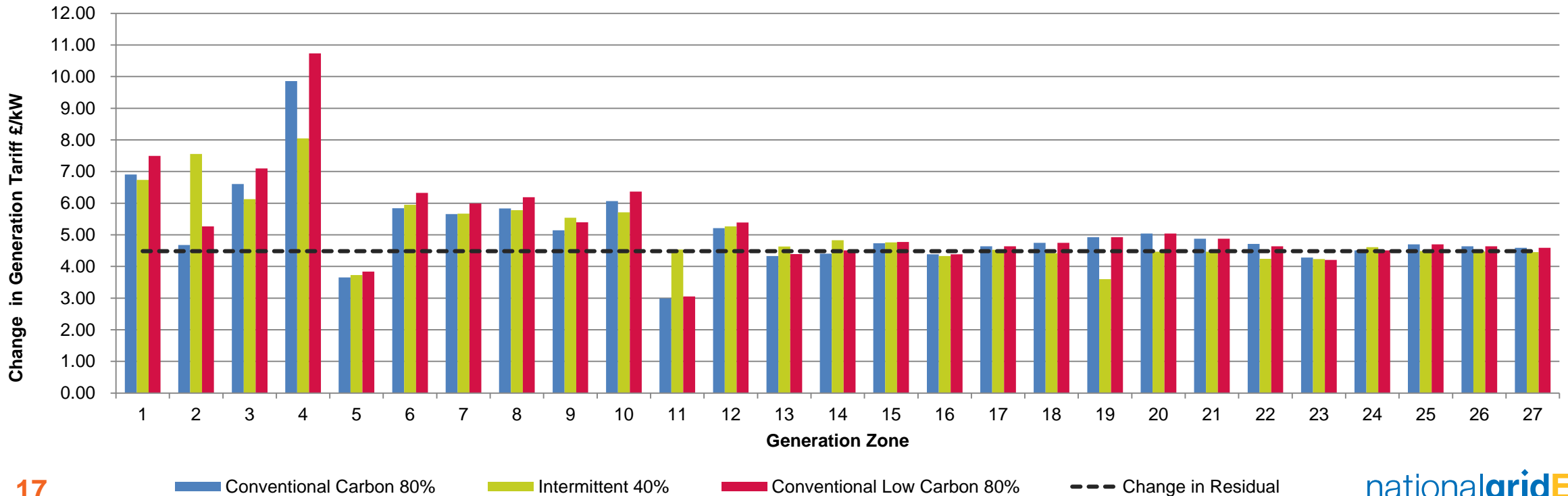
- Zones 14 – 21 have become positive tariffs, whereas in 2020/21 they were (mostly) negative



Generation tariff changes

- Residual has increased by £4.48/kW which accounts for majority of changes to generation tariffs
- The slight variance in change between zones is due to the update to the locational inputs, including locational demand, network changes and generation charging base.

Change in wider tariffs for conventional and intermittent power stations



Local Tariffs



Onshore Local Circuits Tariffs

- In general, system flow changes are minimal on local circuits, so local circuit tariffs are relatively stable.
- Most Tariffs have increased slightly, in line with RPI. Circuit parameters have been updated according to the latest ETYS data, causing tariff changes to some generators.

| Substation Name | (£/kW) | Substation Name | (£/kW) | Substation Name | (£/kW) |
|----------------------|-----------|------------------|------------|--------------------|------------|
| Aberarder | 1.723176 | Dunhill | 1.491347 | Luichart | 0.598907 |
| Aberdeen Bay | 2.714789 | Dunlaw Extension | 1.571780 | Marchwood | 0.397364 |
| Achruach | -2.661502 | Edinbane | 7.128354 | Mark Hill | 0.911649 |
| Aigas | 0.680979 | Ewe Hill | 2.534163 | Middle Muir | 2.063874 |
| An Suidhe | -0.998034 | Fallago | 0.453309 | Middleton | 0.154649 |
| Arcleoch | 2.162533 | Farr | 3.712344 | Millennium Wind | 1.901602 |
| Baglan Bay | 0.792284 | Fernoch | 4.579981 | Moffat | 0.197354 |
| Beinneun Wind Farm | 1.563856 | Ffestiniogg | 0.263425 | Mossford | 2.999728 |
| Bhlaraidh Wind Farm | 0.672259 | Finlang | 0.333395 | Nant | - 1.279220 |
| Black Hill | 1.616991 | Foyers | 0.304988 | Necton | - 0.368537 |
| Black Law | 1.819385 | Galawhistle | 3.643300 | New Deer | 0.784018 |
| BlackCraig Wind Farm | 6.554480 | Glendoe | 1.915221 | Rhigos | 0.107677 |
| BlackLaw Extension | 3.858241 | Glenglass | 5.009818 | Rocksavage | 0.018429 |
| Clyde (North) | 0.114186 | Glen Kyllachy | - 0.476279 | Saltend | 0.018065 |
| Clyde (South) | 0.132051 | Gordonbush | 0.188836 | South Humber Bank | 0.430734 |
| Corriearth | 3.016432 | Griffin Wind | 10.113396 | Spalding | 0.295207 |
| Corriemoillie | 1.734082 | Hadyard Hill | 2.881961 | Strathbrora | 0.057532 |
| Coryton | 0.051463 | Harestanes | 2.631138 | Strathy Wind | 1.906648 |
| Cruachan | 1.900064 | Hartlepool | 0.213963 | Stronelaig | 1.118917 |
| Crystal Rig | 0.142250 | Invergarry | 0.381023 | Wester Dod | 0.496549 |
| Culligran | 1.804612 | Kilgallioch | 1.095821 | Whitelee | 0.110503 |
| Deanie | 2.964719 | Kilmorack | 0.205632 | Whitelee Extension | 0.307198 |
| Dersalloch | 2.508079 | Kype Muir | 1.544378 | | |
| Dinorwig | 2.498158 | Langage | 0.684805 | | |
| Dorenell | 2.185123 | Limekilns | 0.635038 | | |
| Dumnaglass | 1.180113 | Lochay | 0.381023 | | |

