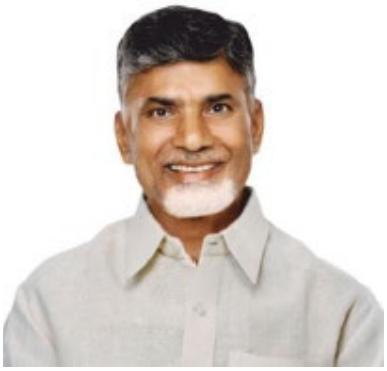
Andhra Pradesh

Integrated Clean Energy Policy

Handbook

Message from Hon’ble Chief Minister, Shri Nara Chandrababu Naidu



Inspired by the steadfast leadership of our esteemed Prime Minister and India’s rising global stature, I foresee Andhra Pradesh becoming a symbol of prosperity, innovation, and sustainable development. By 2047, I envision our state playing a pivotal role in India achieving its ambitious renewable energy (RE) transition, targeting 50% cumulative electric power capacity from non-fossil fuel-based energy sources by 2030, along with achieving net zero by 2070.

Leveraging our state’s vast RE potential across wind, solar, and hybrid sources, storage capabilities through pumped storage projects, long coastline, six operational ports (with four under development), manpower availability, several industrial parks and SEZs, access to critical infrastructure, and other advantages, Andhra Pradesh is poised to bring various energy transition aspects under a single policy framework and drive large-scale investment.

The Government of Andhra Pradesh is committed to energy transition and ambitious RE targets, focusing on the democratization of energy generation and self-sufficiency, along with being the clean energy hub of the country. This commitment is embodied in the Andhra Pradesh Integrated Clean Energy (ICE) Policy 2024. The ICE policy focuses on harnessing the immense RE potential in the state to drive net zero targets, optimize energy costs through RE, promote a manufacturing ecosystem for development and investments, facilitate the development of a circular economy, and create employment opportunities. The state is fully committed to GoI schemes, and we will be implementing PM Surya Ghar Yojana and PM KUSUM schemes in the state.

This policy is designed to promote investments, simplify processes, promote skilling in RE technologies, define milestones and project timelines, and provide incentives for various clean energy and RE manufacturing projects. The ICE policy is the first of its kind in the country, focusing on the end-to-end value chain, including RE manufacturing projects, which are essential to achieving the desired ambitious targets and sustainable development. This ICE policy aligns with Andhra Pradesh’s ambitious target of net zero by 2047. With renewed energy, I invite all the investors and broader investor community to invest in AP over the next five years and beyond, to scale up the state’s renewable energy capacity and RE manufacturing capacity multifold, and support in AP being the leading state in the energy transition.

Message from Hon’ble Minister for Energy, Shri Gottipati Ravi Kumar

I am thrilled to share our approach to creating a circular economy and a holistic framework for promoting clean energy investments in Andhra Pradesh under the visionary leadership of our Hon’ble Chief Minister Shri N. Chandrababu Naidu. Our Hon’ble Chief Minister has given us a new challenge: to make Andhra Pradesh number one not only in the country but also in the world in the ‘Speed of Doing Business’.

We can achieve the ambitious targets of 50% cumulative capacity from non-fossil fuel-based energy sources by 2030, along with achieving net zero by 2070 as a country, through a holistic framework and policy. This involves driving agility in our business processes, reforming our skilled workforce, and building a sustainable and reliable energy grid infrastructure to support other infrastructure and the economy in AP.

Additionally, under the leadership of the Hon’ble Chief Minister, we aim to reduce the cost of production and make the state a competitive global destination of manufacturing by bringing RE manufacturing projects under the policy’s ambit. Through the AP Integrated Clean Energy (ICE) Policy 2024, we aim to be a clean energy hub in the country, the first choice for clean energy investments, and promote green hydrogen to propel Andhra Pradesh as the global hub for the export of Green Hydrogen.

We are committed to restoring investor confidence in the state and promoting the sustainable growth of clean energy projects by making the state self-sustainable. We are promoting the decentralization of RE power generation via GoI-supported schemes for solar rooftops, agricultural pump sets, etc. We are providing world-class infrastructure and support in connecting clean energy projects and offering incentives for promoting various clean energy and RE manufacturing projects.

We prioritize technology and innovation in the ICE policy and have simplified business processes to boost investor confidence, along with seamless integration of the project with other concerned departments of GoAP. The AP ICE policy has ambitious clean energy targets, and the deployment of these capacities is expected to have a transformative effect on energy sector investments in Andhra Pradesh, making them commensurate with the untapped potential that remains in the state.

The ICE Policy envisages investments of approximately INR 10 lakh crores into the state, creating direct and indirect employment for around 7,50,000 individuals. With the proposed investment, AP will become a global exporting hub and contribute towards India’s goal of economic self-reliance.

Message from Special Chief Secretary, Energy, Shri K Vijayanand

It is with great purpose, optimism, and a sense of responsibility that I present the Andhra Pradesh Integrated Clean Energy Policy 2024, a first-of-its-kind policy focused on the entire value chain, including manufacturing. The policy envisages and captures the state of Andhra Pradesh's initiative to enhance its renewable energy outlook, making it a hub for greater RE investments, manufacturing, and deployment. This policy aims to enable a dynamic environment for clean energy to take center stage and foster the vision of our Hon'ble Chief Minister Shri N. Chandrababu Naidu to make Andhra Pradesh the frontrunner in renewable energy, the first choice destination for investors, and the global hub for the export of Green Hydrogen.

The Andhra Pradesh Integrated Clean Energy Policy is the culmination of extensive stakeholder consultations and incorporates innovative solutions to meet the growing energy demand. This policy is a holistic, comprehensive framework focused on creating a green economy and a thriving ecosystem for Integrated Clean Energy across the value chain, to attract investments, thereby contributing to India's renewable energy growth and driving action in mitigating climate change.

