

CMP424: Amendments to Scaling Factors used for Year Round TNUoS Charges

Workgroup Meeting 3

5 March 2024 1pm

Online Meeting via Teams

WELCOME





Objectives

Claire Goult – ESO Code Administrator



Objectives

- **Timeline Update**
- **Terms of Reference Update**
- **Action Update**
- **Review and finalise the Workgroup Consultation**
- **Consider Workgroup Consultation Specific Questions**
- **AOB**
- **Next Steps**



Timeline Update

Claire Goult – ESO Code Administrator

Timeline for CMP424 – Updated 12 Feb

Milestone	Date	Milestone	Date
Proposal Presented to Panel	27 October 2023	Panel sign off that Workgroup Report has met its Terms of Reference	CUSC Panel Date 26 April 2024
Workgroup Nominations	31 October 2023 – 2 January 2024 (Extended)	Code Administrator Consultation (15 working days)	30 April 2024 – 21 May 2024
Workgroup 1 – Understand / discuss proposal and solution(s), review and agree on Terms of Reference and Timeline, review cross code impacts, review analysis and agree next steps.	24 January 2024	Draft Final Modification Report (DFMR) issued to Panel	20 June 2024 (Papers Day)
Workgroup 2/3 – Refine solution(s), draft legal text, consider potential Workgroup Consultation questions and finalise Workgroup Consultation	Thursday 22 Feb Tues 5 March (afternoon 1-3pm)	Panel undertake DFMR recommendation vote	CUSC Panel Date 28 June 2024
Workgroup Consultation (15 Working Days)	7 March – 27 March	Final Modification Report issued to Panel to check votes recorded correctly (5 working days)	01 July 2024 – 08 July 2024
Workgroup 4 – Review Workgroup Consultation responses, consider new points raised, refine solution, review legal text and discuss any potential alternatives	9 April 2024	Final Modification Report issued to Ofgem	09 July 2024
Workgroup 5 – Finalise solutions (including legal text) and alternatives and hold alternative vote. Finalise Workgroup Report and hold Workgroup Vote	16 April 2024	Ofgem decision	By 30 September 2024
Workgroup Report issued to Panel (5 working days)	18 April 2024 (Papers Day)	Implementation Date	01 April 2025



Terms of Reference Update

Claire Goult – ESO Code Administrator

CMP424:Amendments to Scaling Factors used for Year Round TNUoS Charges

The Workgroup would like reflect the following within their Terms of Reference:

Amended Workgroup Terms of Reference

a) Consider EBR implications

b) Consider ~~where the minimal level of the variable factor should be set~~ the appropriate scaling factor for each generation type

c) Consider potential impact on tariffs

- **Panel agreed** the amended and additional point within the Terms of Reference.



Action Update

Martin Cahill - Proposer

Action number	Workgroup Raised	Owner	Action	Comment	Due by	Status
2	WG1	MC	Assess any link between scaling factors and system operation - for example minimum CCGT generation, instructing wind off etc	More detail and explanation required.	WG2	Open
6	WG1	MC	Capture any crossover impact of this modification on the Central Strategic Network Plan (CSNP) or any other processes	More detail and explanation required.	WG2	Open
7	WG2	MC	Circulate Generation levels data for each technology type for Tariff impact examples		WG3	New
8	WG2	MC	Share information on SQSS modification GSR009 with regards original rationale on Scaling Factors.		WG3	New
9	WG2	MC	Add context around charts presented at WG2 and add axis labels.		WG3	New
10	WG2	MC	Speak to the TNUoS Taskforce for information on the “Backgrounds” work being undertaken by the Taskforce.		WG3	New
11	WG2	MC	Speak to NOA team for any assistance on narrative around - Assess any link between scaling factors and system operation - for example minimum CCGT generation, instructing wind off etc		WG3	New

Generation Figures under different min scaling factor scenarios

Baseline 2%

Generator Type	TEC	Year Round Transport Model Scaling
Biomass	2,295.1	2%
CCGT	28,222.8	2%
CHP	1,450.4	2%
Coal	3,401.6	2%
Hydro	534.7	2%
Interconnectors	16,623.2	100%
Nuclear	7,940.8	85%
OCGT	1,868.8	0%
Pump Storage	8,791.5	50%
Tidal	56.8	70%
Wave	-	70%
Wind Offshore	20,591.9	70%
Wind Onshore	12,140.2	70%

5%

Generator Type	TEC	Year Round Transport Model Scaling
Biomass	2,295.1	5%
CCGT	28,222.8	5%
CHP	1,450.4	5%
Coal	3,401.6	5%
Hydro	534.7	5%
Interconnectors	16,623.2	98%
Nuclear	7,940.8	83%
OCGT	1,868.8	0%
Pump Storage	8,791.5	49%
Tidal	56.8	69%
Wave	-	69%
Wind Offshore	20,591.9	69%
Wind Onshore	12,140.2	69%