Onshore Local Substation Tariffs

- Local Substation tariffs will be recalculated in preparation for the start of the price control based on TO asset costs. Our assumption for this forecast is that they increase by RPI.
- Tariffs have increased slightly, in line with our forecast of May-Oct RPI.

| 2021/22 Local Substation Tariff (£/kW) | | | | |
|--|-----------------|----------|----------|----------|
| Substation Rating | Connection Type | 132kV | 275kV | 400kV |
| <1320 MW | No redundancy | 0.209048 | 0.119589 | 0.086167 |
| <1320 MW | Redundancy | 0.460515 | 0.284924 | 0.207219 |
| >=1320 MW | No redundancy | n/a | 0.374965 | 0.271175 |
| >=1320 MW | Redundancy | n/a | 0.615595 | 0.449334 |

Offshore Local Tariffs

- Tariffs are set at asset transfer, or the beginning of a price control, and are indexed in line with the revenue of the associated OFTO.
- These offshore tariffs have been recalculated, in preparation for the RIIO-2 period.
- Offshore tariffs will be refined in future forecasts as OFTO revenues and inflation data are updated and the Offshore substation discount is recalculated.
- Projects expected to asset transfer during 2020/21 will have tariffs calculated later this year.

| Offshore Generator | Tariff Component (£/kW) | | |
|----------------------|-------------------------|-----------|-----------|
| | Substation | Circuit | ETUoS |
| Barrow | 9.017025 | 46.992324 | 1.166884 |
| Burbo Bank | 11.266389 | 21.536282 | - |
| Dudgeon | 16.526172 | 25.730618 | - |
| Galloper | 16.841406 | 26.439601 | - |
| Greater Gabbard | 16.704427 | 38.299182 | - |
| Gunfleet | 19.538772 | 17.904168 | 3.346392 |
| Gwynt Y Mor | 20.792270 | 20.442180 | - |
| Humber Gateway | 12.171630 | 27.671602 | - |
| Lincs | 17.322768 | 67.625980 | - |
| London Array | 11.689926 | 39.663613 | - |
| Ormonde | 27.473019 | 51.125012 | 0.407423 |
| Race Bank | 10.122919 | 27.752994 | - |
| Robin Rigg | - 0.478335 | 34.072272 | 10.916539 |
| Robin Rigg West | - 0.478335 | 34.072272 | 10.916539 |
| Sheringham Shoal | 25.734868 | 30.165108 | 0.655701 |
| Thanet | 19.655822 | 36.597055 | 0.881020 |
| Walney 1 | 23.757356 | 47.252502 | - |
| Walney 2 | 22.123519 | 44.774026 | - |
| West of Duddon Sands | 9.152286 | 45.020395 | - |
| Westernmost Rough | 18.606280 | 31.453270 | - |

Demand Tariffs



Demand Tariffs

- The impact of COVID-19 on demand has not been taken into consideration in the forecasting of the 2021/22 demand tariffs.
- TDR is not in the base case for the 2021/22 tariffs but has been included as a sensitivity case.
- Due to the implementation of TGR, the revenue recovered through demand tariffs for 2021/22 is significantly lower in comparison to 2020/21.
- 2021/22 Tariffs do not include the impact of SGD, which is expected to discontinue from 01 April 2021.

| Zone | Zone Name | HH Demand Tariff (£/kW) | NHH Demand Tariff (p/kWh) | Embedded Export Tariff (£/kW) |
|------|-------------------|-------------------------|---------------------------|-------------------------------|
| 1 | Northern Scotland | 15.013659 | 2.044827 | - |
| 2 | Southern Scotland | 22.823089 | 2.942453 | - |
| 3 | Northern | 35.205172 | 4.389070 | - |
| 4 | North West | 41.853367 | 5.306145 | - |
| 5 | Yorkshire | 42.705231 | 5.255794 | - |
| 6 | N Wales & Mersey | 44.132320 | 5.508067 | 0.829249 |
| 7 | East Midlands | 46.383978 | 5.907568 | 3.080907 |
| 8 | Midlands | 47.942227 | 6.197093 | 4.639156 |
| 9 | Eastern | 48.577436 | 6.612843 | 5.274364 |
| 10 | South Wales | 45.290920 | 5.253280 | 1.987848 |
| 11 | South East | 51.480819 | 7.128290 | 8.177748 |
| 12 | London | 54.446552 | 5.488955 | 11.143481 |
| 13 | Southern | 52.819783 | 6.796496 | 9.516711 |
| 14 | South Western | 51.987570 | 7.218883 | 8.684499 |

| | |
|-----------------------------|-----------|
| Residual charge for demand: | 46.816636 |
|-----------------------------|-----------|

