POLICY

دائـــــرة الـــطـــاقـــة
DEPARTMENT OF ENERGY

USE OF SOLAR PHOTOVOLTAIC AND BATTERY ENERGY STORAGE SYSTEMS FOR SELF SUPPLY

EFFECTIVE DATE: 05/02/2026

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Contents

Changes History Sheet

DOC. CHANGE REQUEST NO. & DATE	PAGE NO.	SUMMARY OF CHANGE	NEW EFFECTIVE DATE

1. Introduction

1.1 Purpose

(a) Facilitate secure, compliant deployment of DPV and PV+BESS for self-supply.

(b) Support equitable, technically sound rollout in high-benefit areas

(c) Mandate adherence to licensing, operational, and safety standards with oversight from DoE.

(d) Promote decarbonization, network efficiency, and cost recovery through targeted deployment and Government control and coordination

(e) Ensure transparent, standardized application and approval processes with government support.

1.2 Policy Principles

(a) Customer Empowerment: Enables customers to install and operate DPV and PV+BESS systems, offering options for self-supply and load management.

(b) Economic Efficiency: Encourages cost-effective deployment of clean energy solutions, reducing system costs and supporting lower consumer energy bills.

(c) Decarbonization and Sustainability: Aligns with Abu Dhabi's Energy & Water Efficiency Strategy and Net Zero goals, supporting emissions reduction and greater renewable energy utilization.

(d) System Reliability and Security: Ensures DPV and PV+BESS installations meet grid codes and operational requirements, preserving power system safety and reliability.

1.3 Scope

Distributed photovoltaic systems, coupled,or not with battery storage in the Emirate of Abu Dhabi.

1.4 Responsibility for Implementation

Department Of Energy of Abu Dhabi

1.5 References

Executive Council Resolution No. (20) of 2026 concerning the Use of Solar Photovoltaic and Battery Energy Storage Systems for Self-Supply.

1.6 Distribution

Abu Dhabi stakeholders (DED, DOF, ADAFSA, EAD, ADIO, TAQA, and EWEC), as well as MOEI and EWE at Federal level

1.7 Revision

The Department of Energy shall review this policy annually, based on Key Performance Indicators (KPIs) to be developed in alignment with the sector's targets.

2. Definitions

For the purposes of this Policy, the following terms shall apply:

- “Customer” means any person, whether natural or legal, provided with electrical power pursuant to the current tariff structure..
- “Department of Energy” or “DoE” means the Abu Dhabi Department of Energy.
- “Distributed Photovoltaic” or “DPV” refers to distributed photovoltaic generation systems installed behind the customer meter for self-supply, including where authorised, paired photovoltaic-plus-battery energy storage systems (PV+BESS).
- “Energy Net Metering” means any billing, settlement, or accounting mechanism under which electricity exported to the Network by a Customer is netted against electricity imported from the Network by that Customer in energy units (kWh), whether within the same billing period or across billing periods, and whether applied to reduce billed consumption, tariff-band consumption, demand-related calculations, or any regulated charge component.
- “Export Electricity” means electricity delivered from Self-Supply with or without BESS systems to the grid, metered separately from imported electricity and not subject to netting or offset.
- “Network Investment Zone” or “NIZ” means an area within the Distribution or Transmission system designated by the DoE where controlled deployment of DPV and PV+BESS may defer or avoid network reinforcement.
- “Self-Supply” as defined in Law No. (2) of 1998, it is supply of electricity and water by a person to himself, his employees, or his business, as permitted by a Self-Supply Licence.
- “Energy Efficiency” refers to the reduction of energy consumption required to deliver the same or an improved level of energy service, output, or comfort, through the use of more efficient technologies, improved system performance,

enhanced operational practices, and informed consumer behaviour, without compromising service quality or reliability.

2.1 Limitations and Exclusions

This Policy establish the principles and conditions governing DPV and PV+BESS Self-Supply. They do not govern detailed technical requirements, network connection processes, operational protocols, or commercial settlement rules, all of which shall be defined in applicable codes, standards, and implementing regulatory instruments. Nothing in this Policy shall be construed as permitting net metering, cross-plot electricity sales, or any form of private wire arrangements unless explicitly authorised by the DoE.

