


Regulatory Framework for Renewable Energy Generation (RF-REG)


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The Water and Electricity Regulatory Authority (WERA) in exercise of its powers conferred under Article 4 of Electricity Law, Article 4 and 5 of WERA's Charter and the relevant clauses of the Grid Code, the Distribution Code and the Electricity Service Provision Manual, WERA hereby issued the following Regulation.

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1. PURPOSE

The principal purpose of this Regulation is:

- a) Defining the requirements and provisions for implementation of REG (Renewable Energy Generation) Systems for self-consumption either connected to the Distribution System, the Transmission System, or as off-grid systems.
- b) Defining the regulatory requirements related to REG Systems, either connected to the Distribution System, the Transmission System, or as off-grid systems.
- c) Establishing the framework for Self-Consumption Billing arrangements of surplus energy exported to the Distribution System or to the Transmission System.
- d) Ensuring the efficient and safe construction, installation, maintenance and operation of REG Systems either connected to the Distribution System, the Transmission System, or as off-grid systems.
- e) Protecting the consumers and increasing their awareness relating to REG Systems.

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2. DEFINITIONS AND RULES FOR INTERPRETATION

2.1 The words and expressions, defined in the Electricity Law or its Implementing Regulations, related to the duties of WERA, shall have the same meanings in these Regulations unless the context otherwise requires:

2.2 The following words and expressions, when used in these Regulations, shall have the meanings against each, unless the context otherwise requires:

Biomass – Organic material that comes from plants and animals.

Biomass Power Plant – Plants producing electricity and/or heat fueled by biomass.

Certification Committee – The committee responsible for qualification, approval and registration of consultants and contractors executing the design, examination, installation and maintenance of Renewable Energy Generation systems.

Certified Consultant/Contractor – A legal entity that has been certified by the Certification Committee to carry out the design, examination, installation and maintenance of REG systems.

Charter – the Charter of Water and Electricity Regulatory Authority (WERA)

Connection Point – The point of connection to the electricity system of the Service Provider for both import and export of electricity by the Eligible Consumer linked to a single meter installed on the Premises of the Eligible Consumer.

Contracted Load – The total loads of all electrical equipment that are installed on the Premises of the Eligible Consumer and it is contracted with the Distribution Service Provider or Transmission Service Provider through the connection agreement.

Concentrated Solar Power (CSP) – A technology that concentrates the sun's energy to drive traditional steam turbines or engines that generate electricity.


Distribution Code – The Distribution Code issued by the Board decision No.(03/16/28) dated 01/06/1428 AH and any modification to thereafter.

Distribution Operating Area - The operating areas of the Distribution Service Providers licensed by WERA.

Distribution Service Provider (DSP) – The legal entity licensed by WERA to develop, construct, own, operate and maintain a network that is part of the Distribution System.

Distribution Use of System (DUoS) Charges – Charges for use of the distribution system.

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Electricity Law – The Electricity Law of the Kingdom of Saudi Arabia issued under the Royal Decree No. (M/44) dated 16/5/1442H .

Eligible Consumer – (1) a consumer with a Connection Point that meets the requirements of these Regulations and the Connection Conditions between the Distribution System or the Transmission System and the Consumer’s Premises as defined in the applicable codes and the requirements stipulated in Clause 6 of these Regulations. (2) any consumer not connected to the power system who aims to develop and operate an off-grid Renewable Energy Generation System. The Eligible Consumer is always an energy-consuming entity.

Electrical Installation – Any fixed cable, wire, switchgear or other equipment or apparatus within a Consumer’s Premises installed and used for purposes incidental to the supply of power to the loads of the Consumer.

Extra High Voltage (EHV) – Voltage with a nominal RMS value above 230kV.

Grid Code - the Saudi Arabian Grid Code

Grid-connected REG System – a Renewable Energy Generation System installed within the electrical installation of an Eligible Consumer with a LV, MV, HV or EHV Connection Point.

High Voltage (HV) – Voltage with a nominal RMS (root mean square) value above 69kV and up to 230kV.

Implementing Regulations – the Implementing Regulations to the Electricity Law.

K.A.CARE – King Abdullah City for Atomic and Renewable Energy.

KSA – The Kingdom of Saudi Arabia.

Low Voltage (LV) – Voltage with a nominal RMS (root mean square) value of 1kV or lower.


Maximum Connected Capacity – The Eligible Consumer’s maximum installed generation capacity (expressed in kVA or MVA) which the Service Provider allows to operate in parallel to the Distribution or Transmission System pursuant to this Regulation.

Medium Voltage (MV) – Voltage with a nominal RMS (root mean square) value above 1kV and up to 69kV.

Metering Code –The governance of the principles for metering of all custody transfer points as part of the applicable Code at the Connection Point.

Off-grid REG System – a Renewable Energy Generation System that supplies electricity to an electrical installation or network without any LV, MV, HV or EHV Connection Point.

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Premises – Any real estate with a Renewable Energy Generation System, and with a point of connection in case of REG Systems operated in parallel to the Distribution or Transmission System.

Photovoltaic (PV) – The process of electric energy generation by the photovoltaic effect, i.e. the basic physical phenomenon in which an electric potential difference is produced by the absorption of photons.

REG System – Renewable Energy Generation Systems with or without storage equipment that generate electricity or heat primarily from renewable sources including solar (PV and CSP), wind, Waste to Energy / biomass and that are installed on the Premises of an Eligible Consumer either off-grid or connected to the Distribution System or to the Transmission System.

REG System Connection Agreement – Agreement signed by the Eligible Consumer and the Service Provider; for grid-connected REG Systems, it also contains the terms and conditions for Self-Consumption Billing arrangement and operation of the REG System.

REG System Connection Fee – The fee to be paid by the Eligible Consumer to the Service Provider for connecting the REG System to the electricity system of the Service Provider.

REG System Connection Process – Procedure which must be positively completed by an Eligible Consumer with a grid-connected REG System before the REG System can be released for operation.

Regulation or RF-REG – The present Regulatory Framework for Renewable Energy Generation.

Service Provider – The Distribution Service Provider or Transmission Service Provider receiving the REG Connection Application of the Eligible Consumer and verifying the REG System is designed and installed in accordance with the provisions of the Regulation. As far as billing is concerned, the Service Provider is either the Principle Buyer or DSP.


Transmission Service Provider (TSP) – The legal entity licensed by WERA to develop, construct, own, operate and maintain a network that is part of the Transmission System.

SASO – The Saudi Standards, Metrology and Quality Organization.

SEC – The Saudi Electricity Company.

Self-Consumption – The use of self-generated electricity by an Eligible Consumer to satisfy its own demand.

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Self-Consumption Billing/ Net Billing – The energy exchange and financial arrangements between an Eligible Consumer and a Service Provider linked to a single Connection Point in one or several Premises.

Small Scale Solar PV Regulation – The Small Scale Photovoltaic Installations Regulation as issued and amended by WERA from time to time.


Storage - The conversion of electrical energy into a form of energy, which can be stored, the storing of that energy, and the subsequent reconversion of that energy back into electrical energy.

Transmission Use of System (TUoS) Charges – Charges for use of the transmission system, published on WERA's website.

Waste to Energy (WtE) – The process that generates electricity and/or heat from waste treatment, or from fuel from waste.


Wind or Wind Energy – The kinetic energy in wind used to produce electricity from the motion of the air; transformed into electrical energy using wind turbines or wind energy conversion systems.

Year – Calendar year according to the Gregorian calendar.