10%

Generator Type	TEC	Year Round Transport Model Scaling
Biomass	2,295.1	10%
CCGT	28,222.8	10%
CHP	1,450.4	10%
Coal	3,401.6	10%
Hydro	534.7	10%
Interconnectors	16,623.2	94%
Nuclear	7,940.8	80%
OCGT	1,868.8	0%
Pump Storage	8,791.5	47%
Tidal	56.8	66%
Wave	-	66%
Wind Offshore	20,591.9	66%
Wind Onshore	12,140.2	66%

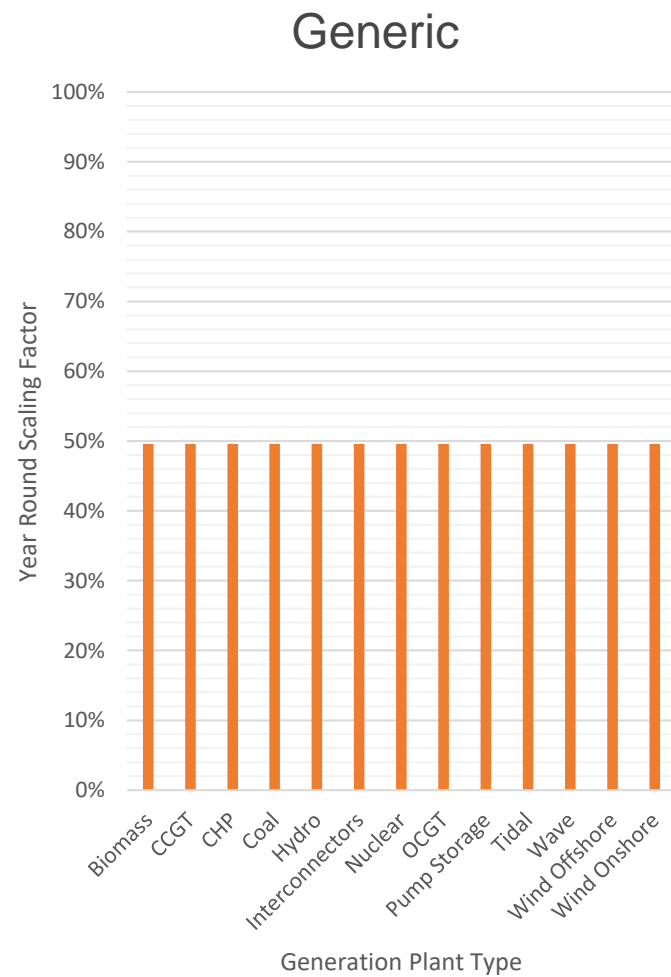
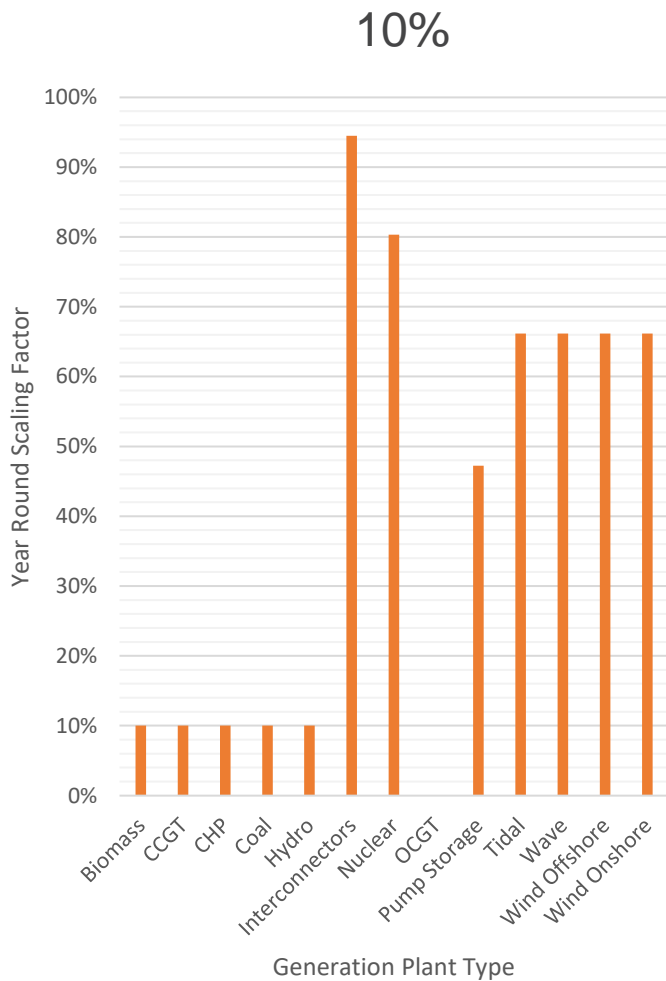
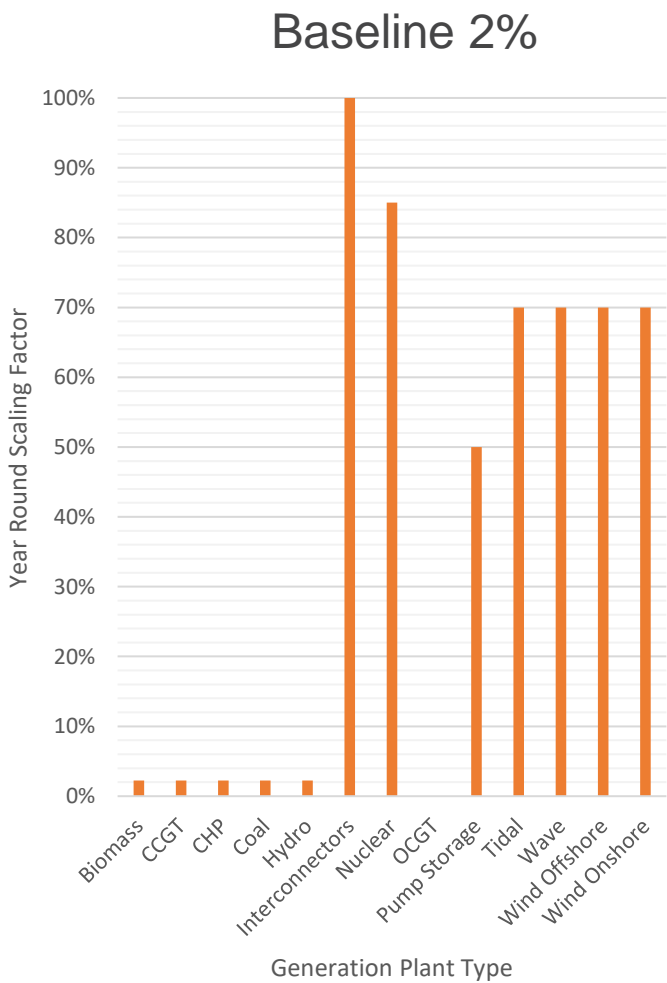
15%