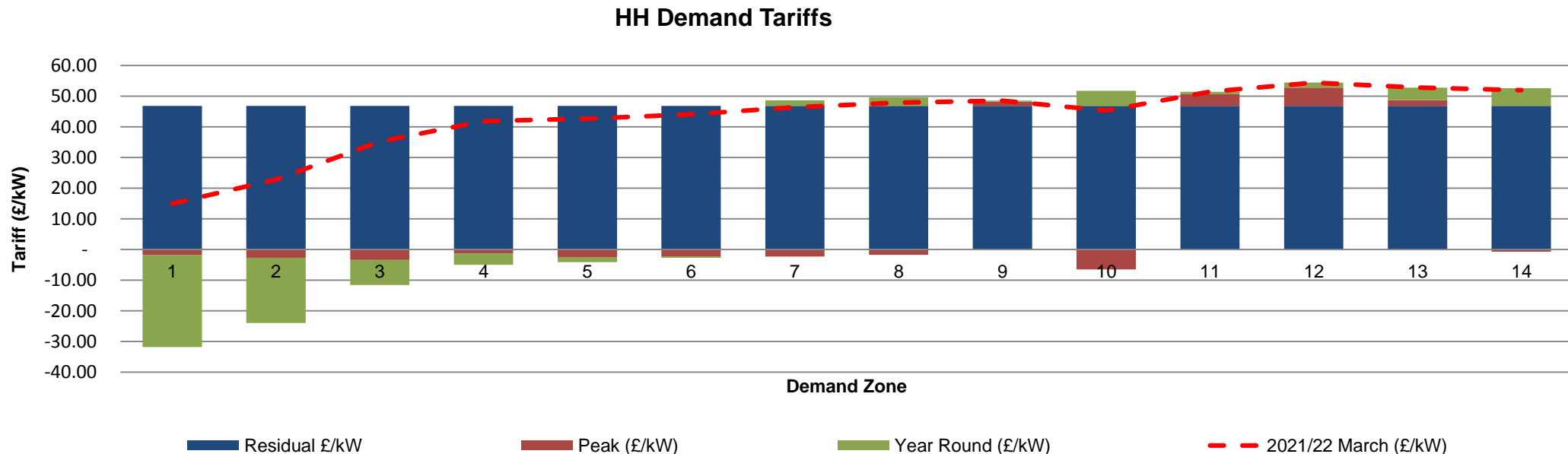
Demand volumes

- The HH demand charging base has decreased in comparison to 2020/21, taking into account forecast simulation data for 21/22 as well as outturn data for 2019/20
- As a result it is expected that less revenue will be collected from HH demand in 2021/22 in comparison to 2020/21
- This will increase the proportion of revenue to be collected via NHH demand and increase NHH tariffs in comparison

| Charging Base | 2020/21 | 2021/22 March | Change |
|------------------------------------|---------|------------------|--------|
| NHH Demand (4pm-7pm TWh) | 25.1 | 24.0 | -1.2 |
| Total Average Gross Triad (GW) | 50.4 | 50.0 | -0.4 |
| HH Demand Average Gross Triad (GW) | 19.6 | 19.4 | -0.2 |
| Embedded Generation Export (GW) | 7.2 | 6.8 | -0.4 |

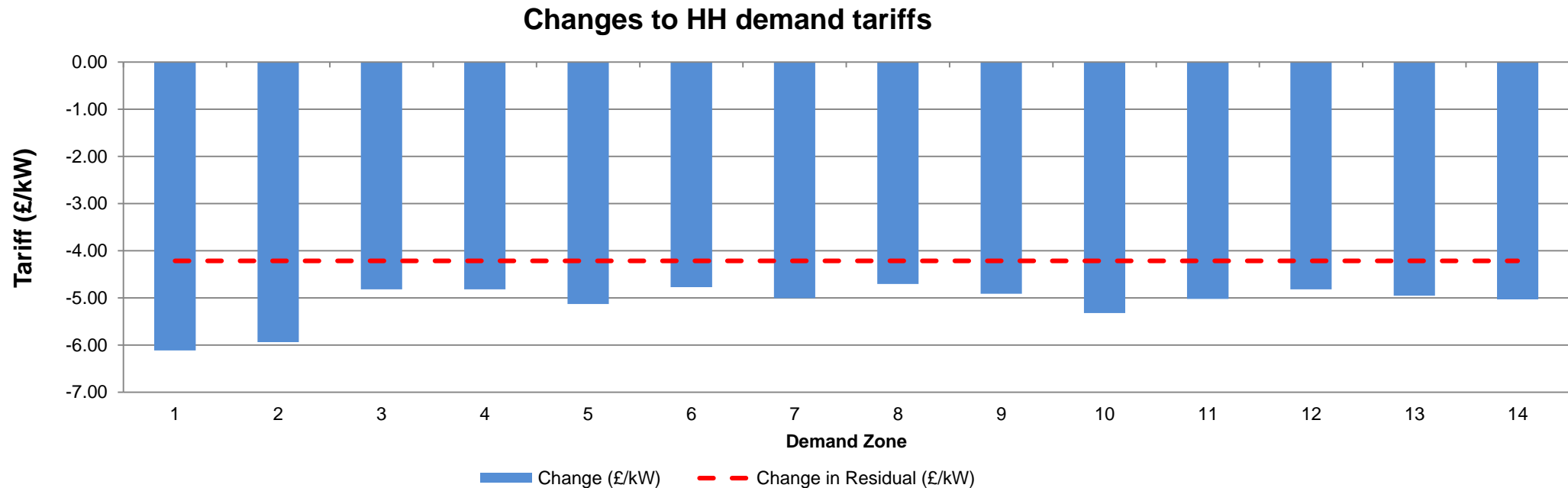
HH Demand Tariff

- The average tariff is £45.26/kW, a decrease of £4.30/kW compared to the 2020/21 tariffs due to the decrease in revenue to be recovered from demand tariffs due to the impact of TGR
- Less revenue is expected to be collected from HH demand due to the decrease in HH charging base for 2021/22, thus increasing the revenue to be collected via NHH demand and increase NHH tariffs
- The residual element of the tariffs has decreased by £5.06/kW