3. POLICY

3.1 Context.

Abu Dhabi's electricity sector is entering a more dynamic phase, driven by the rapid maturation and cost reduction of new technologies, including utility-scale solar photovoltaic (PV), battery energy storage systems (BESS), distributed photovoltaic (DPV), smart metering, and digital demand-side solutions. These technologies are reshaping how power systems are planned and operated by enabling greater renewable integration, more granular system optimisation, and improved system efficiency. As the generation mix becomes increasingly solar-led and more variable at different times of the day, system value is shifting towards flexibility and responsiveness.

In this context, active consumer participation becomes essential to capture the full benefits of renewable integration, spur efficiency in supply and demand and support least-cost outcomes for both the system and end-users.

This Policy advances the decarbonisation of Abu Dhabi's electricity sector by placing customers at the forefront of the energy transition. It enables customers to benefit from the rapid deployment of solar PV and battery energy storage systems (BESS) and to capture associated system value through self-supply. By expanding access to these solutions under a clear and consistent governance framework, this Policy supports cost optimisation at both customer and system levels, strengthens incentives for efficient consumption and investment decisions, and reduces reliance on higher-emissions generation during peak periods.

In parallel, it is essential to reinforce the importance of end-users adopting energy efficiency measures prior to investing in renewable energy, as these measures represent a cost-effective resource that supports the system. This shall be achieved by accelerating retrofitting projects and promoting high-efficiency appliances, thereby reducing overall consumption and peak demand. Consequently, this minimizes the requirement for additional generation capacity and grid reinforcement while enhancing affordability for end-users.

3.1.1 The accelerated deployment of utility-scale solar PV in Abu Dhabi is materially lowering the system's short-run marginal cost during daylight hours, creating a clear and immediate basis to optimise tariff design so that it better reflects evolving system economics.

While utility-scale solar PV and BESS will continue to be deployed through coordinated system planning and procurement, fully realising the benefits of a solar-led supply mix requires the distribution network and end-consumers to become active participants in system optimisation. In this context, customers should have a clear and structured pathway to choose how they participate (whether by investing in self-supply through distributed photovoltaic (DPV), combining DPV with customer-sited battery storage (PV+BESS), or through optimized load management (e.g., Time-of-Use (ToU) tariffs, Demand Response (DR), etc.)

Distributed energy resources (DER), when planned, authorised, and operated under a controlled framework that preserves system security, safety, and equitable cost allocation, can advance government objectives by reducing net demand, supporting renewable integration, mitigating local constraints, and providing flexibility services. In specific circumstances, they can also defer or avoid investments in generation capacity and network assets by reducing peak demand and alleviating distribution-level congestion.

Self-supply is permitted in Abu Dhabi pursuant to Abu Dhabi Law No. (2) of 1998, and existing DoE licensing mechanisms enable it, subject to applicable sector codes and technical standards. Declining renewable technology costs and the increasing viability of battery storage are strengthening the consumer business case for self-supply and may reduce energy costs for end-consumers. This direction is further reinforced by Federal Decree Law No. (17) of 2022, Abu Dhabi's Climate Change Strategy, and the UAE Net Zero declaration, which collectively support increased clean energy penetration, diversification of supply, and demand-side participation.

At the same time, Abu Dhabi has made significant long-lived investments in generation (gas-based, nuclear, and solar) and in transmission and distribution

networks to meet current and future demand across the Emirate in a cost-efficient and sustainable manner. If self-supply were to grow without clear boundaries and governance, it could create underutilised system capacity, strand efficient assets, and shift unrecovered fixed costs onto remaining grid users. In the absence of robust regulatory mechanisms, this may produce non-solidary outcomes, including higher tariffs for consumers who remain fully dependent on the grid or increased subsidies to fund redundant generation and network costs, which could further amplify incentives for additional self-supply and accelerate an adverse cost-recovery cycle.

Accordingly, a comprehensive and balanced framework is required to ensure that customer investment decisions in DPV and PV+BESS are enabled in an orderly manner and remain compatible with the efficiency, equity, and reliability of Abu Dhabi's interconnected electricity system. This Policy provides the necessary clarity, governance, and control mechanisms to manage deployment, prevent unbridled growth, and position customer self-supply as a system-supportive component of the Emirate's electricity sector transformation.