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3. SCOPE AND APPLICATION

- 3.1 This Regulation applies to all REG Systems that are installed and operated for Self-Consumption purposes in the KSA, with the exception of the provision given under Clause 3.4.
- 3.2 This Regulation applies to the Service Providers, the Eligible Consumers, the Certified Consultants/Contractors, and any other entity involved in:
- The connection of REG Systems to the Distribution System or to the Transmission System with the aim of entering into a Self-Consumption Billing arrangement with the Service Provider.
 - The development and operation of REG Systems.
- 3.3 This Regulation applies to all electricity generation technologies from renewable sources of any size above 1kW capacity.
- 3.4 This Regulation does not apply to solar PV systems up to 2MW capacity to which the Small Scale Solar PV Regulation applies.
- 3.5 This Regulation applies to the Use Cases described in Annex 4.

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4. GENERAL PROVISIONS

- 4.1 WERA is the final reference for interpretation of any article or provision of this Regulation or for any discrepancy between this Regulation and any other regulatory documents.
- 4.2 The Certification Committee established by the Minister of Energy and headed by a representative of the Ministry of Energy. The resolution of the establishment of the Committee sets up its duties, tenure and method of dissolution.
- 4.3 The Eligible Consumer shall comply with all applicable laws, regulations and other relevant requirements in the KSA.
- 4.4 The Service Provider shall:
- Comply with all applicable laws and regulations and adhere to the approved standards and technical codes and any other regulatory requirements approved by WERA.
 - Guarantee all rights of the Eligible Consumer provided for by the Regulation and any other applicable laws and regulations.
- 4.5 The Service Provider shall provide the Self-Consumption Billing arrangements to the Eligible Consumer on a non-discriminatory and first come first served basis.
- 4.6 The Eligible Consumer shall ensure that its REG Systems comply with the present Regulation, the Saudi Arabian Distribution Code and the Saudi Arabian Grid Code (as applicable) and any other applicable technical standards and codes, as long as the REG system Connection Agreement signed with the Service Provider is effective. The Service Provider shall be notified immediately of any planned modification of the technical capabilities of the REG systems, incidents or failures which may temporary or indefinitely affect compliance.
- 4.7 In case of existence of a complaint or dispute in any matter relating to this regulatory framework, any Person may file his complaint with the Service Provider in accordance with the procedures for handling Consumers' complaints approved by WERA. If no resolution is reached amicably between the Service Provider and the Person for the complaint or dispute through these procedures, the Person shall have the right to file his complaint to WERA for resolution thereof.

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5. LICENSING OF RENEWABLE ENERGY GENERATION FROM REG SYSTEMS

Licensing of electricity generation via REG Systems is governed by the Electricity Law provisions, WERA Electricity Law’s Implementing regulation, these regulations and WERA’s Rules and Procedures for Licensing.

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6. ELIGIBLE CONSUMER AND REG SYSTEM CAPACITY

6.1 Any consumer wishing to install a REG System for self-consumption purposes shall satisfy the following requirements to be an Eligible Consumer.

For all REG systems:


- a) The Consumer shall own or be entitled by the owner to build and operate or be in legal possession of the Premises on which the REG System is proposed to be installed.

For REG systems connected to the Distribution System or to the Transmission System:

- b) The consumer shall be connected or have applied to be connected to the Transmission or Distribution System of the Service Provider.
- c) The Maximum Connected Capacity of a REG System at a single Premise of the Consumer shall be in accordance with the Electricity Service Provision Manual and shall not exceed:
 - i. 4MVA if the Connection Point of the Premise is at LV level or if the Premise contains an off-grid LV electrical installation.
 - ii. 25MVA if the Connection Point of the Premise is at MV level or if the Premise contains an off-grid MV electrical installation.
 - iii. 120MVA if the Connection Point of the Premise is at HV level or if the Premises contains an off-grid HV electrical installation.
- d) The Maximum Connected Capacity to be installed at all Premises of the Eligible Consumer shall not exceed the aggregated Contracted Load of the Eligible Consumer.

6.2 The REG System can be installed, owned and operated by an entity different than the Consumer under a service agreement between the two entities, provided the legal and regulatory conditions for installing, owning and operating the REG System are complied with also by the new entity.

6.3 An Eligible Consumer can share electricity from a REG System with other consumers under a sub-metering arrangement (joint self-consumption). To that end it is required that there is one main meter which groups and demotes the other consumer's meters to "sub-meters".

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7. PROCEDURE FOR THE INSTALLATION OF A REG SYSTEM

7.1 For grid-connected REG Systems with a capacity lower than 25MVA, the Service Provider that is responsible for receiving the REG Connection Application of the Eligible Consumer and for verifying that the REG System is designed and installed in accordance with the provisions of the Regulation is the DSP of the distribution system which the REG System is proposed to be connected to.


7.2 For grid-connected REG Systems with a capacity higher than 25MVA, the Service Provider that is responsible for receiving the REG Connection Application of the Eligible Consumer and verifying that the REG System is designed and installed in accordance with the provisions of the Regulation is the TSP of the transmission system which the REG System is proposed to be connected to.

7.3 For Off-grid REG Systems, WERA is responsible for verifying that the Off-grid REG System is compatible with the provisions of the Regulation.

7.4 Each Service Provider shall setup a REG System Connection Process designed in accordance with the provisions of this Regulation and the framework guidelines reported in Annex 3 of this Regulation; the REG System Connection Process shall clearly define the following.


- a) The roles and duties of the Parties in the process.
- b) All required documents, data and forms and how they shall be submitted.
- c) The maximum time for the different activities defined in the process.
- d) The template of the Connection Agreement.
- e) The Saudi Standards, International Standards and all applicable codes for the design, construction, connection and operation of the REG Systems and all studies or certificates necessary for demonstrating compliance.
- f) The analysis performed by the Service Provider during the application review stage and the applicable acceptance criteria.
- g) A change procedure for a REG System for which the REG System Connection Process has already been completed.
- h) A change procedure for a REG System already in operation.

7.5 The REG System Connection Processes designed by the Service Providers shall be submitted to WERA for approval and shall be made publicly available by the Service Providers.

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8. METERING SYSTEMS

- 8.1 Metering of electricity generated by REG Systems shall comply with the Saudi Arabian Grid Code and the Saudi Arabian Distribution Code.
- 8.2 Metering of the exchange of energy between the Service Provider and the Eligible Consumer at the Connection Point shall comply with the Metering Code. The Service Provider shall supply, own, operate and maintain the metering point.
- 8.3 The Service Provider shall install a separate metering point at the Connection Point of the REG Systems dedicated to monitoring and recording the energy production of the REG System in accordance with the Metering Code. The Eligible Consumer shall bear the cost of the installation and recurring running costs.
- 8.4 The electrical design documentation of the meter installation shall comply with the applicable Codes.
- 8.5 Prior to commissioning, the Service Provider shall inspect the REG System to ensure that the metering systems comply with the applicable codes and safety standards.

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9. CERTIFICATION AND QUALIFICATION

- 9.1 The Certification Committee shall be responsible for certification of Contractors/Consultants permitted to design, inspect, install, ensure that it conforms to Saudi standards, and maintain the REG System in line with a designated registration scheme.
- 9.2 The Service Providers shall liaise with the Saudi Standards, Metrology and Quality Organization (SASO) to ensure that certificated REG System Components are used when applicable.
- 9.3 The Eligible Consumer ensures that a Certified Contractor/Consultant undertakes regular and routine maintenance of the REG System.