The policy creates an enabling environment for Private-Public-People Partnerships, offering a transparent and investor/developer-friendly ecosystem. Under the leadership of our Hon'ble Chief Minister Shri N. Chandrababu Naidu, we intend to maximize the RE potential in Andhra Pradesh and seek to provide attractive opportunities to domestic and international investors to contribute to and benefit from our renewable energy transformation. The policy is committed to the seamless integration and implementation of Government of India's schemes such as Pradhan Mantri Surya Ghar Yojana, PM Kisan Urja Suraksha evam Utthan Mahabhiyan (KUSUM), and others, encouraging the democratization of power generation, boosting the local economy, generating employment, and enhancing energy security.

This policy is a testament to our dedication to a cleaner, greener, and more prosperous Andhra Pradesh. We invite all stakeholders, including industry leaders, investors, and citizens, to join us in this transformative journey towards a sustainable energy future, aiming for the development of approximately 160 GW of RE capacities, with an investment potential of around INR 10 lakh crores, thereby generating employment opportunities for around 750,000 individuals.

Together, let us build a brighter and more sustainable future for our state.

Contents

1. Glossary

Abbreviation	Expansion
1G	First Generation
2G	Second Generation
3G	Third Generation
AIF	Agriculture Infrastructure Fund
AP IDP	Andhra Pradesh Industrial Development Policy
APDISCOMs	Andhra Pradesh Power Distribution Companies
APERC	Andhra Pradesh Electricity Regulatory Commission
APTRANSCO	Transmission Corporation of Andhra Pradesh Limited
BESPA	Battery Energy Storage Purchase Agreement
BESS	Battery Energy Storage System
BG	Bank Guarantee
CBG	Compressed Biogas
CEA	Central Electricity Authority
CEKSDC	Clean Energy Knowledge & Skill Development Center
CFA	Central Financial Assistance
CII	Confederation of Indian Industry
CLAP	Clean Andhra Pradesh
CNG	Compressed Natural Gas
COD	Commercial Operation Date
CPO	Charge Point Operator
CPSU	Central Public Sector Undertaking
CSS	Cross Subsidy Surcharge
CTU	Central Transmission Utility
DC	Direct Current
DER	Distributed Energy Resources (DER)
DISCOM	Distribution Company
DPR	Detailed Project Report
DT	Distribution Transformer
EA	Electricity Act

Abbreviation	Expansion
EBP	Ethanol Blended Petrol
EHT	Extra High Tension
EPR	Extended Producer Responsibility
ESS	Energy Storage System
ESY	Ethanol Supply Year
EV	Electric Vehicle
EVCI	Electric Vehicle Charging Infrastructure
EVSE	Electric Vehicle Supply Equipment
FAPCCI	Federation of Andhra Pradesh Chambers of Commerce and Industry
FCI	Fixed Capital Investment
FDRE	Firm and Dispatchable RE power
FPOs	Farmer Producer Organizations
GEOA	Green Energy Open Access
GEDC	Green Energy Development Charges
GH&D	Green Hydrogen and its Derivatives
GHG	Greenhouse gas
GoAP	Government of Andhra Pradesh or State Government
GoI	Government of India
GW	Giga Watt
HT	High Tension
ICE	Integrated Clean Energy Policy
IDC	Interest During Construction
ISTS	Inter-State Transmission System
KLPD	Kilo Litre Per Day
KTPA	Kilo Tonne Per Annum
LoA	Letter of Award
LT	Low Tension
MD	Managing Director
MLD	Million Litre per Day
MNRE	Ministry of New and Renewable Energy, Government of India
MoEFCC	Ministry of Environment, Forest, and Climate Change

Abbreviation	Expansion
MoP	Ministry of Power
MTPA	Million Tonne Per Annum
MW	Mega Watt
MYT	Multi-Year Tariff
NA	Non-Agricultural
NFC	Near Field Communication
NISE	National Institute of Solar Energy
NIRE	New and Innovative Renewable Energy (RE) Technologies
NIWE	National Institute of Wind Energy
NOC	No Objection Certificate
NREDCAP	New & Renewable Energy Development Corporation of Andhra Pradesh Ltd.
OA	Open Access
OMCs	Oil Manufacturing Companies
PCS	Public Charging Station
PMU	Project Management Unit
PoC	Point of Contact
PPA	Power Purchase Agreement
PSA	Power Supply Agreement
PSP	Pumped Storage Power
PSU	Public Sector Utility
R&C	Restriction and Control
RE	Renewable Energy
REC	Renewable Energy Certificate
REZ	Renewable Energy Zone(s)
REMZ	Renewable Energy Manufacturing Zone
RFID	Radio Frequency Identification
RPPO/RPO	Renewable Power Purchase Obligation/Renewable Purchase Obligation
RTC	Round The Clock
SAF	Sustainable Aviation Fuel
SATAT	Sustainable Alternative Towards Affordable Transportation
SC	Scheduled Caste

Abbreviation	Expansion
SECI	Solar Energy Corporation of India
SGST	State Goods and Services Tax
SHGs	Self Help Groups
SIPB	State Investment Promotion Board
SIPC	State Investment Promotion Committee
SLDC	State Load Despatch Center
SNA	State Nodal Agency
SPSU	State Public Sector Undertaking
SRTPVS	Solar Rooftop Photovoltaic System
ST	Scheduled Tribes
STU	State Transmission Utility
ToD	Time of Day
TPD	Tonnes Per Day
UNFCC	United Nations Framework Convention on Climate Change
VC	Vice Chairman
VLE	Village-level Entrepreneurs
VNM	Virtual Net Metering
WEG	Wind Energy Generators
ZLD	Zero Liquid Discharge

2. Definitions

The terms used in this Policy, unless as defined below or repugnant to the context, shall have the same meaning as assigned to them in the Electricity Act, 2003 and the rules or regulations framed there under, including those issued/framed by the Appropriate Commission (as defined hereunder), as amended, or re-enacted from time to time.