3.1.2 In addition, energy efficiency is a foundational and least-cost pillar of system optimisation and consumer participation. Unlike supply-side measures, efficiency reduces electricity consumption at source and delivers structural demand reduction over the life of the measure. This directly supports the reduction of consumer bills and improves affordability. From a system perspective, efficiency reduces both energy consumption and, critically, peak demand, thereby easing operational constraints, lowering reserve and peaking requirements, and reducing the need for incremental generation capacity and network reinforcement. In a fast-growing system, efficiency therefore acts as "virtual capacity" by freeing existing system headroom and improving utilisation of long-lived assets.

Energy efficiency also complements a solar-led generation mix. By reducing overall demand and moderating peak loads, efficiency improves system flexibility and enables higher renewable penetration at least cost.

Accordingly, this Policy recognises consumer-led energy efficiency (through digitalization, retrofitting, improved building performance, and adoption of high-efficiency appliances) as an essential complement to DPV self-supply.

3.2 Objectives

The objectives of this Policy are to place end-consumers at the forefront of Abu Dhabi's energy transition by enabling complementary measures, such as customer self-supply through DPV and PV+BESS.

Together, these measures provide customers with practical pathways to participate in decarbonisation by reducing overall consumption, reshaping when electricity is used to better align with periods of abundant clean cost competitive generation, and reducing net grid demand through distributed solutions.

At a system level, they have the potential to increase flexibility, improve utilisation of a solar-led supply mix, and reduce reliance on higher-emissions peaking generation during critical hours. They also help moderate peak demand and local network constraints, thereby lowering the need for incremental generation capacity and deferring or reducing transmission and distribution reinforcement.

Embedding these measures within a clear governance and licensing framework, the Policy ensures that customer participation is implemented safely and transparently, preserves equitable allocation of fixed system costs, and supports reliable, least-cost delivery of Abu Dhabi's Clean Energy and Net Zero objectives while improving affordability for end-consumers.

4. Principles.

This Policy is founded on the following principles, which shall guide its interpretation.

(a) *Customer Empowerment*: Empower eligible customers to participate in Abu Dhabi's energy transition by providing clear, actionable options to access and optimise affordable clean electricity. Where authorised, it also includes facilitating the installation and operation of distributed photovoltaic ("DPV") systems and PV+BESS configurations to support customer self-supply and improved load management. In parallel, the Policy promotes energy efficiency as a least-cost participation pathway by encouraging retrofits and the adoption of high-efficiency appliances that reduce overall consumption and peak demand, improving affordability for customers while supporting system reliability and least-cost delivery of decarbonisation objectives.

(b) *Economic Efficiency:* Promote economically efficient outcomes by enabling DPV and PV+BESS deployment in a manner that minimises total system costs, reduces utility costs of consumers and optimises investment across Generation, Transmission, and Distribution assets.

(c) *Decarbonisation and Sustainability:* Support the Emirate's Energy & Water Efficiency Strategy 2030 and decarbonisation pathway and Net Zero objectives by facilitating the uptake and credible use of renewable electricity and by enabling the integration of distributed renewable generation and storage. DPV and PV+BESS shall be treated as enabling resources that can reduce emissions by lowering net demand served by fossil generation and by supporting higher renewable penetration through flexibility and load shaping.

(d) System Reliability and Security: This Policy implementation shall preserve power system reliability, security, and public safety as overriding requirements. DPV and PV+BESS shall be enabled only to the extent that they are compatible with applicable grid codes, connection standards, protection settings, and operational constraints of the Transmission and Distribution systems. The System Operator and network licensees shall retain the necessary visibility, operational control, and tools to maintain safe system operation.

5. Legal Authority and Alignment

This Policy is issued pursuant to, and shall be read in conjunction with, applicable federal and emirate-level legislation and DoE instruments, including:

(a) Law No. (2) of 1998 on regulation of the Water and Electricity sector in the Emirate of Abu Dhabi (as amended).

(b) Law No. (11) of 2018 establishing the DoE.

