To all GB industry parties and stakeholders interested in the Replacement Reserves (RR) market being established by the Trans-European RR Exchange (TERRE) project

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Update on the progress of the GB TERRE Implementation Group - progress in November and December 2020

The ESO is committed to transparency concerning the TERRE (Trans European Replacement Reserves Exchange) project. Participation in the European RR market is an important deliverable for the ESO and GB stakeholders, with the potential to deliver benefits to GB consumers of €17m per year.

This letter sets out the progress of the GB TERRE Implementation Group, a new cross-industry group which was set up in response to Ofgem's open letter[1] of 6 November 2020. The ESO confirmed the high-level arrangements for the group and requested expressions of interest in its open letter[2] of 18 November 2020. The slides and minutes from the meetings are available on the ESO's website[3].

Accompanying this letter are a series of annexes that provide further detail on the material the group discussed and the decisions it reached.

The group brings together stakeholders interested in the Replacement Reserve (RR) market being established by the TERRE project. Its remit is to consider and address all outstanding requirements and to develop further plans for implementation. Participants include representatives from Ofgem, BEIS, Elexon, RTE, interconnectors and other interested market participants. A full list of stakeholders can be found in Annex 2.

We have also convened an interconnector subgroup to consider the more technical details, including operating protocols and commercial arrangements. Representatives include National Grid Ventures, ElecLink, and RTE.

The group has met four times during November and December 2020. Of four scenarios originally discussed, we have developed draft implementation plans for the following:

- Scenario 1a: GB operates a TERRE-like mechanism in standalone mode. With no cross-border component there is no need for revised interconnector agreements.
- Scenario 1b: access to European RR via bilateral agreement. Existing interconnector agreements would need to be revised and a new agreement with RTE would be needed.
- Scenario 2: An agreed FTA position between the UK and European Commission (EC) on balancing market arrangements, including access to TERRE and MARI.

At the end of the 2020 the UK and EU agreed a Trade and Cooperation Agreement (TCA)[4]. This indicates that the UK is likely to be in Scenario 1 (ie no access for GB to the TERRE platform). During the early part of 2021, we will work with the group to recommend the optimal course of action, including a cost-benefit analysis on a TERRE-like mechanism operating in standalone mode.

[1] This letter is available at: https://www.ofgem.gov.uk/system/files/docs/2020/11/open_letter_on_the_delays_to_implementing_terre_in_gb_0.pdf
[2] This letter is available at: https://www.ofgem.gov.uk/publications-and-updates/open-letter-delays-implementation-terre-gb
[3] https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/replacement-reserve-rr
[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/948119/EU-UK_Trade_and_Cooperation_Agreement_24.12.2020.pdf

Action plan

- Week commencing 11 January 2021 - review status of FTA
- Finalise implementation plans for Scenario 1
- Develop clear next steps for all participants including:
    - The methodology for a cost-benefit analysis on development of a TERRE-like platform operating in standalone mode
    - Seeking views on market participation readiness

Comments

If you have any questions or comments on the workings of the GB TERRE Implementation Group or its outputs, we would appreciate your feedback using the contact details above.

We hope that you find this letter useful, and we look forward to continuing to work with you during 2021. If you have any questions on the contents of this letter, please contact me using the details above.

Yours faithfully

Graham Dolamore

Programme Director - Balancing and ENC Compliance

On behalf of the GB TERRE Implementation Group

Appendix 1 - Terms of reference

Remit

- Developing a baseline assumption on the UK's access to EU balancing platforms from 1 January 2021 and alternative credible scenarios
- Developing a new GB implementation plan based on the baseline assumption and the credible scenarios that is integrated across stakeholders and considers already planned obligations and updates
- Developing a plan to deliver the required revisions to the operating protocols and commercial contracts (bilateral / trilateral ancillary services agreements) with the relevant interconnector parties and system operators
- Ensure that plans are widely available, and that all parties have clarity on what actions they need to take, and by when, under credible scenarios
- Make quick progress against that plan as soon as we have certainty of what the EU position will be.

