

**Date: 23 November 2022**

**Item: TfL Power Purchase Agreements**

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**This paper will be considered in public**

**1 Summary**

- 1.1 This paper provides an update on TfL's progress towards operating a net zero railway by 2030 by procuring renewable electricity. It summarises the issues encountered with regards to its first Power Purchase Agreement tender issued in June 2022 and the proposed next steps.

**2 Recommendation**

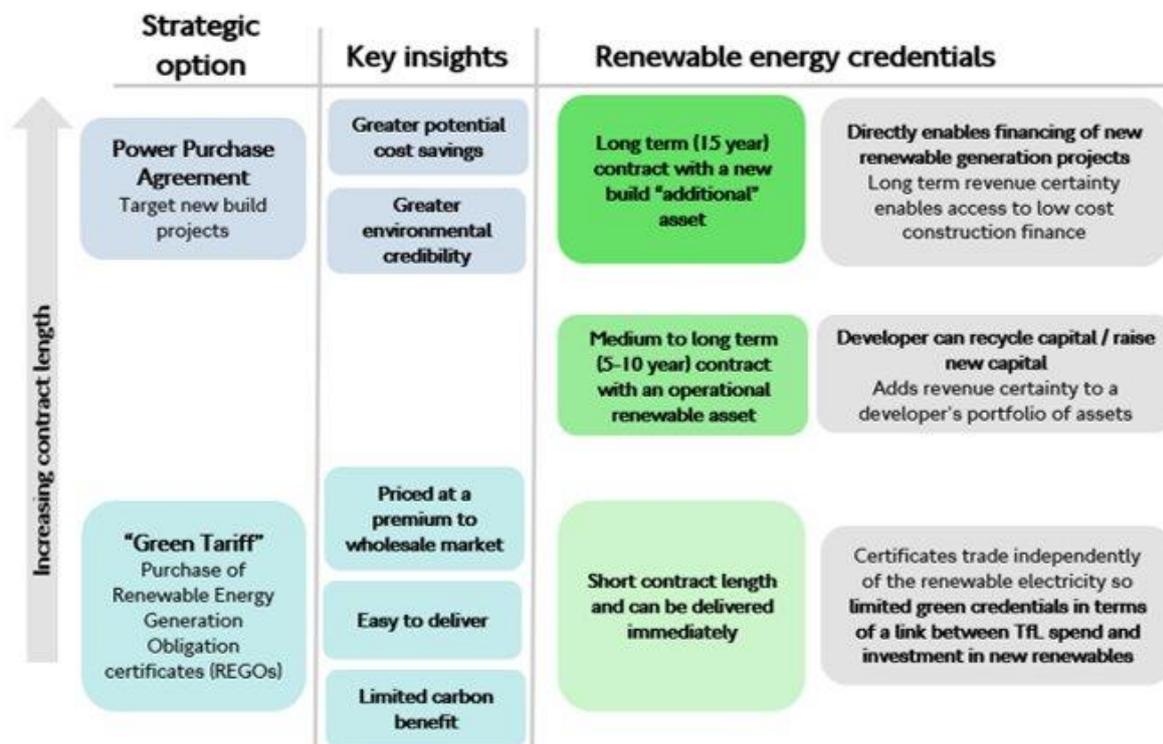
- 2.1 **The Committee is asked to note the paper.**

**3 Background to TfL's Energy Purchasing Strategy**

- 3.1 TfL has an annual aggregated requirement for the supply of electricity of ~1600GWhs (gigawatt hours), which is equivalent to approximately 420,000 average domestic electricity consumers, and an ambition to transition to renewable energy over coming years to run a zero-carbon railway by 2030.
- 3.2 Aligned to TfL's zero-carbon railway ambition, on 25 November 2020 the Committee endorsed TfL's Energy Purchasing Strategy (EPS) which set out TfL's plan to procure 100 per cent renewable energy, partially via Power Purchase Agreements (PPAs) by 2030. The EPS outlined how this would be achieved in conjunction with TfL's current purchasing arrangements for energy through the Crown Commercial Service (CCS).
- 3.3 Since 2013, TfL's electricity and gas supply has been purchased through the CCS energy framework, which is procured competitively. This established purchasing framework has enabled TfL to manage wholesale price risk (up to three years ahead of delivery) and continues to provide a competitive price for its energy; noting that TfL's current energy price is significantly below the lowest price that could be achieved through the temporary 'Energy Bill Relief Scheme'. The current CCS energy framework provides limited options to secure renewable energy. The framework does however provide flexibility for the customer to source renewable energy directly from a generator via PPAs and deliver the energy from these PPAs via the CCS-appointed framework supplier.
- 3.4 The EPS provided a roadmap for how TfL would procure renewable energy through PPAs, while managing potential cost risk, with a specific intention of using TfL's size and position to stimulate growth across the renewable energy generation sector. One of the key components and considerations of the EPS was to diversify power purchase volumes between three renewable options:
- (a) Long-term PPAs:
    - (i) Industry norm is 15-year contracts;