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10. NET BILLING ARRANGEMENT, FEES AND CHARGES

10.1 The Net Billing arrangement is a mandatory arrangement for energy exchange and clearing between the Eligible Consumer and the Service Provider.

10.2 The Eligible Consumer can benefit from a Net Billing arrangement for several consumption accounts under the same Eligible Consumer and under the same Service Provider.

10.3 The Eligible Consumer can benefit from a Net Billing arrangement across several premises where REG systems are installed, and energy is consumed (“Virtual Net Billing”) as described in Annex 4.

10.4 The Eligible Consumer can benefit from a Net Billing arrangement which includes other consumers which can be located in the same building or at the same premise (sub-metering arrangement). Clause 6.3 applies.

10.5 Energy can be considered self-consumed only if it is produced and consumed within the same metering interval, without regard to whether production and consumption take place at the same site. Surplus energy generated from the REG System will be exported to the Distribution or Transmission System and recorded in the Billing system as financial balance according to the financial fees explained in Annex 2, insofar it is generated from a renewable source.

10.6 The financial balance shall be carried forward from the present Billing Cycle to the next cycle and to be deducted from the electricity consumption bill of the Connection Point itself, considering Clause 10.2.


10.7 The Service Provider is required to bill the Eligible Consumer for the energy supplied after deduction of the financial balance (if any) of the energy exported from the REG System affiliated to the Eligible Consumer into the Distribution or Transmission System.

10.8 The Service Provider shall pay the accrued credit amount of surplus energy, if any, upon Termination of the Connection Agreement according to the Fees prescribed in Annex 2, within sixty (60) days of the Termination Date.

10.9 If accumulated electricity credits have been carried forward to a subsequent billing period within the preceding 12-month period, the Service Provider shall reduce the value of any remaining accumulated electricity credits to zero.

10.10 For projects connected to the Transmission Grid, Transmission Use of System (TUoS) charges are applicable to each consumption site. For projects connected to the

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Distribution Grid, Distribution Use of System (DUoS) charges may be applicable to each consumption site.

10.11 The Service Provider shall develop an appropriate arrangement for a consumption bill for an Eligible Consumer and submit it for WERA's approval to ensure effective application of the Self-Consumption Billing arrangement. The bill shall include as a minimum the following information:

- a) The number of energy units exported.
- b) The number of energy units imported, and the time-of-use periods, if applicable.
- c) The financial credit of accumulated energy units due to surplus energy generated and exported to the Distribution System or to the Transmission System.
- d) The balance of the financial value of energy units carried forward to the following billing cycle.

10.12 The basis for the metering data use in Clause 10.11 for further processing is the data as obtained from the Metering Systems at the Connection Points in line with the Metering Code. The Billing arrangements are based on these data.


10.13 This section is not applicable to Off-grid REG Systems.

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11. REPORTING


11.1 The Service Provider shall submit a report to WERA on a date not later than 31 January of each calendar year, that, at the minimum, includes the following information:

- a. The uptake of REG Systems by type of Eligible Consumers (Residential, Commercial, Industrial, Agricultural, Government).
- b. The total energy units generated from REG Systems monthly and yearly.
- c. The aggregated peak capacity of REG Systems connected and disconnected during the year.
- d. The number of REG Systems approved and connected.
- e. The number of REG Systems approved but not yet connected.
- f. The minimum/maximum/average duration for connecting to the Distribution or Transmission System from the time an application is submitted.
- g. The minimum/maximum/average peak generation from REG Systems; and
- h. The total energy units exported from REG Systems to the grid monthly and yearly.
- i. Technical and regulatory issues arisen in the implementation of the present Regulation.
- j. actions undertaken to overcome the aforementioned issues.

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12. AWARENESS RAISING

- 12.1 In coordination with WERA, the Service Providers shall raise the awareness of the Eligible Consumers regarding the availability and accessibility of REG Systems installations.
- 12.2 The Service Providers shall make available to the Eligible Consumers the relevant information and guidance for REG System installation. This shall include:
- Information on the connecting application process; and
 - Information on economic and environmental consequences for consumers.
- 12.3 The Service Providers shall conduct awareness programs, approved by WERA, for potential consumers intending to install REG Systems on their facilities.
- 12.4 The Service Providers shall develop and implement advisory services to support the Eligible Consumers wishing to install REG Systems on their facilities.
- 12.5 The Service Providers shall provide publicly available information, data and statistics on the deployment of REG Systems, including number of systems, type of installations and capacities installed.

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13. SPECIFIC PROVISIONS FOR DIFFERENT TYPES OF REG SYSTEMS

13.1 REG Systems connected to the Transmission Grid

13.1.1 For each calendar year, the TSP shall provide the Self-Consumption Billing arrangement to all Eligible Consumers connected to the Transmission Grid provided that the aggregated capacity of the REG Systems connected to the Transmission Grid under the Self-Consumption Billing arrangement shall not exceed 3% of the KSA power system peak load of the previous year.

13.1.2 The TSP shall make publicly available and shall maintain updated estimates about the residual capacity available for new REG Systems with respect to the above capacity of clause (13.1.1).

13.1.3 Should the above capacity be reached, the TSP may continue receiving, processing and approving connection requests for new REG Systems. However, the TSP shall put approved connection requests on hold until the following year. The connection queue shall be managed on a ‘first approved first connected’ basis.

13.1.4 The TSP shall be committed to develop and adopt enhanced network components, operation and planning tools and procedures which fully consider the presence of REG Systems in their networks and which can release the operational constraints limiting the connection of REG systems to the power system.

13.1.5 WERA shall annually review the above caps of (13.1.1) taking into account of the return-of-experience of the Service Providers as per the periodic reporting activities of clause 11.1.


13.2 REG Systems connected to the Distribution Grid

13.2.1 The DSP shall provide the Self-Consumption Billing arrangement to all Eligible Consumers connected to their Distribution Grids provided that the aggregated capacity of the REG Systems connected to all the LV and MV distribution networks of the DSP under the Self-Consumption Billing arrangement shall not exceed 3% of the DSP operating area peak load of the previous year.

13.2.2 The DSP shall make publicly available and shall maintain updated estimates about the residual capacity available for new REG Systems with respect to the above capacity of (13.2.1).

13.2.3 Should the above capacity be reached, the DSP may continue receiving, processing and approving connection requests for new REG Systems. However, the DSP shall

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put approved connection requests on hold until the following year. The connection queue shall be managed on a 'first approved, first connected' basis.

13.2.4 The DSPs shall be committed to develop and adopt enhanced network components, operation and planning tools and procedures which fully consider the presence of REG Systems in their networks and which can release the operational constraints limiting the connection of REG systems to their networks.

13.2.5 WERA shall annually review the above caps of clause (13.2.1) taking into account of the return-of-experience of the Service Providers as per the periodic reporting activities of Clause 11.1.

13.3 Off-Grid REG Systems


13.3.1 Off-Grid REG Systems shall use the same feeding voltage as the ones adopted by the Service Providers for grid-connected REG systems and stated in the applicable codes.

13.4 REG Systems with Storage

13.4.1 The installation of storage equipment shall be possible within the provisions of the present Regulation provided that:

- a) The storage equipment is combined with REG System.
- b) The power capacity (MW) of the storage equipment does not exceed the Maximum Connected Capacity of the REG System.
- c) The storage is operated by the Eligible Consumer with the purpose of increasing the self-consumption of the electricity generated by the REG System by the loads at the Premises of the Eligible Consumer.
- d) The storage of a grid-connected REG System is operated to reduce the load-generation imbalances caused by the Eligible Consumer.