Advanced Biofuels:

1. Produced from lignocellulosic feedstocks (i.e., agricultural and forestry residues, e.g., rice & wheat straw/corn cobs & stover/bagasse, woody biomass), non-food energy crops (i.e., grass, algae), animal dung or industrial waste and residue streams, or any combination of above feedstock.
2. Having low CO2 emission or high GHG reduction and do not compete with food crops for land use. Fuels such as Second Generation (2G) Ethanol, non-edible tree borne oils, short gestation non-edible oil rich crops; green diesel from renewable sources and Industrial waste, biofuels produced from synthesis (syn) gas, drop-in fuels from renewable sources and industrial waste, algae based 3G biofuels, halophytes-based biofuels, bio-CNG, bio-methanol derived from black liquor and paper pulp, Di Methyl Ether (DME) derived from bio-methanol, bio-hydrogen, drop-in-fuels from MSW resource/ feedstock material.

Aggregator(s) or Distributed Energy Resources (DER) Aggregators is an entity registered/ appointed with/by the distribution licensee to provide aggregation of one or more services like demand response services under the demand response mechanism, Distributed Generation, Energy Storage, etc., within a control area. The aggregators shall support the DISCOM in implementation of Distributed Generation like Solar Rooftop projects for residential & subsidized aggregation of consumers, empaneling vendors, construction of systems, disbursement of subsidies of GoI, etc.

Aggregator Fee is a fee collected from the Discom for the activities that were undertaken by Aggregator.

Ancillary Service or "AS" in relation to power system operation, means the service necessary to support the grid operation in maintaining power quality, reliability and security of the grid and includes Primary Reserve Ancillary Service, Secondary Reserve Ancillary Service, Tertiary Reserve Ancillary Service, active power support for load following, reactive power support, black start, and such other services as defined in the Indian Grid Code/ AP Grid Code.

Banking means a facility through which the unutilized portion of energy (underutilization by the consumer or excess generation over and above the schedule by the generator) from any of the Green Energy Sources during a billing month is kept in a separate account and such energy accrued shall be treated in accordance with the conditions laid down in the Andhra Pradesh Electricity Regulatory Commission (Green Energy Open Access, Charges, and Banking) Regulation, 2024 (Regulation No 3 of 2024) as amended from time to time.

Battery Energy Storage Systems or "BESS" shall mean the system(s)/projects utilizing methods and technologies such as electrochemical batteries (Lead Acid, Li-ion, solid state batteries, flow batteries, etc.), providing a facility that can store chemical energy and deliver the stored energy in the form of electricity, including but not limited to ancillary facilities (grid support, for example). Such systems may be co-located with RE Generating Stations or may be operated/ connected on standalone basis at Grid substation or Distribution substation.

Billing Cycle means the period for which the regular electricity bills are prepared for different categories of consumers by the Distribution licensee as specified by the Commission.

Bio-CNG means purified form of Biogas whose composition & energy potential is similar to that of fossil based natural gas and is produced from press mud, agricultural residues, animal dung, food waste, MSW, Sewage water, and industrial waste.

Bioethanol means ethanol produced from biomass such as sugar containing materials, like sugar cane, sugar beet, sweet sorghum etc.; starch containing materials such as corn, cassava, rotten potatoes, agrifood/pulp industry waste, algae etc.; and cellulosic materials such as bagasse, wood waste, agricultural and forestry residues or other renewable resources like industrial waste, vegetable wastes, industrial waste off gases or any combination of above feedstock.

Biofuels means fuels produced from renewable resources and used in place of or blended with diesel, petrol, Natural Gas or other fossil fuels for transport (including Sustainable Aviation Fuel), stationary, portable, and other applications.

Captive generating plant means a power plant as defined u/s 2 (8) and shall comply with qualifications prescribed under Rule 3 of the Electricity Rules notified by Central Government u/s 3 of Act as amended from time to time.

Commercial Operation Date (COD) refers to the actual time/ period, a project is completed after achieving all the defined milestones and begins commercial operations.

Charge Point Operator (CPO) means any individual/entity operating the EV Charging Station.

Charge Point Developer (CPD) means any individual/entity who can undertake Supply, Installation, Commissioning, Operation & Maintenance of electric vehicle charging stations.

Clean Energy Project(s) means and includes projects which generate electricity using renewable and sustainable sources, aiming to minimize environmental impact and reduce dependence on fossil fuels as approved by the Ministry of New & Renewable Energy, Government of India. These projects include solar, wind, solar-wind hybrid, BESS, PSP, mini and small hydro, Green Hydrogen and its derivatives, Biofuels, and EVCI.

Dedicated feeder (line) means any electric supply-line for point-to-point transmission which are required for the purpose of connecting electric plants of a captive generating plant, cogeneration plant or renewable

energy source power plant such as solar, wind, small hydro, bio-mass, and municipal solid waste to AP TRANSCO/DISCOM substations.

Desalination Plant is a facility that converts saline water into fresh water to be used in the production of Green Hydrogen & its derivates or for any use in industrial processes.

Drop-in fuels mean any liquid fuel produced from Biomass, Agri-residues, wastes such as Municipal Solid Wastes (MSW), Plastic wastes, Industrial wastes, etc., which meets the Indian standards for MS, HSD and Jet fuel, in pure or blended form, for its subsequent utilization in vehicles without any modifications in the engine systems and can utilize existing petroleum distribution system.

Electric Vehicle means a vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source. This may include electric two-wheeler, three-wheeler, quadricycle, four-wheeler, bus, trucks, etc.

Electric Vehicle Charging Infrastructure (EVCI) is a network of charging stations catering to diverse charging requirement and includes components such as EVSE, connection to DISCOM's supply system, Power Management System for energy optimization, energy distribution, grid stability and renewables integration, Communication network to assist data exchange in real time and remotely manage EV charging stations, cables, connectors, RFID tags, software applications, circuit breakers, solar panels (if connected), civil work, smart meter, transformer, etc.

Electric Vehicle Supply Equipment (EVSE) means an equipment in Electric Vehicle Charging Infrastructure (EVCI) that supplies electrical energy for recharging the battery of electric vehicles.

Electric Vehicle Charging Station: Premises having any one or more EVSEs or combination thereof, supporting upstream infrastructure and amenities as specified in subsequent sections of these guidelines.

Electrolyzer: a system or device that uses electricity to split water molecules into hydrogen and oxygen, thereby producing hydrogen with zero emissions.

Financial year means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year.

