

**Grid Code Alternative and Workgroup Vote**

**GC154: Incorporation of interconnector ramping requirements into the Grid Code as per SOGL Article 119**

**Please note:** To participate in any votes, Workgroup members need to have attended at least 50% of meetings.

**Stage 1 - Alternative Vote**

If Workgroup Alternative Requests have been made, vote on whether they should become Workgroup Alternative Grid Code Modifications (WAGCMs).

**Stage 2 - Workgroup Vote**

2a) Assess the Original and WAGCMs (if there are any) against the Grid Code objectives compared to the baseline (the current Grid Code).

2b) Vote on which of the options is best.

**Terms used in this document**

Term	Meaning
Baseline	The current Grid Code (if voting for the Baseline, you believe no modification should be made)
Original	The solution which was firstly proposed by the Proposer of the modification
WAGCM	Workgroup Alternative Grid Code Modification (an Alternative Solution which has been developed by the Workgroup)

**The Applicable Grid Code Objectives:**

- a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity
- b) Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);
- c) Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;
- d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and
- e) To promote efficiency in the implementation and administration of the Grid Code arrangements

## Workgroup Vote

### Stage 1 – Alternative Vote

Vote on Workgroup Alternative Requests to become Workgroup Alternative Grid Code Modifications.

*The Alternative vote is carried out to identify the level of Workgroup support there is for any potential alternative options that have been brought forward by either any member of the Workgroup OR an Industry Participant as part of the Workgroup Consultation.*

*Should the majority of the Workgroup OR the Chair believe that the potential alternative solution would better facilitate the Grid Code objectives than the Original proposal then the potential alternative will be fully developed by the Workgroup with legal text to form a Workgroup Alternative Grid Code modification (WAGCM) and submitted to the Panel and Authority alongside the Original solution for the Panel Recommendation vote and the Authority decision.*

“Y” = Yes

“N” = No

“-“ = Neutral (Stage 2 only)

“Abstain”

Workgroup Member	Alternative 1 (Company, characteristic)	Alternative 2 (Company, characteristic)	Alternative 3 (Company, characteristic)	Alternative 4 (Company, characteristic)
Andre Canelhas	<b>Yes</b>			
Benjamin Marshall	<b>Yes</b>			
Vera Stam	<b>Yes</b>			
Leo Michelmore	<b>Yes</b>			
Lijia Qiu	<b>Yes</b>			
Munti Nguyen	<b>Yes</b>			
Louise Trodden	<b>No</b>			
<b>WAGCM1</b>				

**Stage 2a – Assessment against objectives**

To assess the Original and WAGCMs against the Grid Code objectives compared to the baseline (the current Grid Code).

You will also be asked to provide a statement to be added to the Workgroup Report alongside your vote to assist the reader in understanding the rationale for your vote.

AGCO = Applicable Grid Code Objective

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
	Louise Trodden – ESO					
Original	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Yes</b>
WAGCM 1	<b>N</b>	<b>-</b>	<b>N</b>	<b>Y</b>	<b>-</b>	<b>NO</b>

**Voting Statement:**

The alternate proposal suggests that no changes are made to interconnectors ramping arrangements and they are codified at a maximum of 100MW/min. The ESO has shared the operational issues that are faced because of the current interconnector ramping arrangements and that this has both impacts to security of supply, and also to the GB consumer by increasing balancing costs. As the system becomes more interconnected, it is not feasible to continue to operate this way. There have been 16 workgroups so far and there is no further development of a firm solution in the alternate. The suggestion to continue the conversation to seek a solution, potentially including a service provided by interconnectors is also not a guarantee as this has to be agreed by the respective TSO and not the interconnector. There are such arrangements like this in place on some interconnectors, but this is not a mandatory service (and is not a firm service) which the other TSO is required to accept, therefore does not better the situation the ESO is faced with today. It is not clear where the benefit to the end consumer is with this approach. And this is not in line with the ESO licence obligations to promote and efficient economical system.