Generator Type	TEC	Year Round Transport Model Scaling
Biomass	2,295.1	15%
CCGT	28,222.8	15%
CHP	1,450.4	15%
Coal	3,401.6	15%
Hydro	534.7	15%
Interconnectors	16,623.2	91%
Nuclear	7,940.8	77%
OCGT	1,868.8	0%
Pump Storage	8,791.5	45%
Tidal	56.8	64%
Wave	-	64%
Wind Offshore	20,591.9	64%
Wind Onshore	12,140.2	64%

Generic

Generator Type	TEC	Year Round Transport Model Scaling
Biomass	2,295.1	50%
CCGT	28,222.8	50%
CHP	1,450.4	50%
Coal	3,401.6	50%
Hydro	534.7	50%
Interconnectors	16,623.2	50%
Nuclear	7,940.8	50%
OCGT	1,868.8	50%
Pump Storage	8,791.5	50%
Tidal	56.8	50%
Wave	-	50%
Wind Offshore	20,591.9	50%
Wind Onshore	12,140.2	50%

Comparison of Scaling Factors



Calculation

The scaling factors used in the above examples were adjusted as follows:

Total Generation = 103,917.82

Peak Demand = 51,520.822

Baseline Scaling Factors:

Biomass, CCGT, CHP, Coal and Hydro all have a variable scaling factor, others use the fixed values. Under current baseline, variable factor is calculated in the following way:

Fixed scaled generation = (Interconnectors total TEC*Scaling Factor) + (Nuclear total TEC * Scaling Factor) + etc....