Fixed Capital Investment (FCI) for the computation of capital subsidy shall exclude any expenditure pertaining to land, Interest During Construction (IDC), financing costs, taxes and duties. FCI includes, but not limited to, the following

- **Building**: Expenditure on construction of factory buildings, administrative buildings, and other structures.
- **Plant and Machinery**: Cost of new plant and machinery including utilities (water and power supply infrastructure, waste management systems and any other associated infrastructure including ZLD), including installation and commissioning.
- **Technology and Project management:** Expenditure on technology acquisition and any engineering services including project management.

Firm and Dispatchable RE Power: The term 'firm and dispatchable power' denotes, the power profile configuration that is defined in the RfS that is sought to be met by RE power sources and will include configurations like assured peak power, Round the Clock RE with firm delivery of power at rated capacity at any hour of the day as per demand or load following power delivery as specified by DISCOM, Clean Energy Project with firm delivery of power for fixed hours of requirement by DISCOMs, etc.

Force Majeure means any event or circumstance which is beyond the reasonable direct or indirect control and without the fault or negligence of the Clean Energy Producer or Developer and which results in Clean Energy Producer's/Developer's inability, notwithstanding its reasonable best efforts, to perform its obligations in whole or in part and may include rebellion, mutiny, civil unrest, riot, strike, fire, explosion, flood, cyclone, lightning, earthquake, act of foreign enemy, war or other forces, theft, burglary, ionizing radiation or contamination, Government action, inaction or restrictions, accidents or an act of God or other similar causes;

Fuel Cell: A fuel cell is an electrochemical cell that converts the chemical energy of a fuel and an oxidizing agent (often oxygen) into electricity through a pair of redox reactions.

Green Hydrogen and its derivatives shall be Green Hydrogen, Green Ammonia, and Green Methanol or any fuel derived from Green Hydrogen, which are produced by the process of electrolysis using renewable energy and by conversion of Biomass using pyrolysis of biogas or other biomass products. Renewable energy also includes such electricity generated from renewable sources which is stored in an energy storage system or banked with the grid in accordance with applicable regulations.

Gross Metering means a mechanism whereby the total energy exported from the Grid Interactive Solar Rooftop Photovoltaic System and the total energy consumed by the prosumer from the DISCOM is measured separately through appropriate metering arrangements and for the billing purpose, the energy consumed by the prosumer is accounted for at the applicable retail tariff as per the Tariff Order and total energy exported to the DISCOM is accounted for at feed-in-tariff as fixed by the Commission.

Infrastructure Sector means such sectors notified by Department of Economic Affairs in its Gazette Notification no. 13/1/2017-INF dated 14th November 2017 and as amended from time to time.

Interconnection Point means the interface of the Clean Energy Project with the network of distribution licensee/Transco.

Net Zero means cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere by oceans and forests, for instance.

Open Access means the non-discriminatory provision for the use of transmission lines or distribution systems or associated facilities with such lines or systems by any licensee or consumer or a person engaged in generation in accordance with the Regulations issued by the Andhra Pradesh Electricity Regulatory Commission.

Power Evacuation means a facility that allows generated power to be immediately transmitted from a generating plant to the grid for further transmission/distribution to load centers.

Project Developer / Developer is a company responsible for managing the development of Clean Energy Project (s) or RE Manufacturing Project (s) or Solar Park or REZ or REMZ from inception to completion and also manages the operations of such projects

Prosumers means a person who consumes electricity from the grid and injects electricity into the grid of a distribution licensee.

Public Charging Station (PCS) shall mean EV charging station where any electric vehicle can get its battery recharged.

Renewable resources are the biodegradable fraction of products, wastes and residues from agriculture, forestry, tree-based oil other non-edible oils and related industries as well as the biodegradable fraction of industrial and municipal wastes.

Renewable Source of Energy means sources of energy such as small hydro, wind, solar, biomass, biofuel, cogeneration (including bagasse-based cogeneration), municipal solid waste, RE Hybrid, hydro, storage (if the storage uses renewable energy) and such other sources/mechanism as recognized and approved by the GoI or State Government.

RE Manufacturing Project(s) refers to industrial undertakings that design, produce, and assemble components, systems, or equipment related to renewable energy technologies, such as: Solar photovoltaic (PV) panels and modules, Wind turbines and components, Hydroelectric power equipment, Geothermal energy systems, Biomass and bioenergy technologies and Energy storage systems. This policy covers Solar photovoltaic (PV) panels and modules, Wind Turbines, battery and electrolyzers manufacturing only.

Resident Welfare Association (RWA) means an association comprising of all the property owners/residents within a Co-operative Group Housing Society, Multi Storied Building, Residential Colony, or a similar body registered with the State Government.

Scheduled COD refers to the prescribed timeline for achieving the Commercial Operation Date (COD) of a project (Clean Energy Projects/ RE Manufacturing Projects) without any of the extension period permissible under the policy.

State Nodal Agency (SNA) means New & Renewable Energy Development Corporation of Andhra Pradesh Ltd (NREDCAP) designated as SNA.

State Transmission Utility means the Board, or the Government company specified as such by the State Government under sub-section (1) of section 39 of the Act.

Solar Rooftop Photovoltaic Power Plant or Solar Rooftop Photovoltaic System (SRTPVS) means the Grid Interactive Solar Photovoltaic Power Plant that uses the sunlight for direct conversion into electricity through photovoltaic technology, which is owned and operated by a prosumer(s) with his/her/their own investment/third-party investment installed at his/her/their rooftops or walls or open land/space within their

premises or any open land outside the premises of the consumer(s) in case of group and virtual net metering.

Virtual Net Metering means a mechanism whereby total energy exported from the Grid Interactive Solar Photovoltaic system of a group of prosumers/society is exported to the grid through a gross meter. The exported such energy is adjusted in the electricity service connection(s) of the same group or society of consumers/prosumers in proportion to the share in their Grid Interactive Solar Photovoltaic system in units (kWh/kVAh) to arrive at the net imported or exported energy by an individual consumer/prosumer in the Group/Society from/to the Distribution licensee during the applicable billing period/cycle located within the State (irrespective of the Discom/ERO). The net energy imported by the consumer/prosumers is billed by the distribution licensee on the basis of the applicable retail tariff as per the tariff order. The net energy exported by the prosumers is paid by the Distribution Licensee at the Feed-in-Tariff as fixed by the Commission.