Changes to HH tariffs

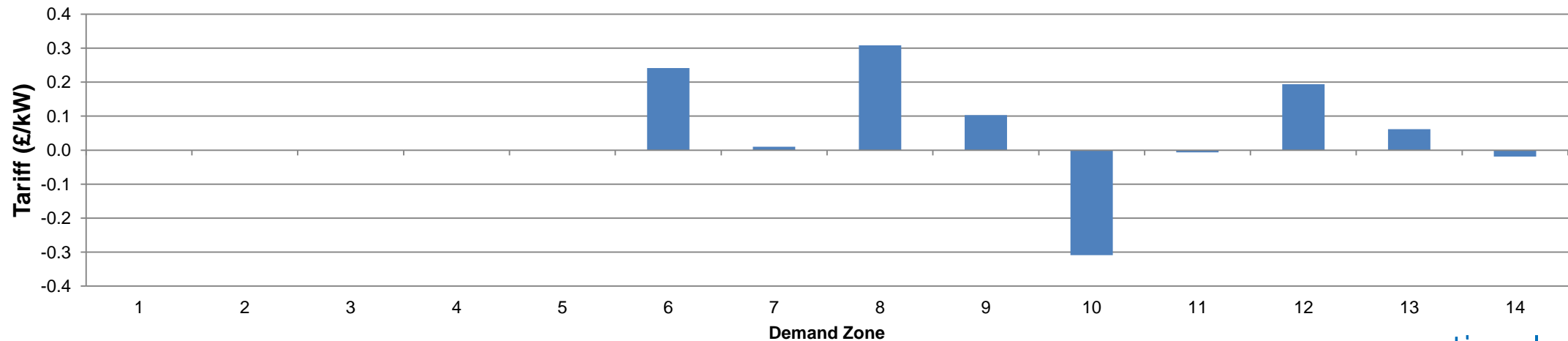
- The tariff has decreased in all zones, the decrease is spread relatively equal across the 14 zones with a slightly greater reduction (£6/kW) seen in zones 1 & 2
- Overall the HH demand tariffs have decreased due to the impact of TGR and the reduction in the demand residual



Embedded Export Tariff

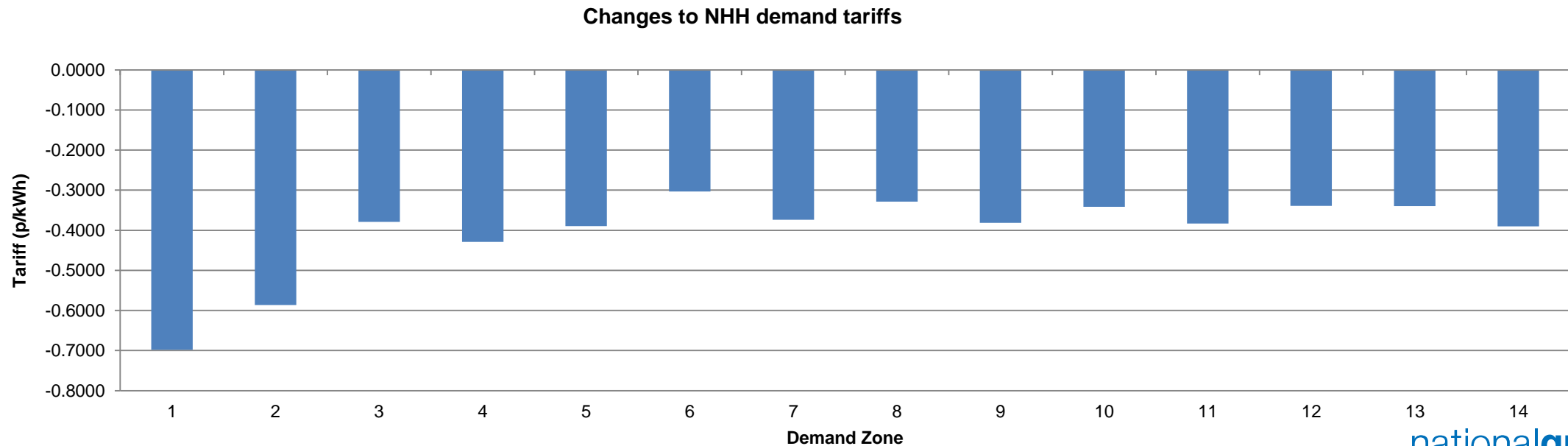
- There has been minimal change in comparison to the 2020/21 Tariffs, the average tariff has increased by £0.14/kW to £2.51/kW and the EET charging base has reduced by 0.4GW to 6.8GW
- Zones 1 to 5 have an EET of £0.00/kW due to the phased residual reduction under CMP264/265
- Zones 6, 8, 9, 12 & 13 have increased, with zone 8 up by roughly £0.3/kW
- Zone 10 has reduced by £0.3/kW
- Zones 7, 11, 14 have seen minimal changes

Changes to Embedded Export tariffs



NHH Tariffs

- The average NHH tariff is 5.72p/kWh, which has decreased by 0.31p/kWh in comparison to 2020/21 Tariffs, mainly due to the impact of TGR.
- The impact of the HH demand charging base decreasing, will also have an impact, decreasing the expected revenue to be collected from HH
- The NHH tariffs have decreased in all zones, zones 1 & 2 have reduced the most (0.60p - 0.70p/kWh) whilst zone 6 has decreased the least (0.3p/kWh). The remaining zones have adjusted around the 0.35p/kWh.