The proposal is clear and transparent to all parties by reducing to 50WM/min. It also brings interconnector ramping more in line with other parties who have to comply with the Grid Code arrangements. This option has been reviewed against the status quo with an independently completed cost benefit analysis (CBA) and was shown to present the biggest cost saving to GB consumers. Within its licence conditions the ESO has a responsibility to operate the system in an economic and efficient manner. By continuing to reposition units in response to fast simultaneous interconnector ramping (taking costly BM actions) close to real time to manage the change in flows will increase costs to the GB consumer and also risk operational security should these reserves not be available. This reduction also brings ramping arrangements more inline with current ramping arrangements for generators and aims to reduce the number of actions taken in the control room to manage changing interconnector flows. A reduced ramping rate is also not likely to mean there are impacts to flexibility provided by interconnectors as they can still provide cross border flows and this change is not related to any pre-arranged service with the ESO and the interconnector or when there is a requirement to use any emergency or enhanced actions to return to normal state.

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
	Benjamin Marshall - SSE					
Original	N	-	N	N	N	NO
WAGCM 1	Y	-	-	Y	Y	YES

**Voting Statement:**

At present the proposal has the effect of being a “hammer to crack a nut”- it may delay only balancing costs of itself, and it is not obvious that it will do this any more efficiently than a targeted implementation of WAGCM1. Baringa CBA work whilst welcome fails to quantify the within settlement period benefits of targeted actions to address. The danger of the proposal is that it limits not just the costs that would appear from unfettered collective ramping at the current rate, but also similarly limits the benefits from those rates as applied at other times where regional network constraints can be alleviated via rapid interconnector repositioning at those times as a result of normal market action- again Baringa analysis does not cover this area in sufficient depth. WAGCM1 offers the potential to improve on the proposal by providing clarity over existing measures available, enabling more sophisticated control and operational solutions when ramps coincide- and driving a subsequent market change modification. Reason for rationale- from data provided, the issue relates to not one single ramp rate value but rather the collective ramping action at a given time across a range of actors within which interconnection actions are observed to be the most significant. Halving the current ramp rate does not alleviate the problem- which can still be driven by collective ramping of Distributed Resources and/or interconnectors regardless of the given ramp value. Regardless of the value there is nothing in a given value stopping the ESO from contracting with those involved to mitigate or negotiating flexibility around how the ramp is realised. Reducing the ramp rate presents an unquantified risk of limiting market action when it is beneficial to the power system e.g. in alleviating thermal/ voltage/ stability constraints on given affected power system boundaries. WAGCM 1 provides clarity without constraint allowing future interconnection capacity and future market development to be framed appropriately. Whilst the original can be argued to support a level playing field between interconnector ramp rates and BMUs this neglects the past 30 years over which separately agreed ramp rates between TSOs have been agreed to support the necessary transactions across the power systems involved- the ramp rates on interconnectors servicing this rather than the specific need of a single market. There is a difference, but it has a reason. Whilst there is benefit in aligning all resource ramping rates, there is also risk of reducing the value of interconnector benefits today- accordingly it is not clear there is benefit in this or the associated changes to control and cross border arrangements to facilitate the change. Neither fundamentally address the fundamental issue, however WAGCM1 can rapidly provide further clarity to support market or other mechanisms supporting the collective ramping concern, rather than await a range of revised ramps from extant interconnectors each respecting a new limit which would time. Further WAGM1 respects the Grid Code principles of avoiding retrospectivity when other options are available to address collective ramp behaviours. both discharge obligations in providing clarity, however neither address the core issue of collective ramping risk. WAGCM1 does however acknowledge the need for further market actions in this later regard. WAGCM1 also offers an opportunity, in its implementation to also capture the existing flexibility available in how ESO and interconnector agree ramping profiles within the existing ramp rate limit that can be non-coincident at a given instance of time via mutual planning. To this extent, whether in the delivery of wide area control or market arrangements collective ramps may be addressed outside of the core proposal scope complementing CM2. this code change avoids retrospective changes to bilateral

agreements with interconnectors, operational agreements with TSOs and other associated impacts which are unique to interconnector trading arrangements.