Provided that in case consumer/prosumer(s) is/are in the ambit of the Time of Day (ToD) tariff, the share of exported energy of such prosumer(s) under virtual net metering shall be netted off against his/their electricity consumption during off-peak hours.

Provided also that the applicable T&D losses and charges as per this Policy/MYT orders of the Commission applicable for relevant periods from injection point to drawl point shall be deducted while adjusting the generation against the consumption.

Wind-Solar Hybrid Project means a hybrid project if the rated power capacity of one resource is at least 25% of the rated power capacity of other resource. Further, each 1 (one) MW of contracted Wind Solar Hybrid Project shall achieve a minimum CUF of 40%.

3. Introduction

Today, world is amid a major transition to clean energy due to growing concerns of climate change and global warming. The 2015 Paris agreement, and the CoP 26 Summit (26th Conference of Parties) held in 2021, under the UNFCCC, aim to limit the increase in global warming by 2^0 C and achieve "Net Zero" emissions by 2050. Government of India (GoI) has committed India's Nationally Determined Contributions (NDCs) in alignment with the global efforts to mitigate climate change. The key NDCs targets include:

a) Achieve 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.

b) Reduce the total projected carbon emissions by 2.5 – 3.0 billion tonnes from current level till 2030 by creation of additional carbon sink through incremental forest and tree cover.

c) Reduce the emission intensity of the GDP by 45% by 2030, from 2005 level.

To achieve these objectives, GoI has set the target of adding around 500 GW RE capacity by 2030. Further, GoI launched "National Green Hydrogen Mission" in 2023, that aims to boost the domestic production of Green Hydrogen to 5 Million Tonnes Per Annum (MTPA) by 2030, and to make India "an export hub" for this clean fuel.

The Ministry of Power, Government of India in its order dated 22.07.2022 has prescribed the following trajectory for the period from FY 2022-23 to 2029-30 and Andhra Pradesh Electricity Regulatory Commission (APERC) has specified the Renewable Power Purchase Obligation (RPPO) targets via Regulation No 5 of 2022 as detailed below.

Year	Ministry of Power, GoI RPO Trajectory				APERC Reg No 5 of 2022
	Wind RPO	HPO	Other RPO	Total RPO	Total RPO
2024-25	2.46%	1.08%	26.37%	29.91%	20%
2025-26	3.36%	1.48%	28.17%	33.01%	22%
2026-27	4.29%	1.80%	29.86%	35.95%	24%
2027-28	5.23%	2.15%	31.43%	38.81%	-
2028-29	6.16%	2.51%	32.69%	41.36%	-
2029-30	6.94%	2.82%	33.57%	43.33%	-

Andhra Pradesh is one among the leading states in the country in adopting renewables. The total installed RE capacity in the state increased from 1.3 GW as on 2nd June 2014 to 9.5 GW as on 31st August 2024. Further, the state is blessed with solar, wind, water resources that encourage RE adoption, with solar power potential of around 38.50 GW[1] and wind power potential of 74.9 GW[2] (at 120 m level) and 123.34

[1] As per NISE - State-wise Solar Energy Potential in India (niti.gov.in)
[2] As per NIWE - India's Wind Potential Atlas at 120m agl (niwe.res.in)

GW[3] (at 150 m level) and estimated PSP potential of 43.89 GW capacity for 39 sites in the state. Additionally, the state has potential for co-located plants (wind and solar) along with PSP, hence it is an ideal destination for setting up of Green Hydrogen Hubs and Hybrid Projects for supplying Round the Clock Power (RTC). Some of the key aspects that boost the growth of RE adoption in Andhra Pradesh include:

a) Availability of about 300 sunny days in a year with solar insolation of more than 5 kWh/m²/day.
b) Availability of 974 km coastline, which is second largest in the country. Accessibility to Visakhapatnam port – one of the major ports in the country, and 14 non-major ports. The accessibility of ports and co-located sites can propel Andhra Pradesh as the global hub for export of Green Hydrogen.
c) Availability of robust grid infrastructure with 15 Nos. of 400 kV substations, 93 Nos. of 220 kV substations, 212 Nos. of 132 kV substations, and 27,979.23 Ckm of EHT lines at Transmission level, and 3,038 Nos. of 33/11 kV substations, 9,13,158 Nos. Distribution Transformers, and 26,262 Ckm of 33 kV lines at Distribution level.
d) Potential for establishing the Pumped Storage Power Projects (PSP), which are useful to balance generation from these intermittent sources and to minimize the grid imbalances. Techno-Commercial feasibility reports were prepared for 39 sites and the estimated potential is around 43.89 GW. Detailed Project Reports are under preparation for most viable locations in phased manner.
e) Strong performance of the state electricity utilities, with APEPDCL, APSPDCL and APCPDCL achieving A, B- and B- ratings respectively, as per the 12th edition of integrated rating of DISCOMs

Government of Andhra Pradesh (GoAP) is focused on creation of green economy and thriving ecosystem for Integrated Clean Energy across the value chain, through a robust framework to attract investments, thereby contributing to India's Renewable Energy growth and driving action in mitigating climate change. To achieve and lead the country's goals of net zero, Government of Andhra Pradesh has formulated ""**Andhra Pradesh Integrated Clean Energy Policy, 2024**" for attracting clean energy investments. This policy aims to add over 160 GW of renewable energy capacity, with a potential to attract investments worth ~INR 10,00,000 Crores, thereby generating an estimated employment for 7,50,000, both direct and indirect. The policy will propel Andhra Pradesh to become a clean energy hub and contribute towards self-economic reliance.