- (ii) Stimulates the building of new assets providing, additional renewable capacity to the grid (known as 'additionality'); and
  - (iii) Pricing has a stronger link to the <sup>1</sup>Levelised Cost of Energy (LCOE) rather than wholesale prices, meaning pricing of these contracts are more protected against wholesale price rises.
- (b) Medium-term PPAs:
- (i) Typically, 5 – 10-year contracts;
  - (ii) Enter contract for the purchase of electricity from pre-existing assets; and
  - (iii) Pricing of these shorter/medium term PPAs is more closely linked to the wholesale market.
- (c) A flexible green energy tariff:
- (i) Short-term contracts where the supplier promises to match all or some of the electricity use with renewable energy. However not all green tariffs are equally green. Some companies which offer "green" electricity tariffs can 'greenwash' their brown energy supply by trading Renewable Energy Guarantee of Origin (REGO) certificates in a secondary market, without buying or self-generating the accompanying renewable electricity; and
  - (ii) Pricing closely linked to the wholesale market.

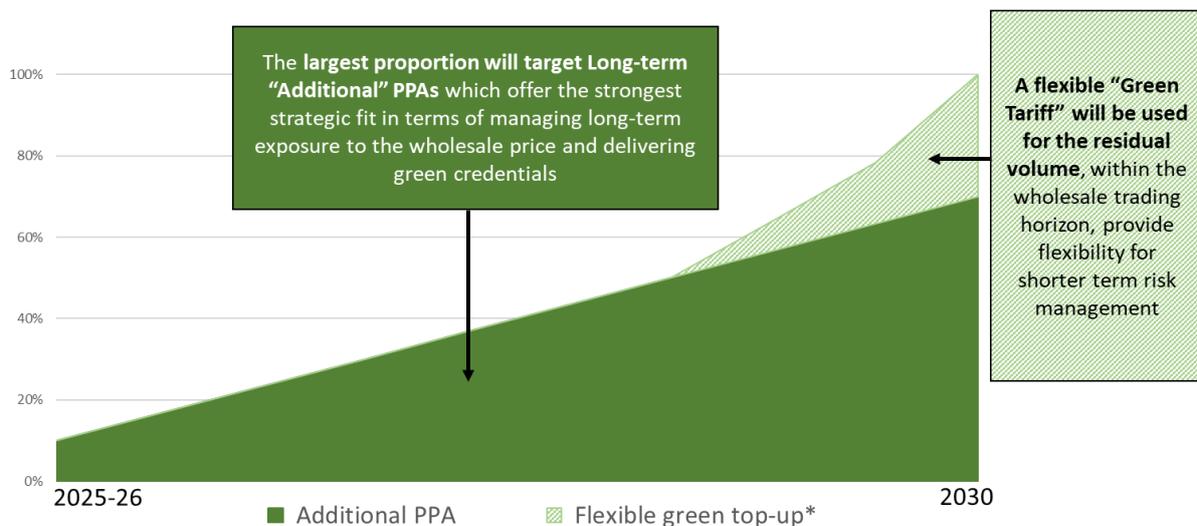
### 3.5 Diagram 1. Summary of Purchasing Options



<sup>1</sup> LCOE - Is a measure of the average net present cost of electricity generation for a generator over its lifetime. It is used for investment planning and to compare different methods of electricity generation on a consistent basis.

3.6 Due to adverse market conditions, a recommendation was made to the Committee (on 6 October 2021) to postpone the procurement a medium-term PPA from existing assets, and increase PPA volumes for long-term PPAs from new build assets which are less sensitive to wholesale price movements. The Committee agreed that TfL would initially procure up to 12.5 per cent of the current power requirements through its first PPA and, longer term, approach the market for renewable energy volumes approximately every two years over the next decade to reduce risk. The exact timing and volumes under each of the three options would be adapted according to unfolding market conditions at the time.

3.7 Diagram 2. Indicative PPA Portfolio build up.



## 4 Progress to Date

- 4.1 In June 2022, TfL launched a tender aiming to procure a 15-year PPA for 150-200 GWh (~12.5 per cent of TfL annual volume) per year of renewable electricity from a new build solar or wind asset. Despite significant market engagement and receiving 71 expressions of interest, the response to the standard Selection Questionnaire (SQ) was limited; with only four submissions received, all failed to pass the initial stage due to a lack of experience and/or incomplete submissions.
- 4.2 TfL has since worked with external energy advisors Arup to understand the root cause of the disappointing response. Arup produced a report with their hypotheses and recommendations for how to improve market participation. TfL has engaged with the market to test certain aspects of the recommendations and revised tender parameters, including: selection criteria, delivery timescales and volume. The response was positive, and TfL was planning to relaunch a revised PPA tender the week commencing 17 October 2022. However, prior to launch the Government introduced the 'Energy Prices Bill', which contained outline proposals to control energy prices, with potential implications for the wholesale price of electricity generated by renewable and low-carbon generators. Given the resulting market uncertainty, the proposed re-launch has been paused.