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
Patrick Murphy - Eleclink						
Original	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>NO</b>
WAGCM 1	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>YES</b>

**Voting Statement:**

The Workgroup Alternative Proposal (WAGCM1) will effectively codify the current ‘status quo’ for ramping arrangements – 100MW/min – without precluding future potential discussions on the challenge highlighted by NGESO. Implementing the Original Proposal (50MW/min) could undermine the well-established benefits to system flexibility and security of supply provided by interconnectors. It is our view that any change to the existing ramp rate needs to be reasonable and proportionate. Whilst limited (qualitative) examples have been presented by NGESO to demonstrate the existence of the challenged faced, insufficient quantitative data has been provided to demonstrate the extent and significance of the challenge.

Whilst we acknowledge that work has been undertaken through a CBA commissioned by NGESO to try to quantify the potential benefits from implementing the Original Proposal. We are concerned that the CBA overestimates the benefits by omitting key considerations from the assessment. This includes, but is not limited to: (i) not accounting for future changes to the GB grid, market conditions or market design (i.e., battery technology, REMA); (ii) not accounting for changes in connected markets (i.e., 15-minute MTUs); (iii) the impact on interconnector imbalance costs, (iv) an assessment of the likely impact on balancing costs in connected EU markets, and (v) implementation costs and risks.

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
Jack Grant - BritNed						
Original	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>N</b>	<b>NO</b>
WAGCM 1	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Yes</b>

**Voting Statement:**

Please see BritNed consultation response for more detailed reasoning, but in summary:

BritNed Development Limited believes WAGCM1 is a more future proof solution in the light of flexibility being a key necessity in the energy transition. Implementing the Original Proposal (50MW/min) could undermine the well-established benefits to system flexibility and security of supply provided by interconnectors. It is our view that any change to the existing ramp rate needs to be reasonable and proportionate. The Workgroup Alternative Proposal (WAGCM1) will effectively codify the current ‘status quo’ for ramping arrangements – 100MW/min – without precluding future potential discussions on the challenge highlighted by NGESO.

Whilst BritNed Development Limited recognises the challenges TSOs face in managing an increasingly complex electricity system, limited (qualitative) examples have been presented by

NGESO to demonstrate the existence of the challenges faced, alongside insufficient quantitative data demonstrating the extent and significance of the challenge. Our strong view is that any steps to further restrict interconnector ramping must only be taken following a robust, comprehensive assessment of the impacts of any such proposals, undertaken in close cooperation with affected EU partners. The conducted CBA by NGESO is not complete enough to make such decisions as it does not consider the wider operational impact on connected markets, all cost impacts for end consumers and trading costs on interconnectors as such. More widely than this, we are concerned that the CBA overestimates the benefits by omitting key considerations from the assessment. This includes but is not limited to: (i) not accounting for future changes to the GB grid, market conditions or market design (i.e., battery technology, REMA); (ii) not accounting for changes in connected markets (i.e., 15-minute MTUs); (iii) the impact on interconnector imbalance costs, (iv) an assessment of the likely impact on balancing costs in connected EU markets, and (v) implementation costs and risks. With the proposed approach, interconnectors will need to consider restricting changes in market positions between hours to certain levels to no face increased imbalance costs. This again will introduce additional barriers to cross border trading and social welfare optimisation between Bidding Zones.

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
	Lijia Qiu – NationalGrid Ventures					
Original	<b>N</b>	<b>N</b>	-	<b>Y</b>	-	<b>NO</b>
WAGCM 1	<b>Y</b>	<b>Y</b>	-	<b>Y</b>	-	<b>Yes</b>

**Voting Statement:**

In summary, NGV considers that WAGCM better facilitates the Applicable objectives based on the information that has been available to it via the Working Group. NGV is open to a continuing but broader review, in conjunction with European TSOs and GB industry, of fast ramping impacts/opportunities and the range of potential solutions that may be available.