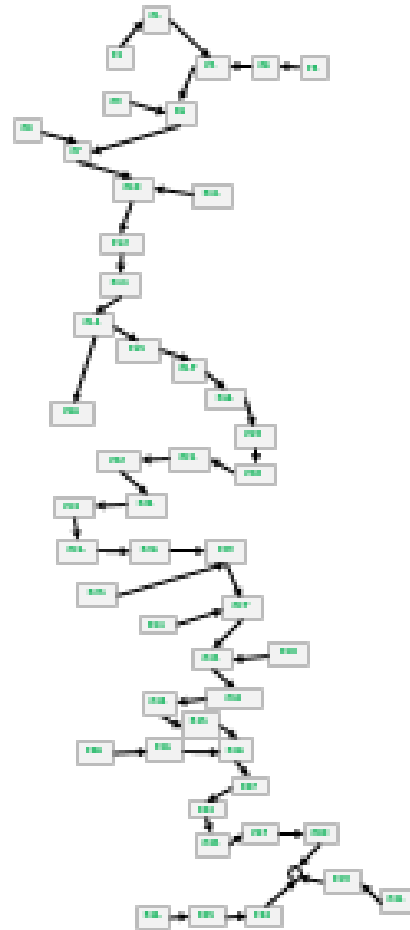
Sensitivity to change



Generation Zoning Sensitivity Analysis – 48 zones

- We are required under the CUSC to review generation zones at each price control
- Generation zones are then usually fixed within the price control period