13.4.2 For grid-connected REG Systems, the Service Provider shall define in its REG System Connection Process the documentation which shall be presented by the Eligible Consumer to give evidence of the use of the storage for an increase of the self-consumption and a reduction of the load-generation imbalances.


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ANNEX 1

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Connection Agreement Form

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Preamble:

1. The phrases and expressions defined in the Regulation shall have the same meaning for the purpose of implementation of this Agreement, unless the context otherwise requires.
2. This Agreement states the terms and provisions agreed upon between the Service Provider and the applicant. The Agreement includes the application submitted by the applicant and all the basic data required from the applicant.
3. This Agreement refers to different regulatory documents such as the Grid Code, the Distribution Code, the Regulation for REG Systems and the Consumers' Complaints Handling Procedures, which may be accessed via the Service Provider's website or by visiting one of the branches of the Service Provider or WERA's website.

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First: The preamble is considered an integral part of this Agreement. The Eligible Consumer may install the REG Systems and conduct operational tests upon signing the Application Form and this Agreement.

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Second: REG Systems Construction, Connection and Operation Procedures:

The Eligible Consumer may construct, connect and operate the REG System according to the Regulation upon completion of the following procedures:

- 2-1: Testing the REG Systems by the Service Provider and checking the compliance of the REG System with the requirements of the Distribution Code or Grid Code and any other applicable codes and standards.
- 2-2: Assigning the duty of testing by the Service Provider in cases when such assignment is required.

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Third: Safety and Regular Maintenance Procedures

- 3-1: The Eligible Consumer shall perform the operation and regular maintenance procedures and preserve the REG Systems to comply continuously with the requirements of the Distribution Code or Grid Code and any other requirements imposed by the Service Provider.
- 3-2: The Eligible Consumer, for safety purposes, shall maintain safe and easy access to the location of the Systems.

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Fourth: REG Systems Inspection:

- 4-1: Without prejudice to the provisions of this Regulation for REG Systems, the Service Provider may inspect the Metering Equipment and the REG Systems at the time it deems appropriate with any means it considers suitable, provided that the Service Provider notifies the Eligible Consumer at least two days prior to the inspection date. The Eligible Consumer shall enable Service Provider to conduct the inspection without hindrance.
- 4-2: In case of disconnection of the REG Systems due to violation of the terms and conditions of this Agreement, the Eligible Consumer may apply for re-inspection of these Systems after conducting the required amendments or remedying any remarks of the Service Provider. The Eligible Consumer shall bear the cost of re-inspection fees approved by WERA. The Eligible Consumer and the Service Provider shall agree upon the date of re-inspection within 5 business days of the application for re-inspection.

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Fifth: Disconnection of the REG Systems:

The Service Provider may temporarily disconnect the REG System of the Eligible Consumer in the following cases:

- 5-1: In case of scheduled disconnection of the Distribution or Transmission System.
- 5-2: In case of non-scheduled disconnection of the Distribution or Transmission System.
- 5-3: If the Service Provider finds that the operation of the REG Systems is not complying with the terms and provisions of the Distribution Code or Grid Code and/or this Agreement.

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Sixth: Limit of liability for compensation:


- 6-1: The liability of any party towards the other party for compensation for a material damage shall be limited to the level of direct damage actually incurred. No party, under any circumstances, shall be liable towards the other party for any indirect damage.
- 6-2: The Eligible Consumer shall be fully responsible for the internal wirings of the REG Systems after the breaker of the Service Provider from the side of the Eligible Consumer. Therefore, the Service Provider shall not bear any legal or financial responsibility as a result of any default, error or change in the connection equipment of the REG Systems.

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Seventh: Calculation of Self-Consumption Billing Invoices:

- 7-1: For the purposes of calculation of self-consumption billing, the amount of energy exported from the REG Systems shall be calculated from the date on which the Service Provider notifies the eligible consumer about the possibility of actual operation of these systems and their connection with the Distribution or the Transmission System.
- 7-2: If the financial value of electrical energy imported by the Eligible Consumer is higher than the financial balance of the quantity of the electrical energy exported from the REG System to the Distribution System or Transmission system, the Eligible Consumer shall, on a monthly basis, pay the due value of the Self-Consumption Billing invoice to the Service Provider according to the tariff approved by WERA.
- 7-3: If the financial value of the electrical energy exported from the REG System to Distribution or Transmission System is higher than the financial value of the electrical energy imported by the Eligible Consumer, the Service Provider shall forward the balance amount to the bill of the next month and shall invoice only the charges that are not calculated on the basis of the Eligible Consumer’s consumption. The settlement shall be in accordance with the provisions of the Regulation for REG Systems. The credit can be carried forward to a subsequent billing period in every billing period within the preceding 12-month period. After 12 months of consecutive rollover, any remaining credit shall be reduced to zero.
- 7-4: In case the Eligible Consumer fails to pay the due consumption invoice, the Service Provider shall have the right to disconnect the electricity from the Eligible Consumer according to the instructions regulating the cases for disconnection of electrical power as stated in the Electrical Service Provision Manual approved by WERA.

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- 7-5: The calculation method and the approved fees may be amended according to the instructions of WERA and in accordance with the approved policies and the public interest.

Eighth: Complaints or Dispute Resolution

In case a complaint or dispute in any matter related to this Agreement or its implementation or any aspects related to the REG Systems Regulation arises, the Eligible Consumer may submit his complaint to the Service Provider according to the Consumer Complaints Handling Procedure approved by WERA. In case of not reaching any solution to the complaint or dispute satisfactory to the Service Provider and the Eligible Consumer, through these procedures, the Eligible Consumer shall have the right to submit its complaints to WERA for settlement.

Ninth: Termination of the Agreement

No Party may terminate this Agreement unless pursuant to the following cases:

- 9-1: The Eligible Consumer may terminate this Agreement at any time by (30) business days' notice to the Service Provider, prior to the termination date.
- 9-2: The Service Provider may terminate this Agreement by written notice to the Consumer (30) business days prior to the termination date, if the Eligible Consumer violates any of the provisions of this Agreement and not remedying such violation within 15 business days of the receipt of the written notification.
- 9-3: The Service Provider may terminate the Agreement if the Eligible Consumer performed any amendment on the REG System that affects its contractual relation with the Service Provider without written consent of the Service Provider.
- 9-4: In case of termination of the Agreement, the REG Systems shall be disconnected from, as the case may be, the Transmission or Distribution System and shut-down within twenty (20) business days of the date prescribed for termination.

Tenth: Term of the Agreement

The term of validity of this Agreement shall be twenty (20) years commencing on the date of signature of this Agreement by the Parties, unless terminated earlier in accordance with its terms. This term may be extended for an additional period of five (5) years subject to mutual agreement between the Eligible Consumer and the Parties.

Eleventh: This Agreement has been executed in two original copies in Arabic language; each Party has a copy to work on its basis.

May Allah give us success

Name	
Signature	
Date	
Name of the Employee	
Date	
No of Connection Application	
Signature	

ANNEX 2

Fees and Charges

1. Fees and charges of services provided by the Service Provider

Service	Fees (SAR)
REG Pre-Application Report	To be determined by WERA via decision of His Excellency the Governor *
REG Connection Application	To be determined by WERA via decision of His Excellency the Governor *
REG System Connection	To be determined by WERA via decision of His Excellency the Governor *

* WERA shall review the fees and charges regularly whenever needed


§ Only applicable for connection to Distribution System and Transmission System.