**Objective (a)** – the key differentiator is the requirement to be coordinated. The Original Proposal has not been coordinated effectively with externally interconnected TSOs and hence does not satisfy this objective. The WAGCM1 maintains the existing, as agreed with external TSOs, and can inherently therefore be considered as coordinated.

WAGCM1 will permit efficient future I/C development with the visibility/transparency of existing arrangements for all Interconnector ramp rates.

Regarding the efficiencies requirement of Objective (a) it has not been sufficiently demonstrated in order to be clear which, and by how much, is economically better, despite the claimed savings under the Original Proposal.

**Objective (b)** - Competition is not facilitated under the Original with the imposition of more restricted interconnector ramp rate, which would effectively lead to less energy being able to flow cross-border, thereby undermining competition within GB market and wider. In addition an effect of reducing interconnector ramp rates could be viewed by future investors as increasing risk, and hence potentially undermining competition.

In contrast, the transparency of standardising existing ramp rates will be a benefit to industry.

**Objective (c)** - Relative impacts on system security are unclear and hence both the Original Proposal and WAGCM1 are both scored as Neutral. Each is likely to each have pros and cons under different situations, and not enough information is currently available on which to make a firm view

**Objective (d)** – Both Original Proposal and the WAGCM1 are considered to be compliant (although it is noted that the Original Proposal goes beyond the expectations of Ofgem’s decision to implement the SOGL. No impact assessment was carried out by Ofgem, on the assumption that existing ramp rates would be codified. (Extract as follows:

*“We have not undertaken an Impact Assessment for this proposal. This is because we consider that the current provisions contained into the Grid Code or in the proposed intermediate methodology cannot be deemed to constitute a change to existing GB requirements and arrangements. Whilst the obligations in the proposed intermediate methodology are not currently part of the Grid Code and NETS SQSS, they are consistent with the ESO’s internal business practices and do not therefore lead to any significant change. Accordingly, we consider that an impact assessment is unnecessary in this situation.”*

**Objective (e)** – Whilst there would be Interconnector internal systems impact with the Original Proposal, for the purpose of the Grid Code implementation and administration both Original Proposal and WAGCM1 are considered to be low impact.

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
	Munti Nguyen – Nemo Link					
Original	N	N	N	N	N	NO
WAGCM 1	Y	Y	Y	Y	Y	Yes

Voting Statement:

**WAGCM1** codifies current ramping arrangements that have been proven to work effectively between ESO and the connecting TSOs on existing interconnectors. WAGCM1 will allow interconnectors to continue to support the effective operation of the GB and EU systems with their technical capabilities while fulfilling the legal obligations and achieving compliance with SOGL article 119.

**The original proposal** would restrict the flexibility and the speed of adapting to the market needs of interconnectors, which are vital assets that have been recognised as an important source of energy into GB in periods of highest need, and imports into GB are mostly expected to grow in absolute terms during periods of system stress (Source: [Interconnectors’ role in transitioning to net zero | ESO \(nationalgrideso.com\)](#)). In addition, due to the lack of justified details on wider impacts both in GB and EU in the CBA, the original proposal could negatively impact the investment cases for any future Interconnectors between GB and Europe and for the development of offshore infrastructures.

While recognising the operational challenges that the ESO face, it is our view that the case to move away from the ‘status quo’ has not been made as it is not clear to us that interconnector ramping is the main or biggest source of the problem. In fact, interconnectors could be the solution to the problem with suited market-based solutions. **WAGCM1** facilitates the requested clarity for the market while allowing time for proper engagements between the ESO, EU TSOs, Interconnectors and other interested industry parties to develop a solution that will take into

account the aspect of ‘future proofness’ with changes that are happening in both sides of the links.