Out of scope

- Matters not related to TERRE implementation in GB
- Wider policy discussion on TERRE or future UK-EU relationship

Interconnector operating protocol sub-group

- Separate interconnector working group with interconnectors to discuss the operating protocols

Logistics

- Weekly meeting on Wednesday 12-1pm
- ESO to chair and provide secretariat support
- Provisional agenda agreed at end of each meeting
- Minutes circulated by end of Wednesday, for comments by end of Thursday
- Minutes published on ESO website on Friday

Attendance

- Senior level representation from all stakeholders to enable decision making

Out of scope

- Matters not related to TERRE implementation in GB
- Wider policy discussion on TERRE or future UK-EU relationship

Appendix 2 - Participating stakeholders

Company
Arenko
BEIS
Brady
CGI
Cornwall Insight
Danske Commodities
ElecLink
Elexon
Engie
Erova
National Grid Electricity System Operator
National Grid Ventures
Ofgem
Quorum Development
RTE
RWE
Siemens
Sembcorp
Upside Energy
Welsh Water

Appendix 3 - List of meeting dates and topics

We held four meetings in 2020. The table below sets out the date and agenda items for each of the meetings.

Meeting date	Topics
25 November 2020	• Terms of reference • Short term plan for group • Background to TERRE delay • Current legal position • Draft scenarios
2 December 2020	• Agree scenarios • Draft implementation plans
9 December 2020	• Further detail on implementation plans, based on agreed scenarios
16 December 2020	• Further detail on implementation plans, including roles for different participants

Appendix 4 - Scenarios and Implementation Plan

Scenarios

The ESO initially proposed three scenarios (Scenarios 1-3). During the discussion of 25 November, a fourth scenario was suggested (Scenario 4) and supported by participants. The scenarios can be grouped depending on whether or not the ESO waits for legal clarity before proceeding with implementation.

Scenario	Process	Description
Scenario 1	Wait for legal clarity before proceeding	Final trade agreement (FTA) or no FTA means that GB participation as a third country to exchange RR using TERRE in the way currently envisaged will not be permitted.
Scenario 2		An agreed FTA position between the UK and EC on balancing market arrangements, including access to TERRE and MARI.
Scenario 3	Continue prior to receiving legal clarity	ESO assumes access to TERRE platform as currently envisaged and re-starts implementation now, with the material risk of change and associated re-work.
Scenario 4		Pause all work until such a date when there is legal clarity and it can re-start.

In the meeting of 2 December it was agreed that:

- Scenario 3 was not credible as:
    - It is highly unlikely that EU Exit and corresponding FTA will result in like for like design and access to the TERRE platform as envisaged under the EU Internal Energy Market
    - There is a high risk of significant re-work by all parties depending on the FTA, leading to stranded costs for GB consumers
- Scenario 4 should be viewed as a nuance or decision point of Scenario 1
- Scenario 1 should be split into two sub-scenarios:
    - Scenario 1a: GB operates a TERRE-like mechanism in standalone mode. With no cross-border component there is no need for revised interconnector agreements.
    - Scenario 1b: access to European RR via bilateral agreement. Existing interconnector agreements would need to be revised a new agreement with RTE would be needed.
- Scenarios 1 and 2 should form the basis for developing detailed implementation plans.

The ESO also highlighted that it was prioritising implementation of Power Available Phase 2 during the remainder of 2020/21, based on the benefits this would bring to GB consumers.

Integration considerations for any new solutions

Impact Assessment

Every TSO participating in TERRE is connected to the LIBRA platform hosted by RTE. It is assumed that a GB implementation will require a UK hosted ‘IT platform’ (LIBRA equivalent) to enable the exchange of RR data. A GB implementation only will require the design and delivery of a UK based IT solution, and the additional development an IT operational support model/organisation and the underpinning contractual and commercial agreements. This ‘GB IT platform’ will then be integrated with the existing TERRE functionality that we have developed and tested to date.

Legacy platform constraints

The ESO's legacy balancing mechanism has evolved from technology originally introduced in the late 1970s. The primary constraint of the legacy technology is the balancing mechanism (BM) system's inability to maintain parity with more contemporary platforms via its rate and pace of change. Whereas more modern platforms are componentised / modular (i.e. multiple modules that act together and allow multiple changes to take place in parallel), the complexity within the BM means code is only merged into the mainstream baseline when it becomes close to production-ready, resulting in code merges that are a significant undertaking.

Continuous Integration

The TERRE codebase will be 'continuously maintained' to include all changes made to the production (operational) baseline. All planned changes (regulatory and operational) to the BM are depicted within the ESO Forward Plan[5]. The point at which TERRE restarts will determine the level of effort and timeframes to reintegrate the TERRE code into the 'production baseline'. Once integrated, thorough testing (both internal and external) is required to ensure the integrity of the BM is maintained, thus reducing the risk of outage and risk to supply.