2. Tariffs for Surplus Energy exported

Consumption Category	Tariff (SAR/kWh)
All Eligible Consumption categories	To be determined by WERA via decision of His Excellency the Governor

ANNEX 3

Framework Guidelines on the REG System Connection Process

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1. The REG System Connection Processes of the Service Providers shall be designed in accordance with the provisions of the Saudi Arabian Distribution Code or the Saudi Arabian Grid Code as applicable as well as with the guidelines of the present Annex 3.

2. The REG System Connection Process shall comprise the following main phases:

- REG Pre-feasibility & Connection Application
- REG Application Screening
- REG Application Full Review
- REG System Connection Agreement & REG System Installation
- REG System Inspection and Meter Installation
- REG Energization & Operation

1.1 REG Pre-feasibility & Connection Application

a. Selection of REG System Consultant/Contractor

Any Eligible Consumer wishing to install a REG System shall select a Certified Contractor/Consultant. The Certified Contractor/Consultant shall be accountable, on behalf of an Eligible Consumer, for all the interactions with the Service Provider during the REG System Connection Process, as well as for the REG System Design and the Electrical Installation works.


b. Pre-feasibility

The Eligible Consumer is responsible for all preliminary studies related to the cost assessment of the REG Systems, the estimation of revenues and savings based on the power produced by the REG System, the consumption rates of the Consumer and the expected return on investment.

c. REG Pre-Application Report (Optional)

For REG Systems different from off-grid REG systems, the Service Providers shall support potential Eligible Consumers by providing data about the available REG hosting capacity of their networks and networks areas. It especially means that, upon a specific request by a Certified Contractor/Consultant on behalf of the Eligible Consumer and payment of the fee defined in Annex 2 of the Regulation, the Service

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Provider shall prepare a REG Pre-Application Report which provides detailed information about the network conditions and the REG hosting capacity at a location identified in the request. The location shall clearly be identified by latitude and longitude, street address, site map, utility equipment number (e.g. pole number), meter number, account number or a combination of these. The Request for the Pre-Application Report shall also include information on the proposed technology for interconnection (e.g. synchronous generations or inverter-based generation) and the primary source of energy (e.g. sun, wind, biomass and waste).

The REG Pre-Application Report prepared by the Service Provider shall include the following information if available:


- The total/allocated/queued/available capacity in MVA of the substation likely to be connected to the proposed site.
- The nominal voltage of the distribution or transmission substation, the nominal voltage and the expected minimum and maximum short-circuit power at the proposed site.
- The number of voltage-regulating devices and the approximate circuit distance between the proposed site and the substation.
- The ratings and the peak and minimum load estimates of the lines likely to be connected to the proposed site.
- The existing or potential network operational constraints (e.g. thermal ratings of conductors, short circuit interrupting capacity issues, over/under voltage issues, power quality, stability issues and electrical interdependencies) which may influence the REG hosting capacity at the location in the request.

The REG Pre-Application Report shall be issued within the time defined by the Service Provider in its REG System Connection Process.

d. REG Connection Application

The REG System Connection Process shall be triggered by the submission of a REG Connection Application Form to the Service Provider. The REG Connection

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Application Form shall be issued by the Certified Contractor/Consultant on behalf of the Eligible Consumer.

The REG Connection Application Form shall be accompanied by proof of payment of the Connection Application fee defined in Annex 2 of the Regulation.

For a project with different REG Systems or more than one Connection Point, a separate REG Connection Application shall be submitted for each REG system; each REG Connection Application shall however clearly reference the relationship with the other REG Systems.

REG Connection Applications for capacity expansion of an existing REG System shall be treated the same way as a new REG System is treated.


1.2 REG Application Screening

Upon receipt of the REG Connection Application, the Service Provider shall verify the completeness of the REG Connection Application within the time defined by the Service Provider in its REG System Connection Process. The Service Provider shall notify the applicant of any missing document or information which shall be provided within the time defined by the Service Provider in its REG System Connection Process. The Service Provider shall also notify the applicant when the REG Connection Application is complete. A REG Connection Application shall be considered complete when all the items indicated by the Service Provider in its REG System Connection Process have been received and validated by the Service Provider.

1.3 REG Application Full Review

The Service Provider shall review a valid REG Connection Application. The REG Application Review consists of verifying the compliance of the REG Connection Application with the provisions of this Regulation.

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The REG Application Review shall also consist of assessing the impact of the proposed REG System on the Service Provider 's network. It is the responsibility of the Service Provider to define both the analysis and the acceptance criteria of the grid impact assessment as well as to perform the analysis with the data and information of the REG system included in the REG Connection Application.


For REG Systems to be connected to MV or LV distribution networks, the Service Provider shall, in consultation with the relevant Transmission Service Provider (if applicable), define procedures and criteria identifying single or clusters of queued REG Systems which are not electrically independent from the transmission system and whose impact on the grid is potentially not limited to the distribution network which the REG systems have to be connected to but shall rather be extended to the transmission system. For these REG Systems, the Service Provider shall involve the Transmission Service Provider in the grid impact assessment.

To speed up the connection of REG Systems to be connected to a distribution system and with an expected low impact on the network, the Service Provider shall define a fast track procedure which shall consist of a reduced number of grid impact analyses. The Service Providers shall define in their REG System Connection Processes the eligibility criteria of REG Systems for the fast track procedure. The eligibility criteria shall be based on technical parameters either of the REG System or of the grid. REG Systems to be connected to the transmission system shall not be eligible for any Fast Track Procedure.

Eligibility criteria may be based on a combination of the following parameters:

- REG System size,
- Load-to-generation ratio,
- Short-circuit ratio at the Connection Point,
- Substation transformer size,
- Minimum load of the substation.

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The Service Provider shall notify the applicant of the outputs of the REG Application Review within the time defined by the Service Provider in its REG System Connection Process.


If the REG Connection Application has an acceptable impact on the grid, the Service Provider shall approve and send back to the applicant a signed version of the REG Connection Application. The signed version shall also state the validity of the approved REG Connection Application as well as the REG Connection fee. The REG Connection fee shall be calculated according to Annex 2 of the Regulation.

The validity of an approved REG Connection Application shall be defined by the Service Provider in its REG System Connection Process.

During the period of validity of an approved REG Connection Application, the Service Provider shall assign to the approved REG System part of the REG hosting capacity and the applicant shall proceed with the next steps of the REG System Connection Process. If, at the end of the validity period of an approved REG Connection Application and upon verification by the Service Provider, the REG System has yet to be connected to the network for reasons which are only attributable to the Eligible Consumer, the Service Provider is entitled to release the capacity of the REG hosting capacity attributed to the REG System in order to attribute such capacity to other approved REG Connection Applications.

In case the REG Application Review has a negative outcome, the Service Provider shall notify the applicant with a report identifying the reasons of such outcome. If possible, the report shall also identify possible amendments to the REG Connection Application which may allow for a positive outcome of the REG Application Review. In case of a negative outcome the applicant is granted a grace period to accept the amendments proposed by the Service Provider or to propose other changes. The duration of the grace period shall be defined by the Service Provider in its REG System Connection Process. The Service Provider shall review the resubmitted REG System Connection Application without any additional costs and with a higher priority with respect to other new REG Connection Applications.

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1.4 REG System Connection Agreement & REG System Installation

a. REG System permitting procedures

Before proceeding with the installation works of the REG System, the Eligible Consumer shall go through all the other permitting procedures necessary for the construction, installation and operation of the REG System. This is especially the case when an electricity generation license is required as per clause 5 of the present Regulation. All the permitting procedures may involve more than one stakeholder and the Eligible Consumer shall obtain all necessary permits for the building, installation and operation of the REG System.


b. REG System Connection Agreement

When the Eligible Consumer has been granted all the necessary permits for the construction of their REG System, they shall sign a REG System Connection Agreement with the Service Provider. The REG System Connection Agreement shall set out the terms and conditions for the Self-Consumption Billing arrangement and for the future operation of the REG System in accordance with the Regulation.