| | | Tariffs (£/kWh) | | | | | | |
|------|-----------|---|-------------------|-----------------------|-----------|--|--|---------------------------------|
| | | Example tariffs for a generator of each technology type | | | | | | |
| Zone | Zone Name | System Peak | Shared Year Round | Not Shared Year Round | Residual | Conventional Carbon 80% Tariff (£/kWh) | Conventional Low Carbon 80% Tariff (£/kWh) | Intermittent 40% Tariff (£/kWh) |
| 1 | Zone 1 | 3.562264 | 15.707581 | 45.706194 | -0.016568 | 52.676716 | 61.817954 | 51.972658 |
| 2 | Zone 2 | 1.666866 | 15.707581 | 14.981859 | -0.016568 | 26.201851 | 29.198223 | 21.248324 |
| 3 | Zone 3 | 3.647810 | 15.707581 | 36.763887 | -0.016568 | 45.608417 | 52.961194 | 43.030352 |
| 4 | Zone 4 | -0.681317 | 19.694134 | 16.802836 | -0.016568 | 28.499691 | 31.860258 | 24.663922 |
| 5 | Zone 5 | 2.511181 | 16.445561 | 15.112523 | -0.016568 | 27.741080 | 30.763585 | 21.674179 |
| 6 | Zone 6 | 3.968410 | 19.314321 | 16.491983 | -0.016568 | 32.596885 | 35.895282 | 24.201144 |
| 7 | Zone 7 | 4.084331 | 19.694134 | 16.643999 | -0.016568 | 33.138270 | 36.467070 | 24.505085 |
| 8 | Zone 8 | 1.666866 | 17.905481 | 15.112523 | -0.016568 | 28.064701 | 31.087206 | 22.258147 |
| 9 | Zone 9 | 4.161072 | 20.270407 | 16.731945 | -0.016568 | 33.746385 | 37.092774 | 24.823540 |
| 10 | Zone 10 | 2.571733 | 14.471540 | 13.370668 | -0.016568 | 24.828932 | 27.503065 | 19.142716 |
| 11 | Zone 11 | 4.846430 | 14.471540 | 16.320069 | -0.016568 | 29.463150 | 32.727164 | 22.092117 |
| 12 | Zone 12 | 4.969074 | 16.786807 | 15.916695 | -0.016568 | 31.115308 | 34.298647 | 22.614850 |
| 13 | Zone 13 | 4.789462 | 15.273896 | 14.189360 | -0.016568 | 28.343499 | 31.181371 | 20.282350 |
| 14 | Zone 14 | 4.556804 | 14.886756 | 13.736887 | -0.016568 | 27.439151 | 30.186528 | 19.675022 |
| 15 | Zone 15 | 4.214900 | 19.663711 | 17.181704 | -0.016568 | 33.674665 | 37.111006 | 25.030621 |
| 16 | Zone 16 | 2.535133 | 9.949844 | 13.736887 | -0.016568 | 21.467951 | 24.215328 | 17.700257 |
| 17 | Zone 17 | 3.770178 | 12.634000 | 12.005011 | -0.016568 | 23.464819 | 25.865821 | 17.042043 |
| 18 | Zone 18 | 2.098013 | 12.030364 | 11.663775 | -0.016568 | 21.036755 | 23.369510 | 16.459352 |
| 19 | Zone 19 | 2.233786 | 12.560223 | 11.989546 | -0.016568 | 21.857033 | 24.254942 | 16.997067 |
| 20 | Zone 20 | 2.759209 | 8.495345 | 9.014648 | -0.016568 | 16.750636 | 18.553566 | 12.396218 |
| 21 | Zone 21 | 2.582738 | 8.901379 | 9.516437 | -0.016568 | 17.300423 | 19.203711 | 13.060421 |
| 22 | Zone 22 | 2.528946 | 10.388414 | 11.418425 | -0.016568 | 19.957850 | 22.241335 | 15.557223 |
| 23 | Zone 23 | 1.989746 | 7.132156 | 7.110870 | -0.016568 | 13.367598 | 14.789772 | 9.947164 |
| 24 | Zone 24 | 1.682862 | 6.006774 | 5.676647 | -0.016568 | 11.018431 | 12.153761 | 8.062789 |
| 25 | Zone 25 | 3.359657 | 11.704461 | 0.000000 | -0.016568 | 12.706658 | 12.706658 | 4.665217 |
| 26 | Zone 26 | 3.918572 | 4.466869 | 3.675570 | -0.016568 | 10.415956 | 11.151070 | 5.445750 |
| 27 | Zone 27 | 1.728953 | 6.867596 | 0.000000 | -0.016568 | 7.206462 | 7.206462 | 2.730471 |
| 28 | Zone 28 | 4.588162 | 1.778376 | 0.132201 | -0.016568 | 6.100056 | 6.126497 | 0.826984 |
| 29 | Zone 29 | 3.509931 | -0.017503 | 0.000000 | -0.016568 | 3.479361 | 3.479361 | -0.023569 |
| 30 | Zone 30 | 1.987654 | 0.480138 | 0.000000 | -0.016568 | 2.355196 | 2.355196 | 0.175487 |
| 31 | Zone 31 | 5.345478 | -0.513243 | 0.000000 | -0.016568 | 4.918316 | 4.918316 | -0.221865 |
| 32 | Zone 32 | 3.270948 | -2.165891 | 0.000000 | -0.016568 | 1.521668 | 1.521668 | -0.882924 |
| 33 | Zone 33 | 1.807946 | -3.083163 | 0.000000 | -0.016568 | -0.675152 | -0.675152 | -1.249833 |
| 34 | Zone 34 | 0.106514 | 1.645998 | 0.000000 | -0.016568 | 1.406744 | 1.406744 | 0.641831 |
| 35 | Zone 35 | -2.283183 | 1.851460 | 0.000000 | -0.016568 | -0.818583 | -0.818583 | 0.724016 |
| 36 | Zone 36 | 9.703171 | -4.860177 | 0.000000 | -0.016568 | 5.798461 | 5.798461 | -1.960539 |
| 37 | Zone 37 | -5.928025 | -4.294744 | 0.000000 | -0.016568 | -9.380388 | -9.380388 | -1.734465 |
| 38 | Zone 38 | -1.882916 | -0.215130 | 0.000000 | -0.016568 | -2.071588 | -2.071588 | -0.102620 |
| 39 | Zone 39 | -4.564615 | 4.212092 | 0.000000 | -0.016568 | -1.211509 | -1.211509 | 1.668269 |
| 40 | Zone 40 | -4.614080 | 2.468493 | 0.000000 | -0.016568 | -2.655854 | -2.655854 | 0.970829 |
| 41 | Zone 41 | -4.213155 | 3.892558 | 0.000000 | -0.016568 | -1.115677 | -1.115677 | 1.540455 |
| 42 | Zone 42 | -2.865273 | -2.247798 | 0.000000 | -0.016568 | -4.680079 | -4.680079 | -0.915687 |
| 43 | Zone 43 | 0.084155 | -3.911858 | 0.000000 | -0.016568 | -3.061899 | -3.061899 | -1.581311 |
| 44 | Zone 44 | -3.613366 | -0.302511 | 0.000000 | -0.016568 | -3.871942 | -3.871942 | -0.137572 |
| 45 | Zone 45 | -1.627052 | -3.224741 | 0.000000 | -0.016568 | -4.223412 | -4.223412 | -1.306464 |
| 46 | Zone 46 | -0.147702 | -5.811403 | 0.000000 | -0.016568 | -4.813392 | -4.813392 | -2.341129 |
| 47 | Zone 47 | 2.818669 | -5.037728 | 0.000000 | -0.016568 | -1.228081 | -1.228081 | -0.031659 |
| 48 | Zone 48 | 6.271503 | -4.995642 | 0.000000 | -0.016568 | 2.258421 | 2.258421 | -0.014825 |

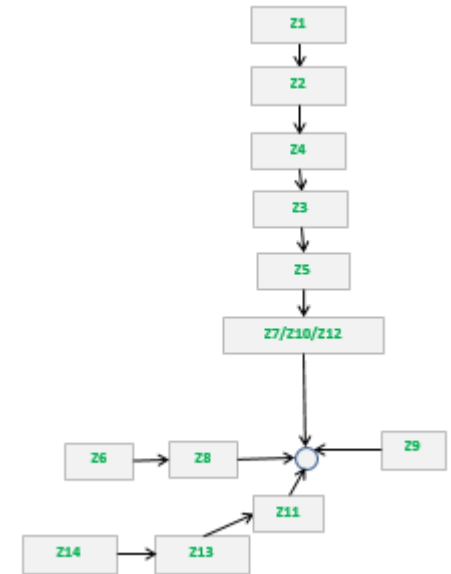


- These are the indicative generation zones under the current CUSC zoning criteria, and the connectivity map
- Zones can only be finalised when Transmission Owners (TOs) business plans are approved (expected November/December this year)
- Larger variations in zonal tariffs under 48 zones, compared to 27 zones as today

