



**ENHANCEMENTS TO THE REGULATORY FRAMEWORK FOR
INTERMITTENT GENERATION SOURCES IN THE
NATIONAL ELECTRICITY MARKET OF SINGAPORE**

ADDENDUM

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Metering Requirements for Consumers with Embedded IGS of 1 MWac and Above

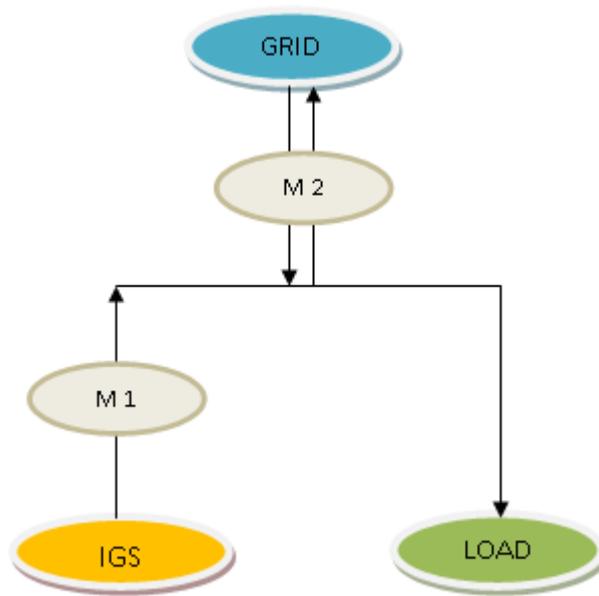
- 1.1 On 1 July 2014, Energy Market Authority (“EMA”) issued a Final Determination Paper on the ‘Enhancements to the Regulatory Framework for Intermittent Generation Sources in the National Electricity Market of Singapore’¹ (“Final Determination Paper”). The paper set out several regulatory enhancements to facilitate the deployment of IGS (such as solar panel systems) in Singapore. As part of EMA’s ongoing industry engagement efforts, we have received requests to review the metering requirements for consumers with embedded IGS of 1 MWac and above.
- 1.2 Currently, consumers with embedded IGS of 1 MWac and above, regardless of whether they are selling any excess electricity into the grid, are required to apply for licence with the EMA and to register as Market Participant (“MP”) with the Energy Market Company (“EMC”). As part of the market registration requirements, they are required to have the relevant metering arrangements (“M1 meters”) at each generation point (refer to diagram 1 for illustration). The meters are required to compute the payments for excess electricity sold into the grid, and to compute the applicable market charges (e.g. AFP charge, EMC fees and PSO fees).
- 1.3 The industry has provided further feedback to EMA that for solar consumers who do not sell any electricity to the grid, the compliance cost of the M1 metering requirements is onerous. The industry thus proposed for this group of consumers to pay the relevant market charges based on an estimated IGS generation profile, instead of the actual IGS generated which is registered by the physical meters. In this way, the consumers will not be required to invest in metering infrastructure, while still pay their share of the relevant market charges.
- 1.4 EMA has carefully considered the feedback and recognised that the M1 metering requirement could be streamlined for consumers, with embedded IGS of 1 MWac and above, who do not wish to sell excess electricity into the grid. In this way, the compliance costs will be reduced, which will further

¹ The Final Determination Paper can be found at:
http://www.ema.gov.sg/cmsmedia/Consultations/Electricity/Proposed%20Modifications%20to%20the%20Transmission%20Code/1July2014Final_Determination_Intermittent_Generation_Sources_-_1_July_2014_Final_.pdf

facilitate IGS deployment in Singapore. Therefore with immediate effect, this group of consumers will have two options:

- 1.4.1 **IGS output based on M1 meter readings.** As per current requirements, consumers with embedded IGS of 1 MWac and above can choose to install M1 meter at each generation point and pay the relevant market charges based on actual metered IGS generated.
 - 1.4.2 **IGS output based on alternative arrangements.** Consumers with embedded IGS of 1 MWac and above can choose not to install M1 meters, and use an alternative arrangement to be approved by EMA to determine the IGS output for the settlement of the relevant market charges. An example of such an alternative arrangement is to use an estimated IGS profile that is approved by the EMA. This will obviate the need for such consumers to install M1 meters, and support the EMA's overall objective to enhance the regulatory framework to facilitate the entry of IGS by streamlining existing processes.
- 1.5 For consumers with embedded IGS who will be selling excess electricity into the grid, the current requirement to install meter at each generation point still applies.
 - 1.6 Other relevant requirements such as application to the EMA for wholesaler license and application to EMC to register as a Market Participant still apply.
 - 1.7 Consumers with embedded IGS of 1 MWac and above, and are interested to use alternative arrangements to determine the IGS output for the purpose of settlement of relevant market charges should contact the EMA for more information.

Diagram 1: Illustration of metering set up for a typical consumer with embedded IGS



For clarifications, please contact us at EMA_Policy@ema.gov.sg