The Service Provider shall provide the applicant with the REG System Connection Agreement. The applicant shall submit two signed copies of the REG System Connection Agreement to the Service Provider. The applicant shall also pay the REG System Connection fees as calculated and indicated in the notification of approval of the REG System Connection Application.

After receipt of the REG System Connection fees and the two signed copies of the REG System Connection Agreement, the Service Provider shall countersign the two copies and shall send one copy back to the applicant within ten (10) Business Days.

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c. Construction and Installation of REG System

Once the REG System Connection Agreement is signed by the parties and the REG System Connection Fee is paid, the Service Provider shall start, if applicable, the procurement, construction and installation of any transmission or distribution upgrades and/or interconnection facilities necessary for the connection of the REG system.

The Eligible Consumer can proceed with the construction of the REG System. The REG System shall be designed, built, installed and cold commissioned in accordance with the terms of the REG system Connection Agreement, the national codes and standards as well as with international standards and best practices. National codes and standards shall always prevail.


1.5 REG Inspection & Meter Installation

When all civil and electrical works of the REG System have been completed and the REG System is ready for energization, the applicant shall submit a REG Inspection Application which informs the Service Provider that the REG System is ready for inspection. The REG Inspection Application shall indicate all preliminary information indicated in the REG System Connection Process as well as the date from which the REG System is available for the inspection.

On an agreed date, the Service Provider shall perform an on-site inspection to check that the REG System is built and installed according to the provided documentation and in compliance with the terms of the REG system Connection Agreement and the applicable national electric codes and standards.

If the REG System Inspection has a positive outcome, the Service Provider shall install the metering system(s) according to the Metering Code and the Service Provider's Codes of practice for Metering for the Connection Point and the monitoring of energy production by the REG Systems.

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Following successful completion of the REG System Inspection and the installation of the meter(s), the Service Provider shall issue a Final Operational Notification, which certifies that the REG System is compliant with the Regulation and that the electricity production can start.

In case the full compliance of the REG System cannot be established from the sole information and documents provided by the applicant, the Service Provider may ask the Eligible Consumer to carry out specific tests to demonstrate full compliance. In such case, the Service Provider shall deliver a Limited Operational Notification which allow the energization and use of the connection for the sole scope of performing these compliance tests. During the period of validity of the Limited Operational Notification, the Eligible Consumer is allowed to use the connection and to exchange power with the grid only for the purpose of the tests and according to a scheduling agreed with the Service Provider. At the positive completion of the tests, the Service Provider shall issue the Final Operation Notification.

1.6 REG Energization & Operation

Upon receipt of the Final or Limited Operational Notification, the REG System can be energized for carrying out the commissioning. The Service Provider may witness the commissioning tests. After the commissioning tests have been successfully completed, the REG System can be operated in parallel with the network. If deemed necessary, the Service Provider is entitled to ask the Eligible Consumer to sign a REG System Operational Agreement which defines the roles and duties of the Parties for the operation of the REG System.

1.7 REG Connection Process Flowchart

A flowchart of the REG Connection Process can be found in [Figure 1](#).

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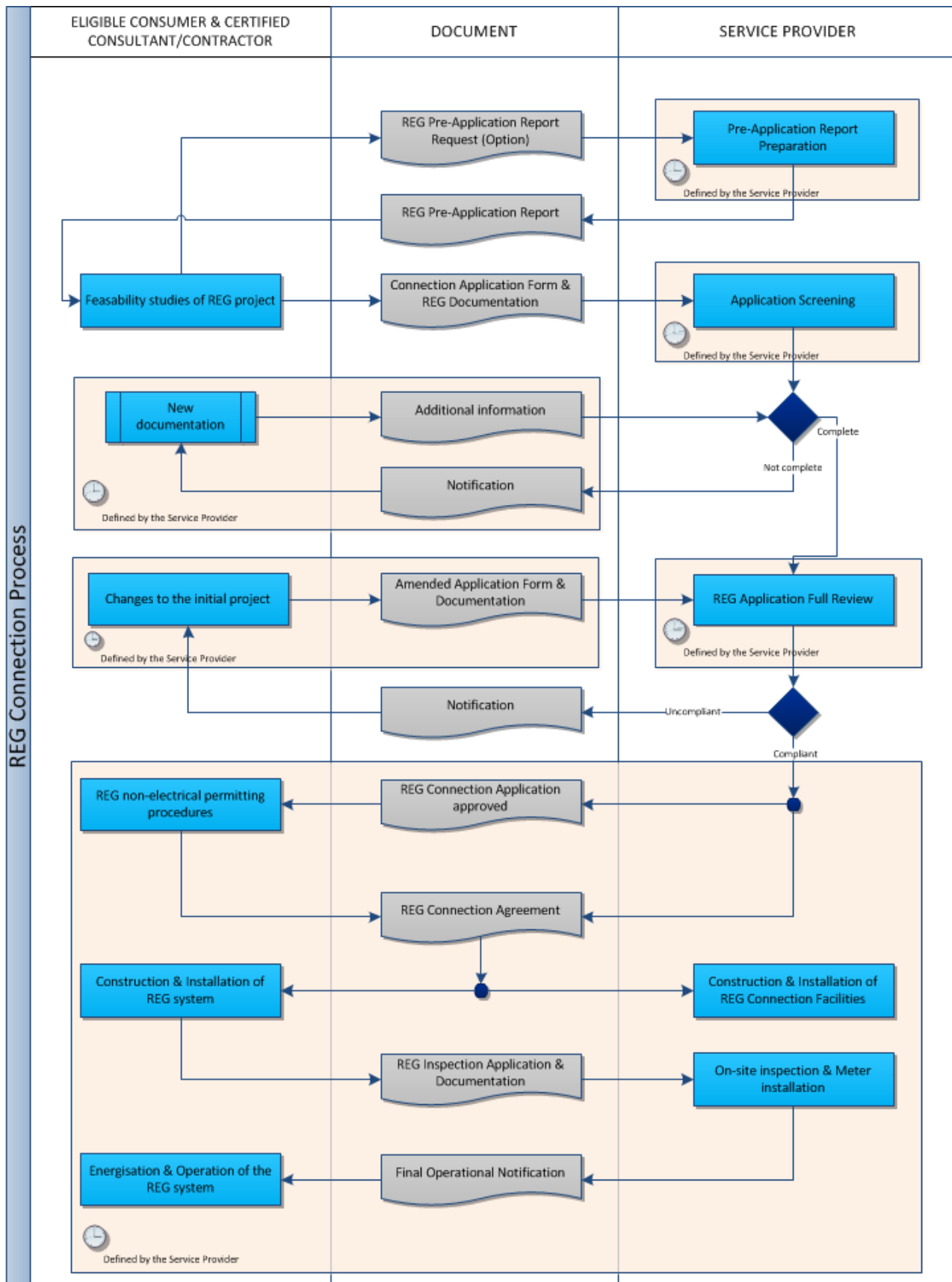




Figure 1 REG Connection Process Flowchart

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ANNEX 4

Allowed Use Cases

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Overview Use Cases

Three main Use Cases have been defined based on the potential projects and requests received by WERA. Most of them have several variants, described further in the table and the graphs below.