The following non-BM changes will also need to be implemented and reintegrated into the current production baseline, and will also undergo the same rigorous testing cycles.

System(s)	Description
National Grid Economic Data Warehouse (NED) Market Operation Data Interface System (MODIS)	• Market reporting • RR instruction data to enable settlements and energy and capacity reporting
European Communications Protocol (ECP)	• Communications platform providing external interfaces to Libra and interconnectors
Customer relationship management (CRM)	• Web portal for management of existing and new market participants (all unit types: Primary, secondary and additional and ancillary market units)
Registration Database	• Distribution of markets participants data (eg unit information to BM and other internal National Grid systems)
Application Programming Interface (API)	• Programmatic web interface for access to the balancing mechanism for market participants to submit and receive data (ie bids and instructions)

Testing Internal systems

All IT systems in scope of TERRE will need to ensure that functional changes (projects and operational) through the ESO Forward Plan do not break or interfere with TERRE functionality, and equally importantly TERRE functionality does not break or interfere with existing functionality. Either of these could cause a risk to supply, incorrect market reporting, or a cyber risk that poses a security threat to our critical national infrastructure.

External testing

All external market participants will need to perform integration testing to ensure that they can submit and receive RR data to the balancing mechanism. National Grid and market participants will also need to perform operational testing for all RR process introduced, including registration, balancing settlements and reporting.

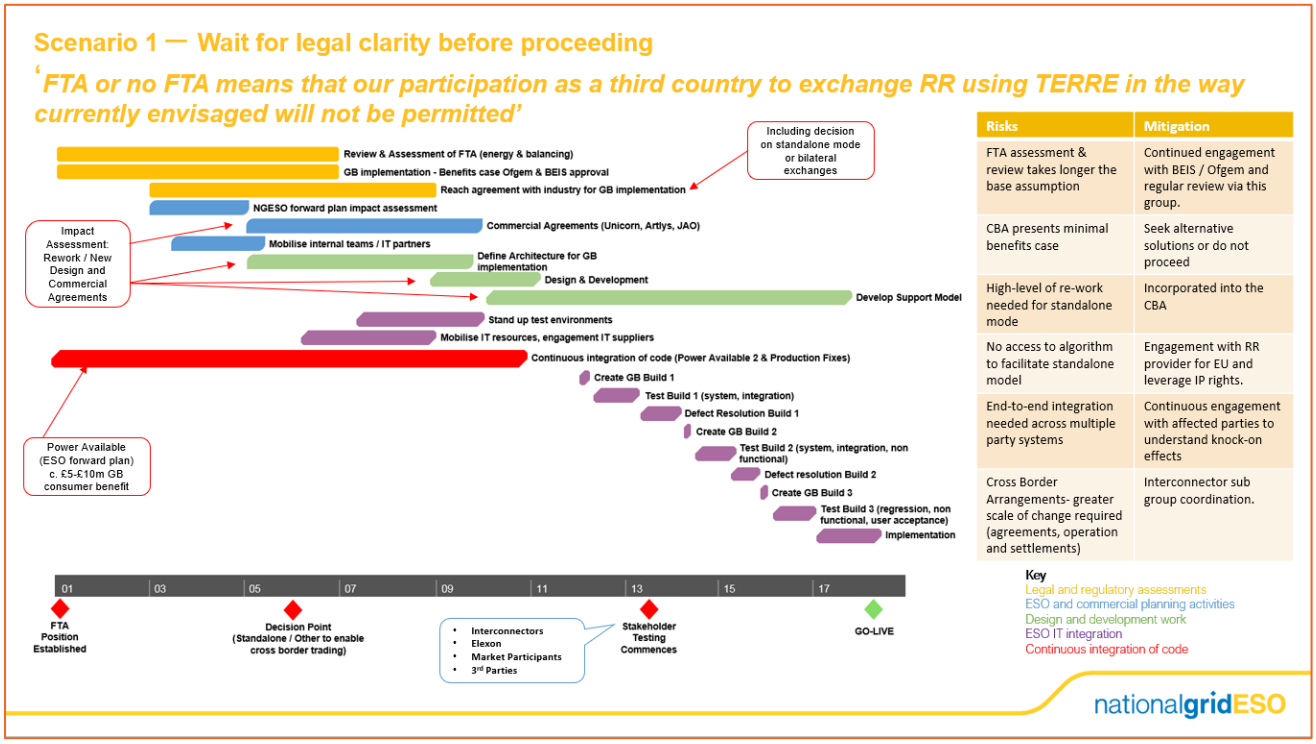
Implementation plans

The ESO presented draft implementation plans for Scenario 1 and 2 on 9 December. The group asked for more detail around each of the deliverables to help provide an assessment of whether the plans were credible.