Sl.No	Clean Energy	Capacity Addition/Manufacturing Capacity
1	Solar	78.50 GWp
2	Wind	35 GW
3	Pumped Storage	22 GW
4	Battery Energy Storage	25 GWh

[3] As per NIWE - 150m-report.pdf (niwe.res.in)

Sl.No	Clean Energy	Capacity Addition/Manufacturing Capacity
5	Green Hydrogen	1.50 MTPA
6	Biofuels	Ethanol – 1,500 KLPD Bio CNG/CBG – 10,000 TPD
7	EV Charging Infrastructure	5,000 PCS
8	Solar Manufacturing (Across the value chain Mine/Polysilicon to Module)	20 GW
9	Wind Turbine Manufacturing	No pre-set limit
10	Battery Manufacturing	5,000 MWh
11	Electrolyzers Manufacturing	3,000 MW

The capacity additions in the state have been planned for AP Discoms procurement, export of power to other states, Green Hydrogen production and its derivatives and also to meet Commercial & Industrial (C&I) consumption under open access route. The table summarizes the expected capacity additions under each of the RE source.

Sl.No	RE Source	AP DISCOMs procurement	RE Export	GH-Power	Open Access route
1	Solar (GWp)	36.7	10	28.8	3
2	Wind (GW)	15	10	8.6	1.8
3	BESS (GWh)	16	-	5.6	3.6
4	PSP for RTC (GW)	3	5	13.9	-

3.1 AP Journey in RE Sector

Andhra Pradesh has been playing a major role in implementing the clean energy initiatives of GoI and has contributed to the development of large-scale solar park(s) and green energy corridors for power evacuation, and in providing resources for accelerating the development of RE sector in the country. GoAP has notified the following RE policies vide following GOs for promotion of Wind Power, Solar Power, Wind-Solar hybrid Power, PSPs, and Green Hydrogen:

a) AP Solar Power Policy – 2018 issued vide G.O.Ms.No.1, dated.03.01.2019.
b) AP Wind Power Policy – 2018 issued vide G.O.Ms.No.2, dated.03.01.2019.
c) AP Wind Solar Hybrid Power Policy -2018 issued vide G.O.Ms.No.3, dated.03.01.2019.
d) Amendment order G.O. Ms No.35 dated 18.11.2019 and G.O. Ms No. 1 dated 01.03.2021.
e) AP RE Export Power Policy 2020 issued vide GO Ms No. 20 Dated 17.07.2020.
f) Andhra Pradesh Pumped Storage Power Promotion Policy 2022 vide G.O. Ms. No. 25, dated. 20.12.2022.
g) Andhra Pradesh Green Hydrogen & Green Ammonia Policy – 2023 vide G.O. Ms No: 14 dated 20.06.2023.

Globally, emphasis on clean energy adoption is driven by growing concerns about greenhouse gas emissions and climate change. Electricity consumption in Andhra Pradesh has been growing at a CAGR of 6.7% in the last 10 years (from FY 2014-15 to FY 2023-24), and the state is poised for rapid industrial growth driven by infrastructure investments, increasing energy needs. While significant conventional and RE capacities have been contracted to meet the growing energy demand, developments in clean energy domain such as technological advancements, introduction of FDRE and RTC power, focus on balancing capacities such as Energy Storage etc., are gaining traction, calling for Andhra Pradesh to reposition itself as one of the dominant states in the country for investments in clean energy technologies. As per the CEA's resource adequacy plan, the projected contracted solar power capacity for AP in FY 2031-32 is 39.64 GW, while the projected contracted wind power capacity is 25.79 GW and energy storage capacity is 9 GW.

However, RE adoption requires development of a policy framework that ensure energy security and equity, while meeting carbon reduction and pollution mitigation targets. Government of Andhra Pradesh is committed to promote generation from renewables by creating a more conducive policy & investment framework to spur competition and private participation in the sector while maintaining a balance in the interests of all stakeholders. Thus, the "**Andhra Pradesh Integrated Clean Energy Policy, 2024**" enables a robust regulatory framework for attracting investments in the clean energy sector, creating the level playing field for the investments in this sector through creation of local employment opportunities and utilization of available resources in a sustainable manner.

4. Objectives

a) To provide a framework for large scale promotion of Renewable Energy (RE), Pumped Storage Power (PSP), Green Hydrogen and its derivatives by optimum utilization of available resources and position Andhra Pradesh as a preferred destination for investments in Renewable Energy.

b) To leverage the 4T's framework of Trends, Technology, Transformation, Trade to deliver local, national, and global objectives, by blending our abundant local resources into the national policy, while contributing to the global targets of carbon emission reduction.

c) To transform the power sector of AP through 4Ds of Decarbonization, Democratization, Decentralization, and Dynamic/Digitalized grid coupled with a policy framework.

d) To contribute to the Gross State Domestic Product (GSDP) of Andhra Pradesh through the investments in RE sector and creation of employment opportunities in the state.

e) To harness the Renewable Energy and PSP capacity available in the state and facilitate development of ~160 GW of additional RE and PSP capacities.

f) To promote decentralization of renewable energy generation and develop ecosystem for distributed Solar generation, i.e., Solar Roof Top systems, Solar Pumps, etc.

g) To meet power demand within the state and export surplus power outside Andhra Pradesh.

h) To meet RPO, HPO, ESO, etc., as notified by the Ministry of Power, Govt of India and APERC.

i) To achieve higher EV penetration by enabling regulatory framework for creation of EV Charging Infrastructure in the state

j) To develop Renewable Energy Parks (including hybrid parks), Renewable Energy Manufacturing Parks in the state.

k) To create energy storage market in the State to integrate more RE into the grid and offer grid support services, such as peak reduction, curtailment management, contribution to reliability needs, transmission deferrals, intraday and seasonal variation management, and others.

l) To develop AP as a storage capital and clean energy hub in the country and the preferred destination for clean energy innovative projects.

m) To support the development of eco-system for production of Green Hydrogen and its derivatives and make Andhra Pradesh the preferred destination for production and export of Green Hydrogen and its derivatives.

n) To promote setting up of equipment manufacturing facilities for Green Hydrogen and its derivatives in the State.

o) Encourage new initiatives, pilot projects and emerging energy technologies in the State.

p) To promote solar & wind generation and attract investments for local solar & wind manufacturing facilities in the State and the value chain of manufacturing for clean energy technologies.

q) To achieve Net Zero emissions by 2047.

r) To establish a University for Green Energy & Circular Economy (UGC), offering courses and certification programs, and encouraging entrepreneurship and skilling among youth for employment opportunities in Clean Energy Projects and RE Manufacturing Projects.

s) To promote clean energy skill development center and forge partnerships with universities to establish AP as clean energy research and development hub.