## **5 Current Position**

- 5.1 The majority of the Energy Prices Act 2022 (the Act) came into force on 25 October 2022, although much of the detail will be contained in regulations which have yet to be developed. For now, however, it is known that a cap will be imposed on the revenues which certain renewable energy generators can earn (the cost-plus revenue limit). The cap will apply from January 2023 for up to five years, although this can be extended by further regulations. At this stage, it is not clear which categories of renewable energy generators will be caught or what the level of cap will be. The market uncertainty is likely to last until nearer the proposed implementation date of January 2023, as the Government is currently consulting with the relevant market participants and developing the parameters of the further legislation. This coupled with the generators having limited internal capacity to consider participation in a TfL procurement in addition to their involvement in the ongoing consultation means that TfL re-launching its PPA tender immediately is likely to result in a very limited response until the market uncertainty is removed.
- 5.2 It is therefore recommended that any developments regarding the regulations to be made under the Act are closely monitored by TfL and its energy advisor Arup until the implementation date of the cap, expected in January 2023. Work will continue on the finalisation of procurement documents to ensure TfL is ready to re-launch its PPA tender as soon as practically possible following publication of the regulations, when we are confident we will achieve a positive result. Note, at this stage, it is not known whether any of this further legislation will have any material impact on TfL's PPA tender; if no structural changes are required and the government's current timeline is maintained, TfL would be able to re-launch in early January 2023.
- 5.3 TfL is continuing to engage with the market to gather further feedback and ensure renewable developers are aware of TfL's future renewable PPA ambitions. One of the key issues identified by Arup and TfL for the unsuccessful standard Selection Questionnaire stage of the PPA tender was bidder unfamiliarity with the public procurement process and the associated requirements. It is likely that bidders had more experience of bilateral negotiations as there has been a limited number of public procurements for PPAs outside of the City of London procurement in 2019-2020 and more recently, Network Rail. In order to mitigate this in the revised tender process, TfL will hold an industry briefing post tender publication where we will walk developers through the requirements of the tender and support the market in relation to public sector procurement practices.
- 5.4 The timing of Government's Contracts for Difference (CfD) scheme to support renewable generation was also identified as a potential factor in the muted response to TfL's initial tender. The structure of the next CfD allocation round (AR5) will be detailed in December 2022, with the application window currently due to open in March 2023. TfL will therefore carefully plan the tender relaunch to avoid overlap with key stages of the CfD process when the full details of AR5 are published.

## **6 Collaborative PPA**

- 6.1 TfL has been engaged in the GLA Energy Procurement Collaboration Programme with the GLA, Metropolitan Police, the London Fire Brigade, and the London Legacy Development Corporation (the GLA Group). It aims to pool the electricity demand of TfL with that of smaller GLA Group bodies to allow the entire Group to

benefit from enhanced purchasing power, reduce carbon emissions and reduce the cost of the electricity procured.

- 6.2 It is unlikely that the delay incurred on TfL's PPA procurement process will materially impact the GLA Group collaborative PPA as there was already (and will remain) a significant gap between the TfL only PPA contract award and the launch of any Group PPA. Experience from TfL's PPA be used to benefit future Group procurements.
- 6.3 At present, the GLA Collaboration project is in the Planning for Delivery Stage (Phase 0). The intention of this phase is to explore the delivery options for multiple counterparty PPAs as these are not commonplace. The areas to be explored during this phase include the development of the overall structure of the PPA and any ancillary arrangements that may be required to enable delivery to each counterparty e.g. licensed supply and sleeving arrangements. It is envisaged that this phase will complete in by the end of Q4 2022/2023.

## **7 Next steps – Energy Purchasing Strategy**

- 7.1 To date TfL's Energy Purchasing Strategy has protected TfL from the highest of energy prices, however, there is increasing risk from energy prices to our operating cost base. As such, it is timely to review the overall approach to energy purchasing and to ensure that this remains robust and enables TfL to respond to external issues in agile way. Political issues such as the war in Ukraine and the turmoil in the energy market are expected to persist, therefore TfL will review the EPS in light of this to ensure that it is fit for purpose in the current market.
- 7.2 TfL will provide an update to the Committee in Spring 2023.

### **List of appendices to this report:**

None

### **List of Background Papers:**

June 2021 TfL Energy Purchasing & GLA Energy Procurement Collaboration Programme

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