Fixed scaled generation = 50,720.86

The 'leftover' is $51,520.822 - 50,720.86 = 799.962$

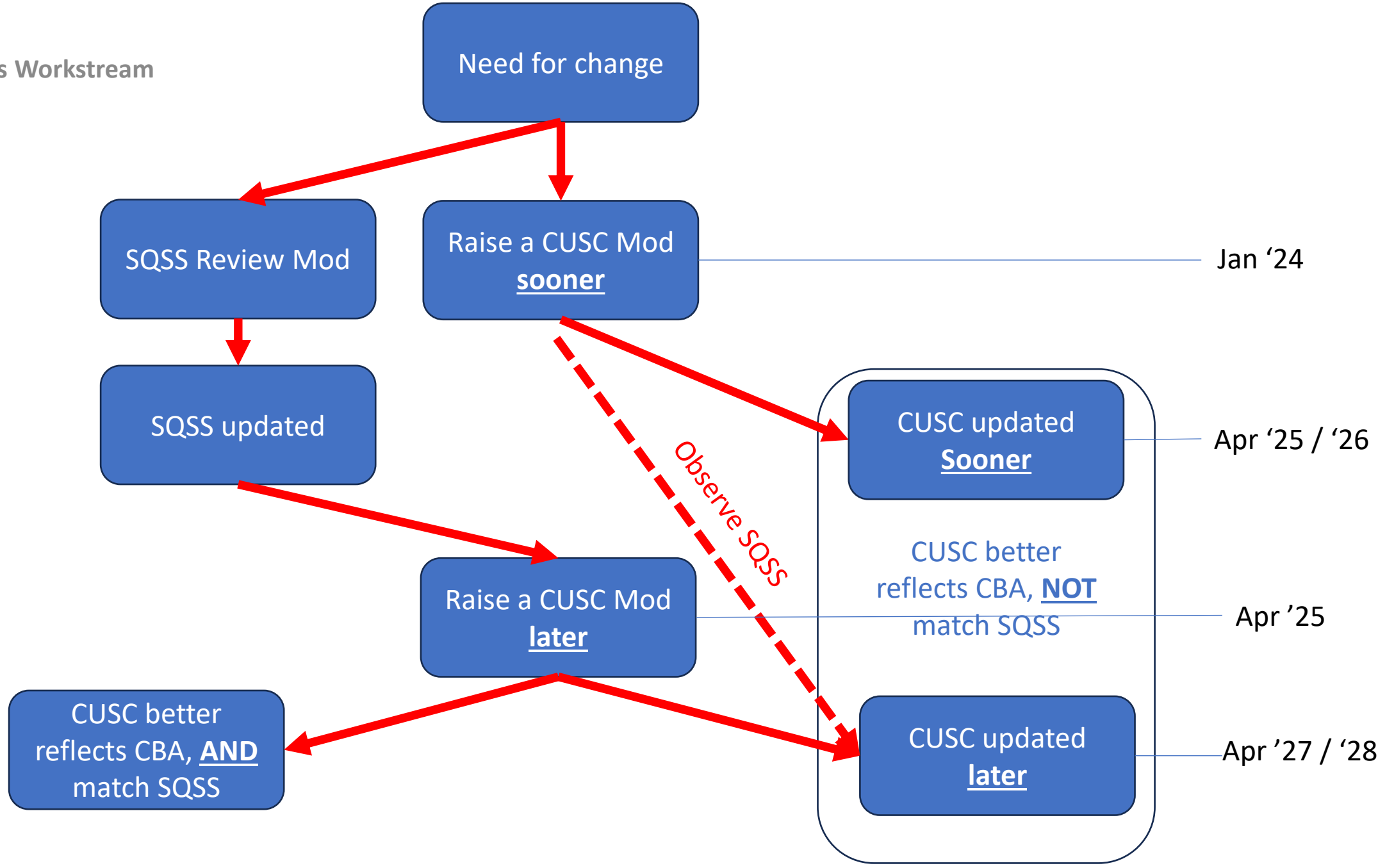
Variable Scaling Factor = $799.962 / \text{total variable TEC} = 799.962 / 35,904.6 = 0.02$

For the other scenarios, the variable scaling factor is set first, and fixed factors are adjusted by a uniform amount such that total scaled generation is equal to 51,520.822 (RCS Peak)