5. General Framework of the Policy

5.1 Operating Period and Policy Scope

This policy will be known as “Andhra Pradesh Integrated Clean Energy Policy - 2024” and shall come into operation with effect from the date of issuance and shall remain applicable for a period of five (5) years, from the date of issuance of policy or till such time a new policy is issued.

The policy focuses on the following clean energy technologies:

a) Solar Power
b) Wind Power
c) Wind-Solar Hybrid Power
d) Mini and Small Hydro
e) Pumped Storage Plants
f) Battery Energy Storage Systems
g) Green Hydrogen and its derivatives
h) Biofuels
i) EV charging infrastructure

j) RE Manufacturing Projects including solar, wind, battery and electrolyzers.

Clean Energy Projects and RE Manufacturing Projects that are commissioned or achieved financial closure/under construction in the State during the operative period shall be eligible for incentives declared under this policy.

All Clean Energy Projects and RE Manufacturing Projects availing incentives under this policy shall not be eligible for any additional incentives under the AP Industrial Development Policy (IDP) or other policies issued by GoAP.

This policy shall be applicable for all Clean Energy Projects and RE Manufacturing Projects allocated during the operative period. Clean Energy Projects and RE Manufacturing Projects commissioned during the operative period (or) achieved Financial Closure (FC) during the operative period. Such projects which have achieved FC shall be given additional time as follows:

- 6 months for BESS projects
- 18 months for solar, wind & wind-solar hybrid projects
- 27 months for battery manufacturing projects
- 30 months for mini and small hydro, Green Hydrogen & its derivatives, biofuels and RE Manufacturing (solar, wind & electrolyzer) projects
- 36 months for PSP

5.1.1 Migration of Projects from Previous Policy(ies)

All Clean Energy Projects and RE Manufacturing Projects allocated/sanctioned under previous policy(ies)/G.O.s. shall be given liberty to migrate to the ICE policy. All charges, incentives, and milestones/ timelines including extensions to be adhered as per ICE policy. However, all such projects shall be eligible to migrate under ICE Policy subject to following conditions being met

- Projects which have not shown any progress or not adhered timelines/ conditions or not commissioned as per the timelines indicated in allocation letter/ Implementation agreement/G.Os shall not be permitted to migrate.
- Projects with allocated resources (Solar, Wind, Hybrid, PSP) under construction within timelines indicated in sanction/allocation letter/ Implementation agreement/G.Os will be allowed to migrate under ICE policy and such projects shall also adhere to the timelines stated in the respective sanction/allocation letter/implementation agreement/ G.O.s
- However, such migrated projects to ICE policy shall pay all the applicable charges, subject to adjustment of any charges that were paid in previous policy(ies), under the ICE policy and shall comply with the prescribed timelines of ICE policy (project specific) to avail the incentives under ICE policy.
- All RE Manufacturing Projects allocated/ sanctioned in previous policy (ies)/ G.O.s shall be eligible to migrate under ICE Policy along with captive resources (land, solar, wind, PSP etc.),

if any, and shall adhere to the commissioning timelines prescribed for the RE Manufacturing Projects under ICE Policy.

All the projects allocated under previous policies that are unable to migrate because of non-adherence of timelines stated there in and also not commissioned / that have not completed as per the timelines including extension(s)/ conditions shall be treated as deemed cancelled and the allocated resources will be made available for fresh allocation under the ICE policy. All the previous policies covered under clause 3.1 shall cease to exist after the notification of the ICE policy.

This Policy will be evaluated on regular basis to assess its impact, and to ensure inclusion of any new RE market/guidelines from GoI/GoAP that may evolve during the Policy period. New and Renewable Energy Development Corporation of A.P. Ltd (NREDCAP) shall act as the State Nodal Agency under this policy.

5.2 Eligibility

All registered companies, Government entities, partnership companies/firms, individuals, and all consumers of APDISCOM(s) will be eligible for setting up of Clean Energy Projects within the State for sale of electricity/captive use, in accordance with the Electricity Act – 2003, as amended from time to time. The entity desiring to set up Clean Energy Project shall intimate the SNA and submit the DPR of the project with the details of technical and financial capabilities of the Developer, based on which the SNA will allocate the capacity for development.

SNA shall apprise the existing installed capacity, existing generating capacity, required installed capacity and generating capacity. Before allocating the capacity for development, the SNA shall apprise whether the proposal is technically, financially, and commercially feasible. SNA shall also apprise whether Developer has the required technical, commercial, managerial, and financial capability to execute the project.

With respect to technical eligibility criteria, Project Developers should have past experience in developing RE projects or projects related to industry/ Infrastructure Sector.

The net worth requirement for seeking allocation of resources shall be as follows:

- Solar: INR 50 Lakhs/MWp
- Wind: INR 100 Lakhs/MW
- PSP, Small and Mini Hydro: INR 50 Lakhs/MW

No net worth requirement for setting up RE Manufacturing Projects (Battery, Electrolyzer, Solar, Wind), GH & its derivatives and Biofuel projects. However, Developer shall submit the detailed project report including background of company, technology tie-ups, indicative financing plan, sources of funds, project timelines etc.

Biofuels – Eligibility for type of units for ethanol production:

a. Green-field standalone distilleries (single feed or dual feed) producing 100% fuel-grade Ethanol and supplying only to Oil Manufacturing Companies (OMCs) under Ethanol Blended Petrol (EBP) Programme of Government of India.

b. Existing distillery units, expanding or diversifying into ethanol production, should have clearly demarcated unit, to be eligible for assistance under this policy provided that production capacity of existing distillery/unit must not be reduced.

c. The quantum of assistance to expanding or diversifying units shall be at par with new standalone units. Conversion/Switchover from existing distillery units to ethanol production units shall not be eligible for incentives under this policy.

d. Ethanol units which are set-up on ZLD (Zero Liquid Discharge) basis shall be considered under this policy.

e. New ethanol units can only be setup in a block categorized as safe area as per the Block-wise Groundwater Resource Assessment 2020 and subsequent assessments conducted by the Central Ground Water Authority from time to time.