(c) Federal Decree-Law No. (17) of 2022 on the connection of distributed renewable generation to the grid.

(d) Resolution of the Chairman of the Department of Energy No. (21) of 2020 Amending DOE Chairman Resolution no. (7) of 2018 on the Facilitated Procedures and Conditions for Licenses of Regulated Limited-Scale Activities.

(e) DoE Regulatory Policy ED/S05/001 - Regulatory Policy for Charges to Non-IWPP Generation and Self-Supply Users Connected to the TRANSCO Transmission Network.

(f) Installation of Solar PV Systems - Guidance Document

(g) DoE/ED/P04/005 - Electricity Generation Licensing Guide (For Self-Supply Purposes).

(h) The Electricity Supply Regulations:

  (i) The Customer Metering Regulations.

  (ii) The Electricity Transmission Code.

  (iii) The Electricity Distribution Code.

  (iv) The Metering and Data Exchange Code.

The Department of Energy will issue a detailed Guidelines setting out the implementation mechanisms, technical requirements, commercial arrangements, and administrative procedures required to operationalise this Policy. This implementing Guidelines shall provide binding provisions on metering, settlement, application and approval processes, and any additional obligations necessary to give full effect to the policy intent.

6. Annexes

This Draft Policy Framework has been developed in house by DOE technical teams and has been formally approved with the support of all members of DOE Policy Development Group (PDG) on January 22, following Government Directives related to Policy approval.

In addition, the Draft Policy Framework has been consulted with all relevant Abu Dhabi stakeholders (DED, DOF, ADAFSA, EAD, ADIO, TAQA, and EWEC), as well as MOEI and EWE.

On Wednesday 23 a comprehensive workshop took place with participation of all Abu Dhabi stakeholders. During the meeting, the Policy Framework Draft was reviewed in detail, multiple questions and doubts were answered and comments were addressed and/or noted.

Within the given timeframe, written comments have been received from EAD, DED, DOF, ADIO, EWEC and TAQA. All comments received align with the purpose and objectives of the proposed Policy, and in most cases have been reflected in the final version of the wording.

See annex for specifi detail

Stakeholder	Topic / Section	Key Comment / Concern	DoE assessment
ADIO	DPV Phase II timing	Phase II start date unclear, creating uncertainty for industrial DPV	Phases removed from latest policy draft
	Self-Supply Committee (SSC) Assessment criteria	No clarity on how SSC will assess industrial applications	SSC to propose framework and threshold; large consumers ass case-by-case
	DPV industry Licensing pause	Concern that no new self-supply licences may be issued short-term	No new SS licenses for industrials consumers until threshold a framework approved
	Exports to grid	Insufficient detail on export treatment	New statement: exports only if expressly authorised, licensed, approved by DoE
DED	Operational readiness	Metering, billing, data, and institutional readiness not addressed	Clarification to be addressed through tariff approval and implementation
	SSC Governance roles	DED role unclear after IDB split	IDB removed in the SSC in new draft
	SSC Assessment framework	No standardised criteria for SSC	ToR of SSC to be proposed by Committee and approved by DoE
	SSC Roles & responsibilities	Need clearer definition of committee functions	Policy states SSC ToR proposed by SSC and approved by DoE
EAD	PV and BESS End-of-life management	Lifecycle and disposal of DPV/BESS not covered	To be included in SSC ToR and guidelines
	Net metering regulation	Ambiguity with ED/R01/108	Policy repeals conflicting regulations; legacy licences remain v
	Agriculture threshold	676 kWh/day basis unclear	Open
	DPV Phase 2 triggers	No start date or triggers	Phases removed; SSC to define thresholds
	DPV's SO visibility	Need DPV locational & forecasting data	New clause included: SO visibility of DPV installations
EWEC	NIZ designation	EWEC must be involved in NIZ assessment	New clause mandates EWEC participation
	NIZ methodology	Need structured assessment methodology	To be undertaken by Technical Committee
	SSC governance	SSC purpose, scope, powers to be defined	SSC scope expanded beyond DPV (all SS). ToR to be defined
	CEC participation	DPV should participate in CEC scheme	New clause added allowing DPV/PV+BESS to generate EACs