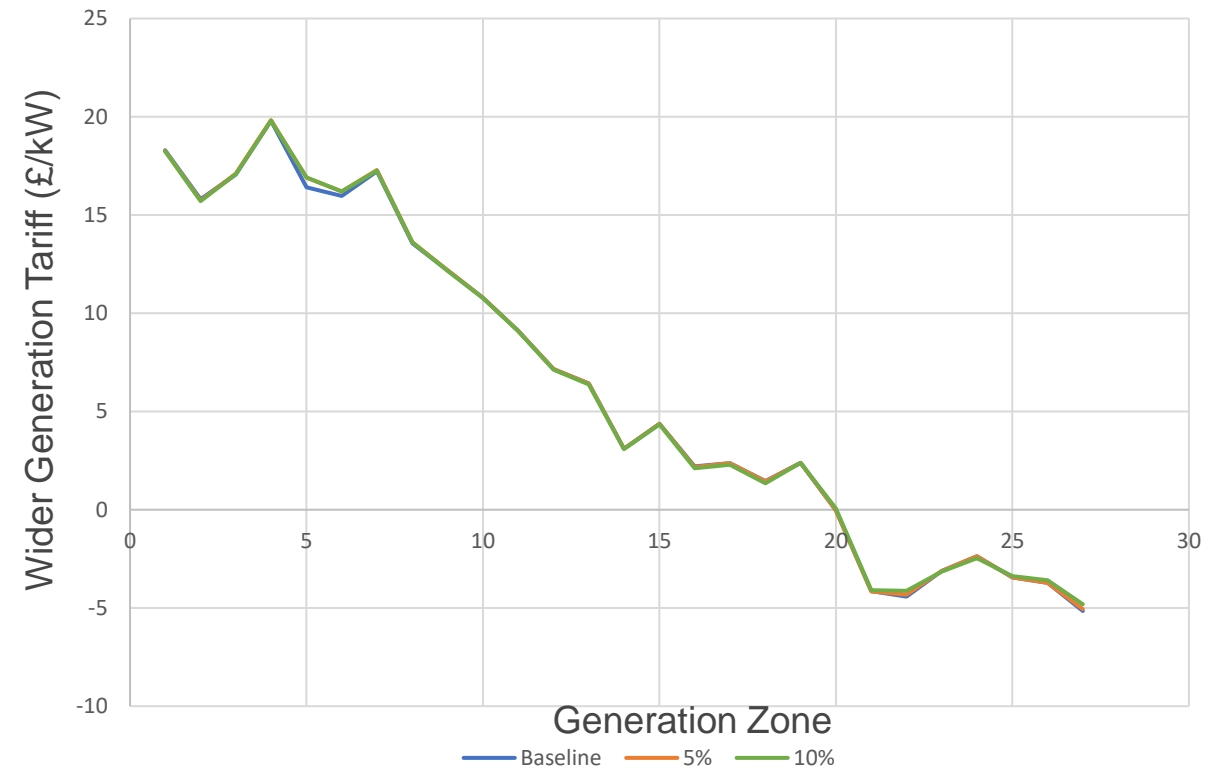
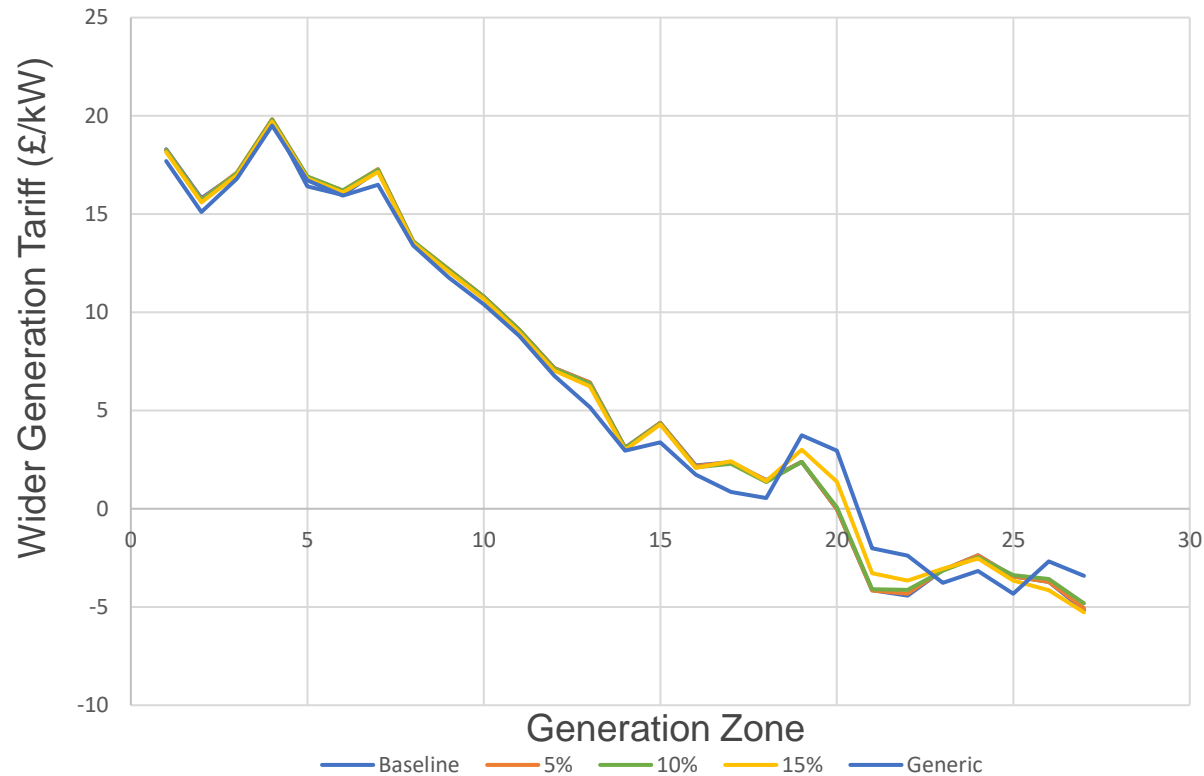
Tariff model then updated with new figures

Generator Type	Fuel Class	TEC	Scaling Factor	Type
Biomass	Other (Conventional)	2,295.1	2%	Variable
CCGT	Other (Conventional)	28,222.8	2%	Variable
CHP	Other (Conventional)	1,450.4	2%	Variable
Coal	Other (Conventional)	3,401.6	2%	Variable
Hydro	Hydro	534.7	2%	Variable
Interconnectors	Interconnectors	16,623.2	100%	Fixed
Nuclear	Nuclear & CCS	7,940.8	85%	Fixed
OCGT	Peaking	1,868.8	0%	Fixed
Pump Storage	Pumped Storage	8,791.5	50%	Fixed
Tidal	Intermittent	56.8	70%	Fixed
Wave	Intermittent	-	70%	Fixed
Wind Offshore	Intermittent	20,591.9	70%	Fixed
Wind Onshore	Intermittent	12,140.2	70%	Fixed