[5] https://www.nationalgrideso.com/our-strategy/forward-plan

Some stakeholders noted that the timelines seemed quite longer than expected, given previous work. The ESO presented more detailed implementation plans on 16 December.

Scenario 1



Roles for different participants in Scenarios 1a and 1b

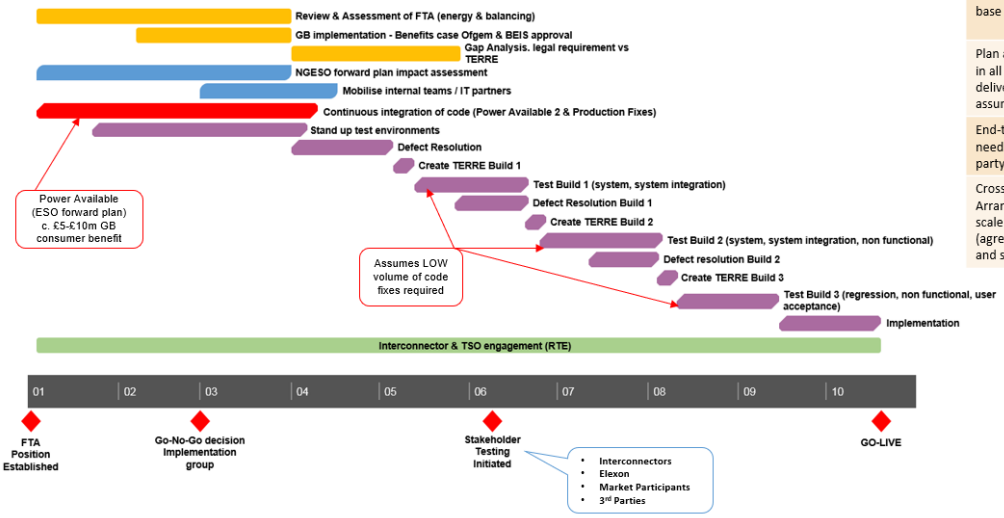
	Legal and Regulatory	ESO	GB Stakeholders
Scenario 1a	• Review and assessment of FTA • GB implementation benefits case • Reach agreement with industry for GB implementation • Confirm BSC modifications and Grid Code changes	• Define commercial agreements with ENTSOE and suppliers to use Libra software and applications • Create new infrastructure platform to host Libra equivalent • Integrate new Libra equivalent with existing ESO RR capability • Re-test RR process for MP data submission, data creation for dispatch instructions and regulatory reporting	• Interconnectors - assume de-coupled mode • Elexon – potential of change of data timing and content • Market participants – access limited to GB only, may need to reassess bid types • ENTSO-E – confirm reporting requirements (transparency platform)
Scenario 1b	• Review and assessment of FTA • Bilateral implementation benefits case • Reach agreement with industry and RTE for bilateral implementation • Confirm BSC modifications and Grid Code changes	• Define commercial agreements with RTE to operate bilaterally • Define commercial agreements with ENTSOE and suppliers to use Libra platform software and algorithm • Create new infrastructure platform to host Libra equivalent • Integrate new Libra equivalent with existing ESO RR capability • Re-test RR process for market participant data submission, data	• Interconnectors - can submit data as planned for TERRE currently • Elexon – potential of data submission timing change • Market participants – access to GB/FR energy markets • ENTSOE – confirm reporting requirements (transparency platform)

		creation for dispatch instructions and regulatory reporting	

Scenario 2

Scenario 2 - Wait for legal clarity before proceeding (Technology delivery restart M4)

'FTA means the EC will allow GB to exchange RR using TERRE'



Risks	Mitigation
FTA assessment & review takes longer the base assumption	Continued engagement with BEIS / Ofgem and regular review via this group.
Plan assumes flexibility in all 3rd party plans to deliver baseline assumption	Continued engagement, via this group, implementation and go-live coordination.
End-to-end integration needed across multiple party systems	Go-live implementation sub group formed.
Cross Border Arrangements- greater scale of change required (agreements, operation and settlements)	Interconnector sub group coordination.

Key
Legal and regulatory assessments
ESO and commercial planning activities
Design and development work
ESO IT integration
Continuous integration of code

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