1. Self-consumption on a single site; site connected to DG or TG
2. (Virtual) self-consumption through TG
3. Off-grid self-consumption

Table 1 “Use Case Overview” shows for each Use Case the following items:

- Use Case Identifier
- Short Description
- If connected to DG or TG

After the Use Case overview, the main components of each Use Case are shown in a graphical format.

Table 1 Use Case Overview

Use Case	Description	DG	TG
1.1.DG	On-site self-consumption without excess energy, connected to DG	x	
1.2.DG	On-site self-consumption with excess energy, connected to DG	x	
1.3.TG	On-site self-consumption premise without excess energy, connected to TG		x
1.4.TG	On-site self-consumption with excess energy, connected to TG		x
1.5.DG	On-site joint self-consumption – sub-metering arrangement	x	
2.1.TG	Virtual self-consumption through TG		x
2.2.TG	Virtual self-consumption through TG with several generation and/or several consumption sites		x
2.3.TG	Self-consumption onsite and virtually through transmission grid and at site(s)		x
3.1	Off-grid self-consumption	n/a	n/a

Use Case 1.1.DG: On-site self-consumption without excess energy, connected to DG

No excess energy (i.e. spill) is fed into the distribution grid. In this case the renewable energy generator is similar to an energy-efficiency measure. A protection to not export power is in place.

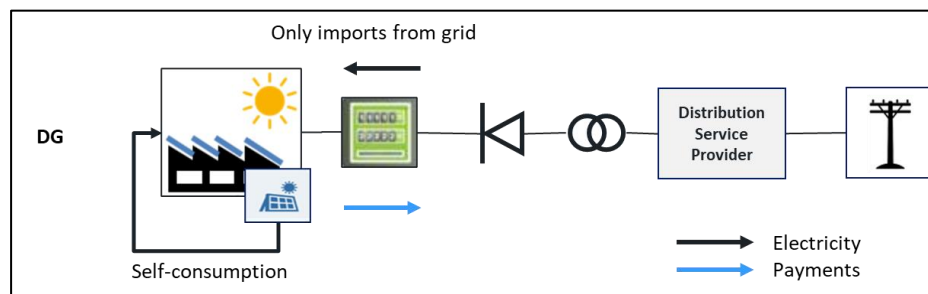


Figure 2: Self-consumption on premise without spill, connected to Distribution Grid

Use Case 1.2.DG: On-site self-consumption with excess energy, connected to DG

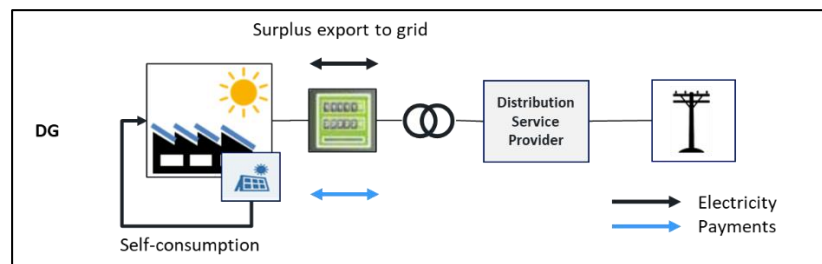


Figure 3: Self-consumption on premise with spill

This case may also apply to various accounts under the same Eligible Consumer on the same premise.

Use Case 1.3.TG: On-site self-consumption without excess energy, connected to TG

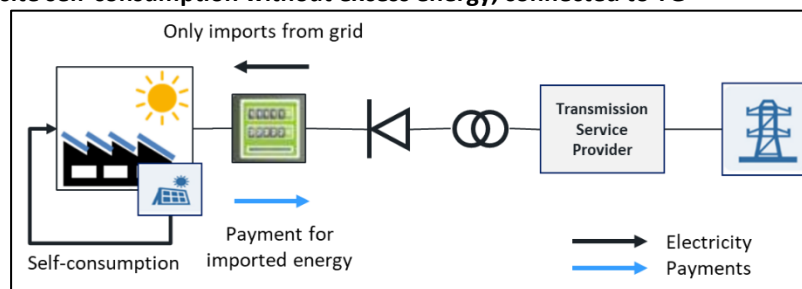


Figure 4: Self-consumption on premise without spill, connected to Transmission Grid

Use Case 1.4.TG: On-site self-consumption with excess energy, connected to TG

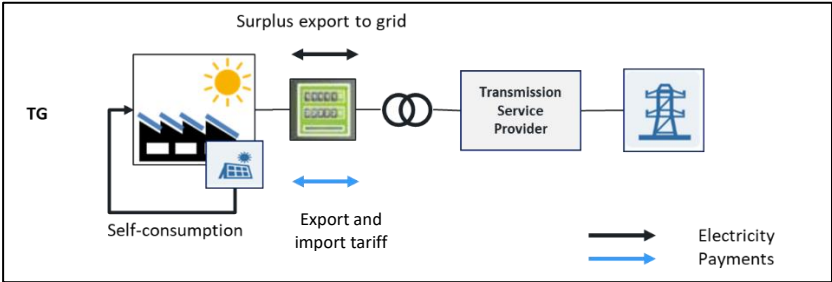


Figure 5: Self-consumption on premise with spill, connected to Transmission Grid

Use Case 1.5.DG: On-site joint self-consumption with sub-metering and excess energy, connected to DG

An Eligible Consumer can benefit from a Net Billing arrangement which includes other consumers which can be located in the same building or at the same premise. This includes for instants tenants within a residential building or compound or shops within a mall.

In that case, the Eligible Consumer must make a sub-metering arrangement with the other consumers according to current practice in KSA. The Service Provider issues the bill including the netting across all meters to the Eligible Consumer covering the total consumption.

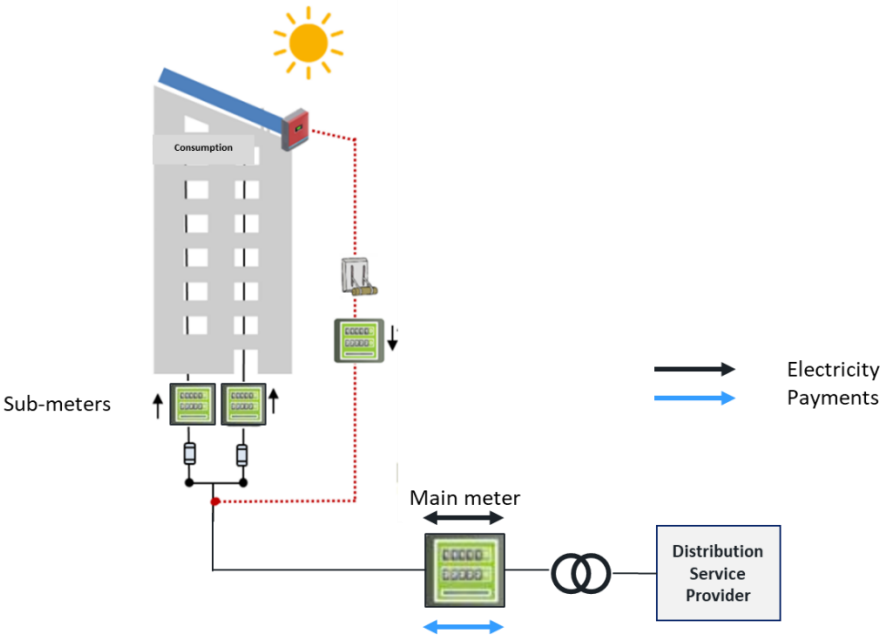


Figure 6: Joint self-consumption – sub-metering arrangement

Use Case 2.1.TG: Virtual self-consumption through TG, one generation and one consumption site