Backgrounds Workstream

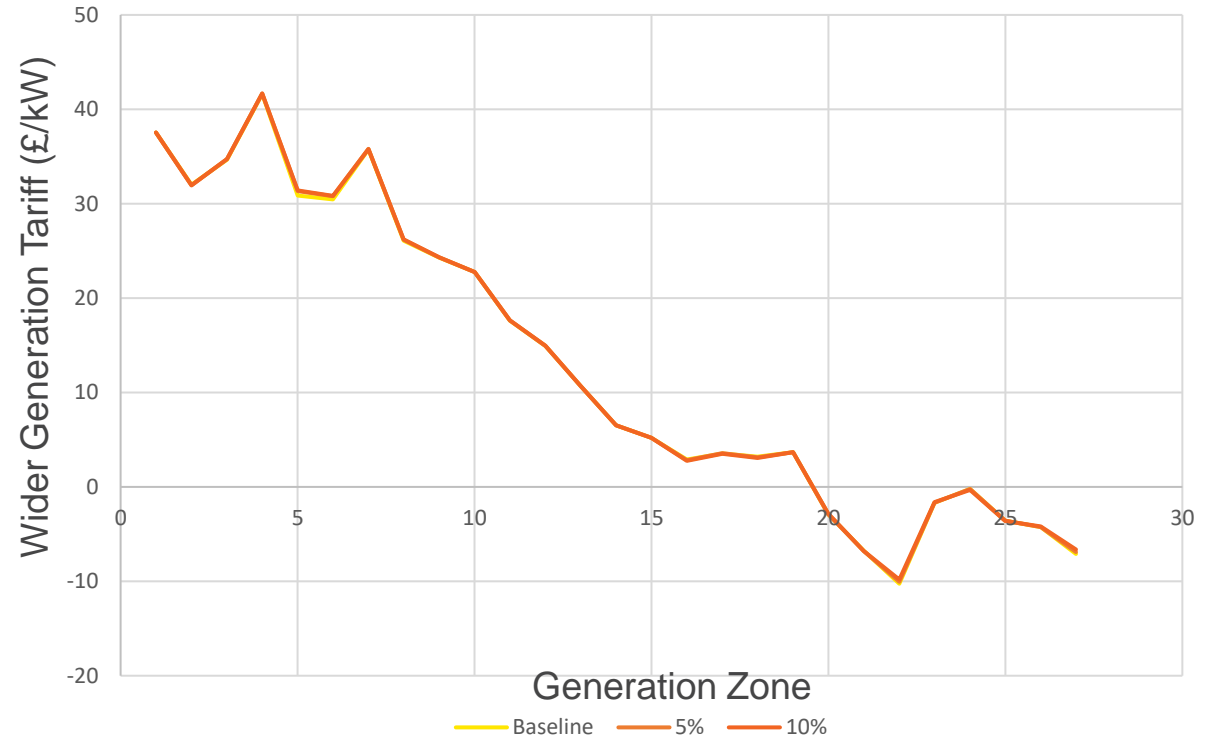
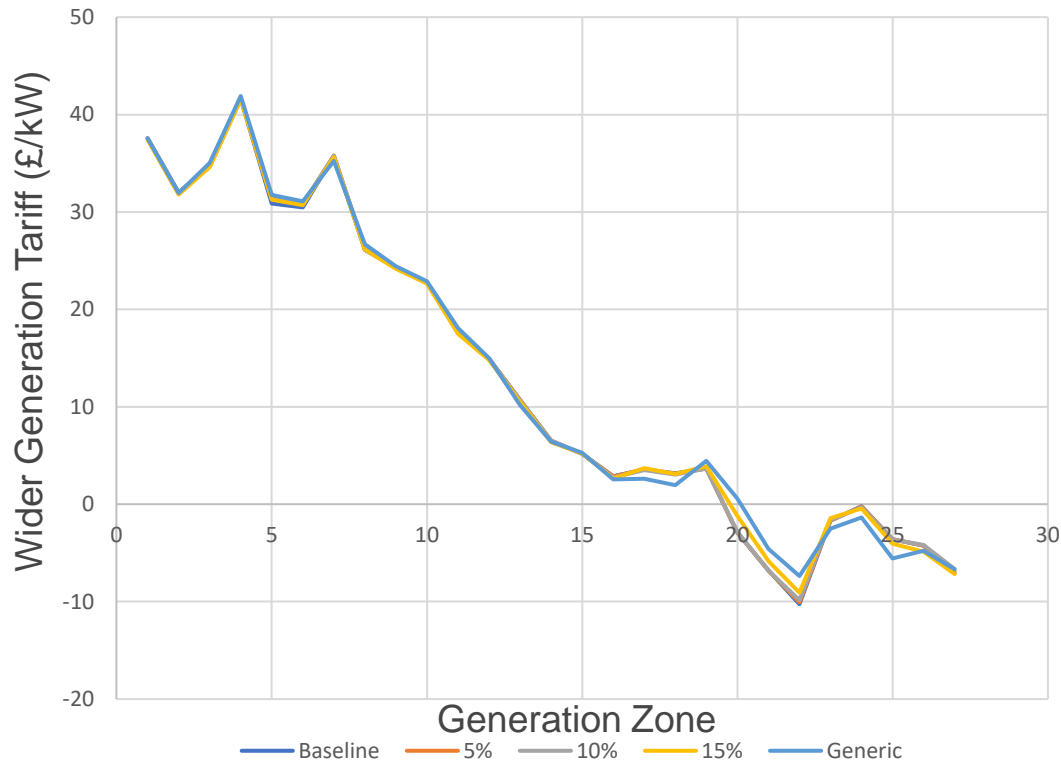