Workgroup Member	Better facilitates AGCO (a)	Better facilitates AGCO (b)	Better facilitates AGCO (c)	Better facilitates AGCO (d)	Better facilitates AGCO (e)	Overall (Y/N)
Scott Field – NeuConnect						
Original	N	N	N	N	N	No
WAGCM 1	Y	Y	Y	Y	Y	Yes

Voting Statement:

Please see NeuConnect consultation response for more detailed reasoning, but in summary:

- a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity.

*Provided evidence for the **original proposal** and associated benefits are not considered fully mature and require significant further investigation and stakeholder engagement; a limited data set has been provided demonstrating correlation between cause and effect to date. More critically, the original proposal does not consider wider impacts (geopolitical and EU side costings/transmission impacts), with the stated consumer benefits being held in isolation, which similarly presents with significant sensitivity to input assumptions.*

**WAGCM1** effectively codifies current ramping arrangements and provides additional transparency to all market parties, supporting the effective operation of the GB system. It also does not preclude further adaptation and consideration of a supporting market driven solution set in the future.

- b) *Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);*

*In forward looking terms the implementation of the **original proposal** would send poor market signals in both how the code is administered, and in the objectivity of the regulated marketplace overall. If a reduction in asset flexibility and disregard of holistic commercial solutions can be implemented without sound or fully considered evidence base, this would lead to a reduction in investment confidence and thus, ultimately competition.*

**WAGCM1** facilitates the requested clarity for the marketplace as part of the terms of reference, without detriment, and similarly in allowing future interconnection capability and future market tools to be developed and investigated in due course.

- c) *Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;*

*The **original proposal** seeks to reduce the flexibility and system benefits of an adaptable asset that is presently being investigated by the ESO as a means of providing additional*

network support via the development of new market tools, and the removal of impeding system constraints. This assessment is being undertaken within the **Future of Interconnectors** workstream.

The **original proposal** would restrict the flexibility benefits offered by interconnectors as key facilitators of the GB and EU energy transition, as recognised by UK and EU Governments in recent months, thereby hampering GB’s efforts to reach its net zero targets.

Furthermore, the ability of interconnectors to contribute to the UK system security in an efficient manner has been repeatedly demonstrated and utilised by the ESO operational control team, the removal of this resource has not been considered as part of the **original proposal**.

**WAGCM1** allows interconnectors to continue to rapidly respond to changing conditions to meet security of supply as and when required, in conjunction with other services as/when needed in the utilisation hierarchy.

- d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and
- e) To promote efficiency in the implementation and administration of the Grid Code arrangements

The **original proposal** steps outside of the original terms of 2019 decision and basic SOGL compliance requirements via the use of GC0154 to impose more onerous operational restrictions on interconnectors’ ability to ramp. Ofgem’s basis for the 2019 decision was an expectation that the requirement to codify ramping arrangements would not ‘constitute a change to existing GB requirements and arrangements.

**WAGCM1** efficiently discharges the obligations and achieves compliance with SOGL article 119. **WAGCM1** offers the ability to leverage the existing flexibility available in how ESO and interconnector interact and agree modes of operation, without prejudice to future market tool development and implementation of grid code arrangement.

Of the X votes, how many voters said this option was better than the Baseline.

Option	Number of voters that voted this option as better than the Baseline
Original	1
WAGCM1	6

**Stage 2b – Workgroup Vote**

Which option is the best? (Baseline, Proposer solution (Original Proposal) or WAGCM1)

Workgroup Member	Company	BEST Option?	Which objective(s) does the change better facilitate? (if baseline not applicable)
Louise Trodden	ESO	<b>Original</b>	<b>All</b>
Benjamin Marshall	SSE	<b>WGCM1</b>	<b>a), d) and e)</b>
Patrick Murphy	Eleclink	<b>WGCM1</b>	<b>All</b>
Vera Stam	BritNed	<b>WGCM1</b>	<b>All</b>
Lijia Qiu	NationalGrid Ventures	<b>WGCM1</b>	<b>a),b) and d)</b>
Munti Nguyen	Nemo Link	<b>WGCM1</b>	<b>All</b>
Scott Field	NeuConnect	<b>WGCM1</b>	<b>All</b>