Generation Zoning Sensitivity Analysis – 14 zones

- CUSC mods CMP324/325 have been raised to review zoning criteria
- One of the options is to align generation zones with demand zones (14 in total)
- The indicative tariffs and connectivity map are given below (also published on our website)
- We have also published a table that maps sites to generation zones, under this option and the 48-zones option

| | | Tariffs (£/kW) | | | | | | |
|------|-------------------|---|-------------------|-----------------------|-----------|---------------------------------------|---|--------------------------------|
| | | Example tariffs for a generator of each technology type | | | | | | |
| Zone | Zone Name | System Peak | Shared Year Round | Not Shared Year Round | Residual | Conventional Carbon 80% Tariff (£/kW) | Conventional Low Carbon 80% Tariff (£/kW) | Intermittent 40% Tariff (£/kW) |
| 1 | Northern Scotland | 3.338886 | 16.579329 | 16.503310 | -0.205536 | 29.599462 | 32.900124 | 22.929506 |
| 2 | Southern Scotland | 3.390889 | 11.266905 | 10.105931 | -0.205536 | 20.283622 | 22.304809 | 14.407157 |
| 3 | Northern | 3.813018 | 6.528988 | 3.474334 | -0.205536 | 11.610140 | 12.305007 | 5.880394 |
| 4 | North West | 1.575110 | 4.974846 | 1.600107 | -0.205536 | 6.629537 | 6.949559 | 3.384510 |
| 5 | Yorkshire | 4.588161 | 1.778122 | 0.132455 | -0.205536 | 5.911087 | 5.937578 | 0.638168 |
| 6 | N Wales & Mersey | 3.863046 | -0.379782 | 0.000000 | -0.205536 | 3.353685 | 3.353685 | -0.357448 |
| 7 | East Midlands | 3.381296 | -0.441592 | 0.000000 | -0.205536 | 2.822487 | 2.822487 | -0.382172 |
| 8 | Midlands | 1.879293 | -2.418201 | 0.000000 | -0.205536 | -0.260804 | -0.260804 | -1.172816 |
| 9 | Eastern | -1.318947 | 1.827479 | 0.000000 | -0.205536 | -0.062499 | -0.062499 | 0.525456 |
| 10 | South Wales | 7.658428 | -0.441592 | -4.493631 | -0.205536 | 3.504713 | 2.605987 | -4.875804 |
| 11 | South East | -4.499261 | 3.286479 | 0.000000 | -0.205536 | -2.075613 | -2.075613 | 1.109056 |
| 12 | London | -3.685840 | -0.441592 | -1.423907 | -0.205536 | -5.383775 | -5.668556 | -1.806079 |
| 13 | Southern | -1.278689 | -2.689242 | 0.000000 | -0.205536 | -3.635618 | -3.635618 | -1.281232 |
| 14 | South Western | 0.974095 | -5.143217 | 0.000000 | -0.205536 | -3.346014 | -3.346014 | -2.262822 |



Transmission Demand Residual (TDR) Sensitivity Analysis

- TDR has the expected implementation date of April 2022, and thus is not part of the “central case” in this forecast
- We have however included a high-level and indicative analysis, to provide an early view
- Specific methodology options (e.g. floored/unfloored locational tariffs) and details (e.g. definition of sites) are being developed by the industry through CUSC mod process

| Demand Residual Band | Consumption (GWh) | Consumption portion (%) | Revenue by Bands (£m) | Site Count | TDR Charge (£/Site) /year |
|------------------------|-------------------|-------------------------|-----------------------|------------|---------------------------|
| Domestic | 80620 | 33.60% | 719.2 | 27800000 | 26 |
| LV_NoMIC_1 | 1142 | 0.48% | 10.2 | 715298 | 14 |
| LV_NoMIC_2 | 4413 | 1.84% | 39.4 | 536323 | 73 |
| LV_NoMIC_3 | 5193 | 2.16% | 46.3 | 268160 | 173 |
| LV_NoMIC_4 | 15653 | 6.52% | 139.6 | 268188 | 521 |
| LV1 | 8904 | 3.71% | 79.4 | 73131 | 1086 |
| LV2 | 12011 | 5.01% | 107.1 | 59237 | 1809 |
| LV3 | 6818 | 2.84% | 60.8 | 21649 | 2809 |
| LV4 | 19050 | 7.94% | 169.9 | 26904 | 6316 |
| HV1 | 4648 | 1.94% | 41.5 | 9165 | 4524 |
| HV2 | 13104 | 5.46% | 116.9 | 7462 | 15665 |
| HV3 | 9156 | 3.82% | 81.7 | 2680 | 30475 |
| HV4 | 28674 | 11.95% | 255.8 | 3407 | 75074 |
| EHV1 | 167 | 0.07% | 1.5 | 517 | 2878 |
| EHV2 | 3949 | 1.65% | 35.2 | 395 | 89182 |
| EHV3 | 5093 | 2.12% | 45.4 | 174 | 261083 |
| EHV4 | 17610 | 7.34% | 157.1 | 192 | 818176 |
| Transmission connected | 3699 | 1.54% | 33.0 | 65 | 507600 |