Tariff Impact Examples – Conventional Carbon



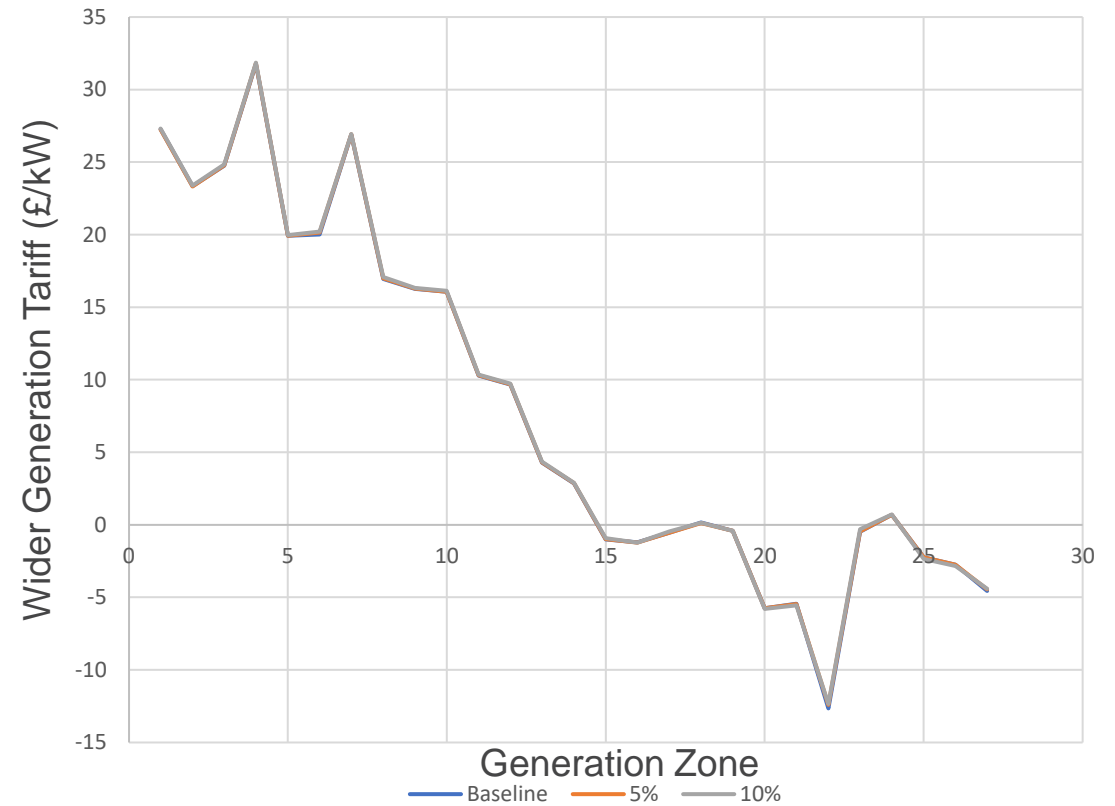
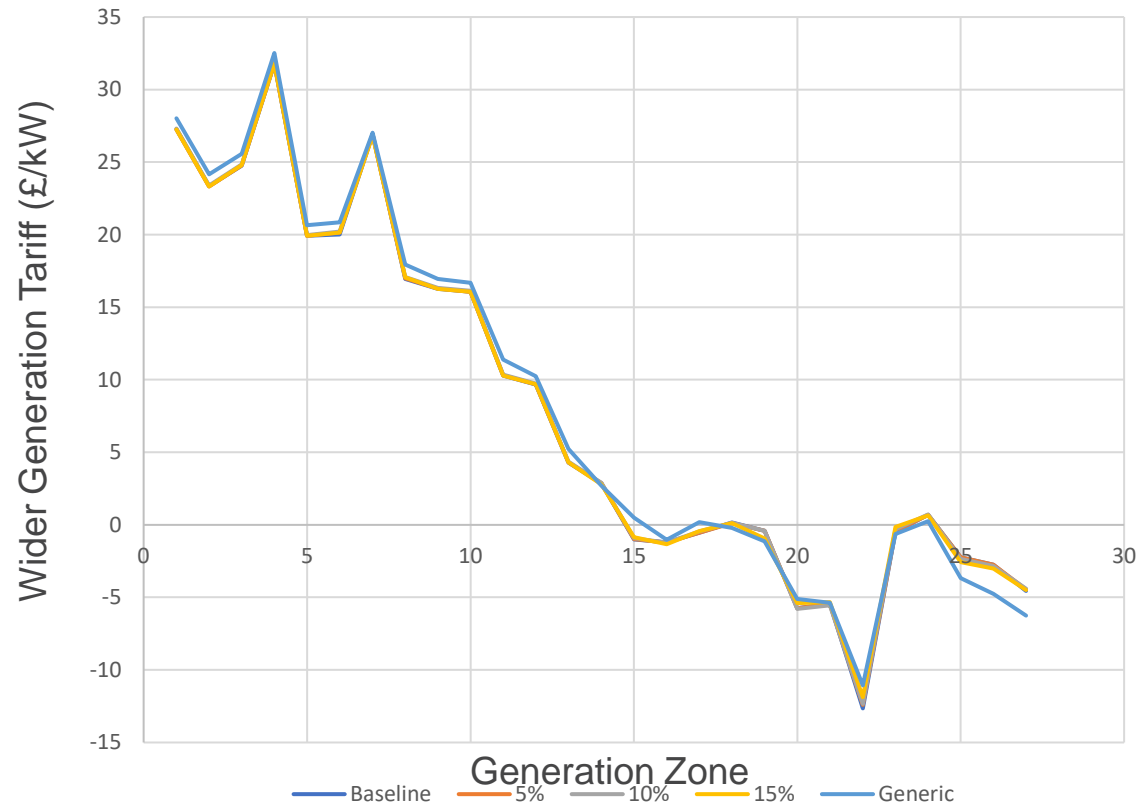
- Baseline in this example is 2% variable scaling factor, generic factor is 50%
- This uses a model and is not an actual tariff year