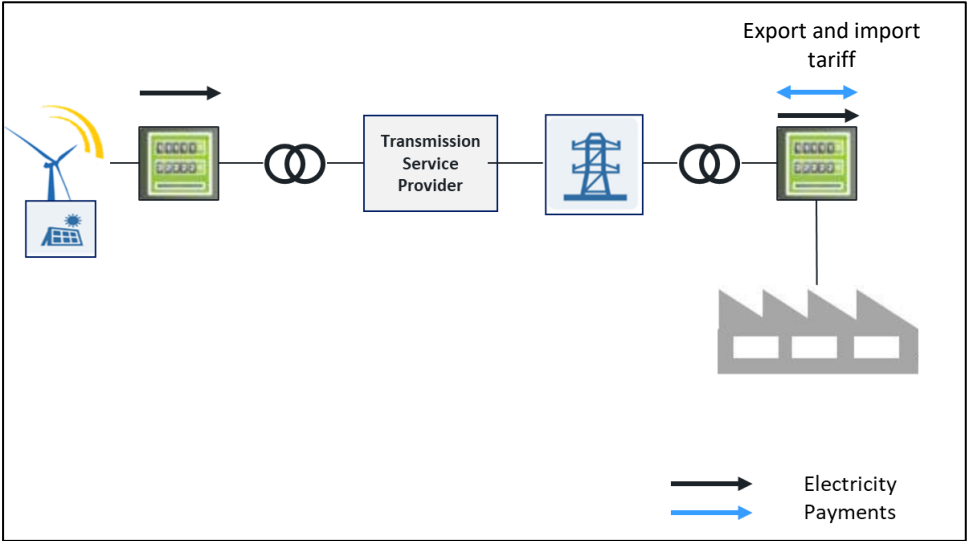


Figure 7: Virtual self-consumption through TG, one generation and one consumption site

Use Case 2.2.TG: Virtual self-consumption through TG, several generators and/or several consumption sites

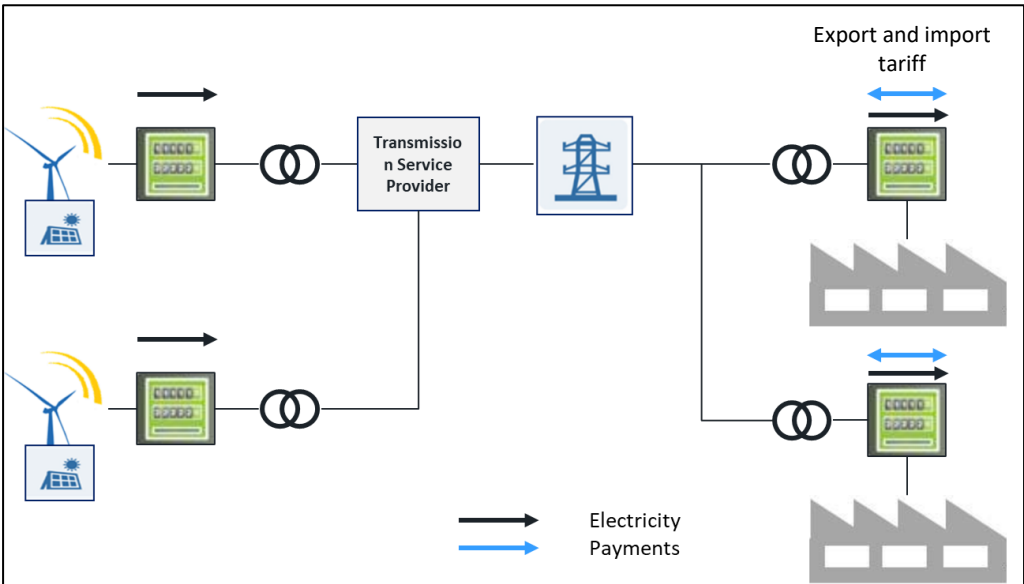


Figure 8: Virtual self-consumption through TG, several generators and/or several consumption sites

Use Case 2.3.TG: Self-consumption onsite and through the transmission grid

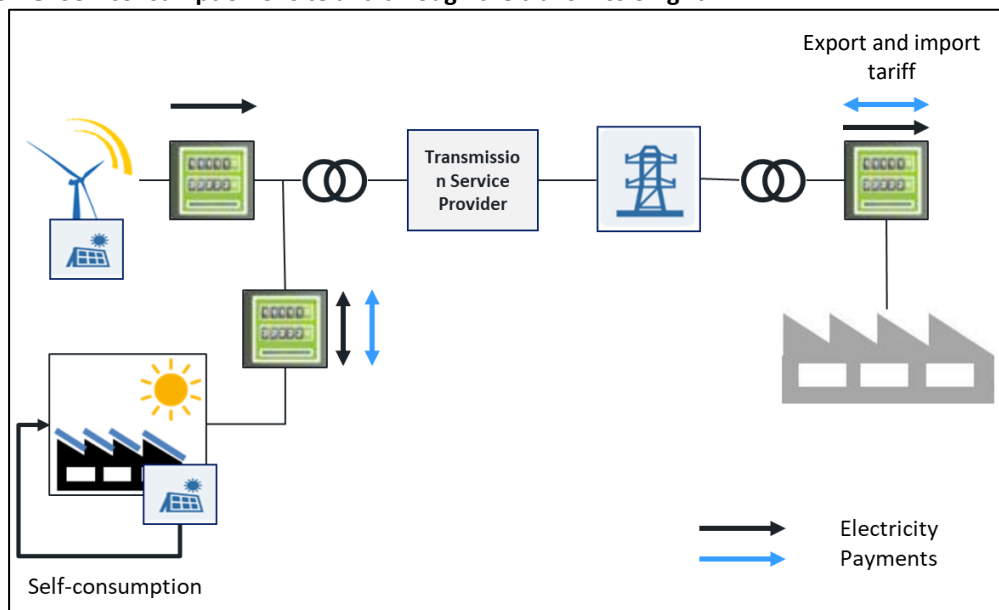


Figure 9: Self-consumption onsite and through the transmission grid

Use Case 3.1: Off-grid self-consumption

- Solar Home Systems (SHS) or isolated facilities
- One or multiple energy sources on DC bus or AC bus.
- Diesel generator and/or battery pack as a back-up.

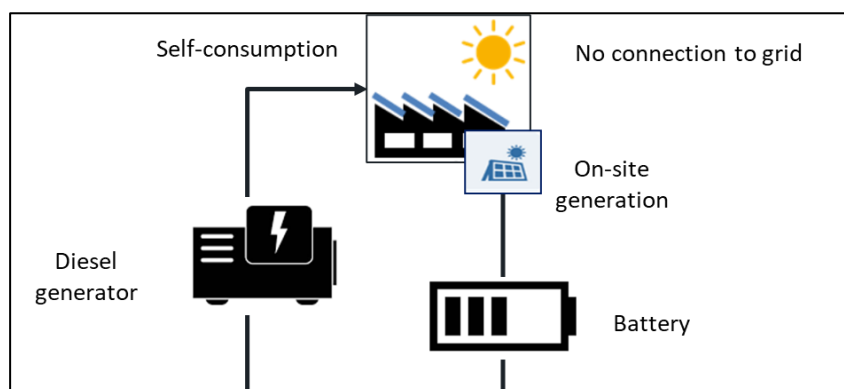


Figure 10: Off-grid self-consumption