| Zone | Zone Name | Demand locational (floored) | | |
|------|-------------------|-----------------------------|---------------------------|-------------------------------|
| | | HH Demand Tariff (£/kW) | NHH Demand Tariff (p/kWh) | Embedded Export Tariff (£/kW) |
| 1 | Northern Scotland | 0.000000 | 0.000000 | 0.000000 |
| 2 | Southern Scotland | 0.000000 | 0.000000 | 0.000000 |
| 3 | Northern | 0.000000 | 0.000000 | 0.000000 |
| 4 | North West | 0.000000 | 0.000000 | 0.000000 |
| 5 | Yorkshire | 0.000000 | 0.000000 | 0.000000 |
| 6 | N Wales & Mersey | 0.000000 | 0.000000 | 0.829249 |
| 7 | East Midlands | 0.000000 | 0.000000 | 3.080908 |
| 8 | Midlands | 1.125592 | 0.145496 | 4.639157 |
| 9 | Eastern | 1.760800 | 0.239698 | 5.274365 |
| 10 | South Wales | 0.000000 | 0.000000 | 1.987849 |
| 11 | South East | 4.664184 | 0.645826 | 8.177749 |
| 12 | London | 7.629917 | 0.769200 | 11.143482 |
| 13 | Southern | 6.003147 | 0.772445 | 9.516712 |
| 14 | South Western | 5.170934 | 0.718025 | 8.684499 |

Small Generator Discount (SGD) Sensitivity Analysis

- The SGD is expected to discontinue after 31 March 2021, therefore applicable generators will no longer receive the discount to their TNUoS tariffs.
- Similarly, there will be no additional charge added to demand tariffs to recover the cost of the scheme.
- However, if the SGD is extended using the same methodology, we forecast:

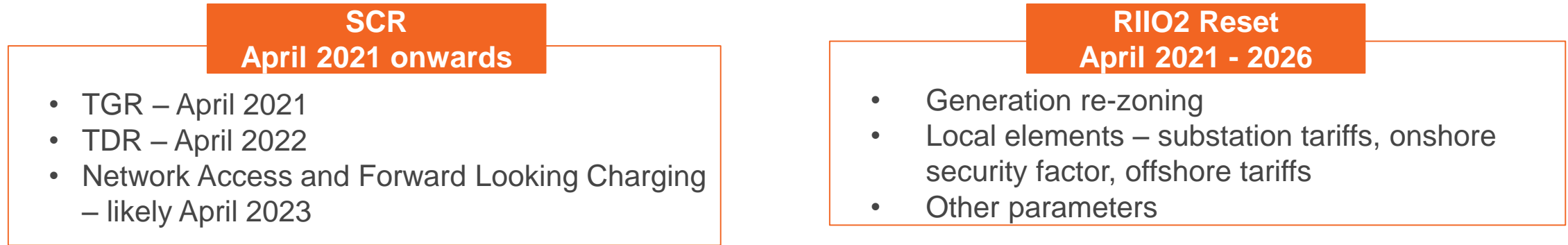
| | |
|--|---------------|
| Generator Discount | £11.612666/kW |
| Half-hourly demand tariff increase | £0.716111/kW |
| Non half-hourly demand tariff increase | 0.091407p/kWh |

Next Steps

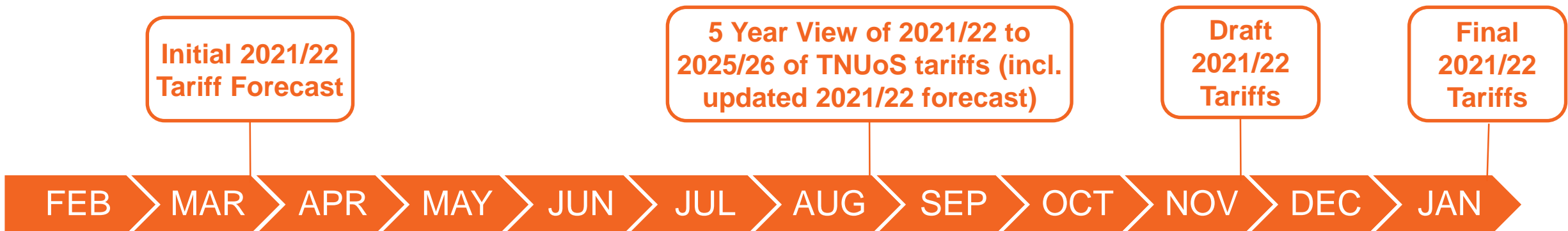


TNUoS Tariffs Forecast Timetable for 2021/22 Tariffs

There are currently many ongoing changes that will impact the TNUoS charging methodology and will therefore affect the value and accuracy of our forecasts.



The timetable for 2021/22 tariff forecast publications is as below:



Getting involved

Transmission Charging Methodology Forum (TCMF)

- We will continue to engage with you on the content of our forecasts via the monthly TCMF meetings.

Interested? Further details can be found on the NGESO [website](#)

Charging Future Forum

- One place to learn, contribute and shape the reform of GB's electricity network access and charging arrangements

Interested? Further information can be found on the Charging Futures [Website](#) or sign up to receive more information [here](#).

If you're not already subscribed to our mailing list you can [subscribe here](#)

Getting in touch

Your Questions

If you have any questions about this forecast please submit them via sli.do by 24th April, we will then provide answers via a Q&A document on our website.

Your Feedback

We are continuously 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

TNUoS
Queries

E: Tnuos.Queries@nationalgrideso.com

Your Questions & Feedback survey:

Go to: www.slido.com
Event code: **#MarchTariffs**
Respond to 3 questions under 'Polls' and ask your questions under 'Q&A'

Thank You





TNUoS
Queries

E: Tnuos.queries@nationalgrideso.com

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