Tariff Impact Examples – Conventional Low Carbon



- Baseline in this example is 2% variable scaling factor, generic factor is 50%
- This uses a model and is not an actual tariff year

Tariff Impact Examples – Intermittent



- Baseline in this example is 2% variable scaling factor, generic factor is 50%
- This uses a model and is not an actual tariff year

Cross-over with other processes

Scaling Factors were originally introduced by SQSS. CUSC aligned to the factors used in SQSS for the tariff model.

The model requires Generation to equal Demand for modelling the impact of increasing generation at different nodes on the network:

Economy Planned Transfer Conditions

The condition arising from scaling the *registered capacity* of each *power station* according to the type of generation such that the total of the scaled capacities is equal to the *ACS peak demand*. This scaling shall follow the techniques described in Appendix E.

Processes such as NOA, ETYS/CSNP, HND have been introduced separately to SQSS for network planning processes. These use different methodologies which do not require the use of scaling factors as per SQSS

- This modification will only change the approach used in CUSC. Scaling factors in SQSS will remain the same, but may be changed during the next SQSS review

Action number	Workgroup Raised	Owner	Action	Comment	Due by	Status
2	WG1	MC	Assess any link between scaling factors and system operation - for example minimum CCGT generation, instructing wind off etc	More detail and explanation required.	WG2	Open
6	WG1	MC	Capture any crossover impact of this modification on the Central Strategic Network Plan (CSNP) or any other processes	More detail and explanation required.	WG2	Open
7	WG2	MC	Circulate Generation levels data for each technology type for Tariff impact examples		WG3	New
8	WG2	MC	Share information on SQSS modification GSR009 with regards original rationale on Scaling Factors.		WG3	New
9	WG2	MC	Add context around charts presented at WG2 and add axis labels.		WG3	New
10	WG2	MC	Speak to the TNUoS Taskforce for information on the “Backgrounds” work being undertaken by the Taskforce.		WG3	New
11	WG2	MC	Speak to NOA team for any assistance on narrative around - Assess any link between scaling factors and system operation - for example minimum CCGT generation, instructing wind off etc		WG3	New



Review and Finalise Workgroup Consultation

All



Consider Workgroup Consultation Specific Questions

All



Any Other Business

Claire Goult – ESO Code Administrator



Next Steps

Claire Goult – ESO Code Administrator

Timeline for CMP424 – Updated 12 Feb

Milestone	Date	Milestone	Date
Proposal Presented to Panel	27 October 2023	Panel sign off that Workgroup Report has met its Terms of Reference	CUSC Panel Date 26 April 2024
Workgroup Nominations	31 October 2023 – 2 January 2024 (Extended)	Code Administrator Consultation (15 working days)	30 April 2024 – 21 May 2024
Workgroup 1 – Understand / discuss proposal and solution(s), review and agree on Terms of Reference and Timeline, review cross code impacts, review analysis and agree next steps.	24 January 2024	Draft Final Modification Report (DFMR) issued to Panel	20 June 2024 (Papers Day)
Workgroup 2/3 – Refine solution(s), draft legal text, consider potential Workgroup Consultation questions and finalise Workgroup Consultation	Thursday 22 Feb Tues 5 March (afternoon 1-3pm)	Panel undertake DFMR recommendation vote	CUSC Panel Date 28 June 2024
Workgroup Consultation (15 Working Days)	7 March – 27 March	Final Modification Report issued to Panel to check votes recorded correctly (5 working days)	01 July 2024 – 08 July 2024
Workgroup 4 – Review Workgroup Consultation responses, consider new points raised, refine solution, review legal text and discuss any potential alternatives	9 April 2024	Final Modification Report issued to Ofgem	09 July 2024
Workgroup 5 – Finalise solutions (including legal text) and alternatives and hold alternative vote. Finalise Workgroup Report and hold Workgroup Vote	16 April 2024	Ofgem decision	By 30 September 2024
Workgroup Report issued to Panel (5 working days)	18 April 2024 (Papers Day)	Implementation Date	01 April 2025