Biofuels – Eligibility for type of units for bio-CNG/CBG production:

a. Green-field standalone CBG projects shortlisted under Sustainable Alternative Towards Affordable Transportation (SATAT) Scheme.

b. Green field or brown field units producing 100% fuel-grade bio-CNG/CBG and supplying only to Oil Manufacturing Companies (OMCs) under National Biofuel Policy.

c. Ethanol/ CBG units which are set-up on ZLD (Zero Liquid Discharge).

Biofuels – Eligibility for type of Feedstocks/Raw materials:

a. Biofuel production from all feedstocks/raw materials permitted under National Policy on Biofuels, 2018 and by the National Biofuel Coordination Committee shall be allowed in the State of Andhra Pradesh.

b. Subsequent permission of any additional feedstock/raw material for Biofuel production by National Biofuel Coordination Committee shall be automatically allowed for Biofuel production in the State of Andhra Pradesh.

PSP eligibility

a. Any Developer setting up the PSPs either for Captive/Group Captive use and/or for selling of electricity to the utilities or third parties within the State or export to other States in accordance with the relevant Central/State regulations and/or Standard Bidding Guidelines (SBGs) issued and amended from time to time.

Mini and Small Hydro eligibility

a. Any Project developer setting up mini and small hydro projects that are self-identified by the Project developers and commissioned during the policy period (or)

b. Projects where resources are allocated by the state government and commissioned during the policy period.

5.3 Land Facilitation, Power Evacuation and Allotment

a. SNA will compile and provide a list of all the available land parcels/resources from revenue/other government departments and APTRANSCO will provide list of available substations (MW availability including upcoming/ planned sub-stations) for power evacuation. These lists shall be provided on a quarterly basis by SNA. Developer (s) to apply based on the available land parcels and substations.

b. Developer (s) to apply for allotment of the land to the revenue/concerned government department and SNA to facilitate the transaction by liasoning between the government department and Developer.

c. Government/ Revenue/ concerned department to allot the land to the Developer on alienation basis for lease up to a maximum 30 years (33 years in case of PSP, Mini and Small Hydro Projects and further extendable at a later stage), including the construction period. The land allotment shall be done as per the existing Andhra Pradesh Land Allotment Policy 2012 or any other GoAP directions and its amendments from time to time.

d. Deemed Non-Agricultural status will be accorded for the land utilized for development of any Clean Energy Projects and RE Manufacturing Projects. However, an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of Clean Energy Projects and RE Manufacturing Projects eligible under the policy.

e. Given the nature and long gestation period of PSP & Mini and Small Hydro projects, Developers are also permitted for outright purchase of revenue/government land at the rate of INR 5 lakh/ acre or basic value, whichever is higher.

f. The land lease rate for revenue/government/private/patta land will be.

   - INR 31,000/acre/year with 5% escalation for every 2 years for Clean Energy Projects (except for biofuels & GH Hub)
   - INR 15,000/acre/year with 5% escalation for every 2 years for biofuels projects (only for revenue/government land)
   - INR 1,00,000/acre/year for Green Hydrogen Hubs at ports (only for revenue/government land)

   The land lease shall be paid to the concerned government department/ SNA from the date of possession.

g. In case of forest areas, the Developer shall submit the application through the SNA to the forest department, to consider for allotment as per the guidelines/regulations laid down by the forest department from time to time.

h. If the project is to be set up in private land, then the eligible Developer shall procure the land from the landholder on their own.

i. Land parcels will be identified by SNA to encourage Biofuels projects.

5.4 Resource Allocation

a. Objective of resource allocation is to ensure optimal utilization of available resources like land, water, natural resources (Wind, PSP potential sites), along with the available power evacuation including upcoming/ planned capacities with APTRANSCO.

b. SNA shall coordinate and facilitate resource allocation to the Developer. SNA will support the Developer in coordinating with APTRANSCO/ APDISCOMs to verify the project feasibility.

c. Resource allocation will be on first-cum-first serve basis however preferential land allocation shall be provided for RE Manufacturing Projects (Solar, Wind, Battery, Electrolyzers) and bio-fuel projects including energy plantation feedstocks and its storage infrastructure for ensuring raw-materials supplies. These projects have high employment potential and would benefit the state in generating employment opportunities.

d. Land allocation shall be provided on the basis of high value addition (INR/Acre) in the following order of priority as: Green Hydrogen & its derivatives, RE RTC with Storage, Hybrid Co-located Projects, PSP, Wind Projects, Solar Parks, Stand-alone Solar Projects.

e. In case of Pumped Storage Projects, Project Sites identified by the SNA or self-identified by Project developers, the projects shall be allotted on nomination basis to CPSU/State level PSUs and first-cum-first serve basis for others by paying applicable costs incurred by SNA for DPR/ pre-feasibility reports.

f. The Developer shall submit Detailed Proposals to the SNA along with project details, technical & financial strengths, timelines for completion, etc. After detailed scrutiny of the project proposals, SNA shall allot the required resources to the Developer.

g. In case of sites identified by the Developer, the Developer shall seek approval of the SNA after paying necessary charges as detailed out in this policy.

h. The Developer shall obtain all statutory clearances that are required from Central and State Governments. The SNA extend necessary support to get the clearances.

i. The Developer shall bear the entire cost of the project from investigation to commissioning and subsequent operation and maintenance.

j. SNA shall not bear liability of any kind on part of Developer.

k. In case of resources allocated by SNA such as Wind, Solar, Wind-Solar Hybrid, the state shall have the right of first refusal of up to 30% of the allotted project capacity and tariff shall be determined by SERC under Section 62. Alternatively, Discoms shall procure through Tariff Based competitive bidding.

l. In case of PSP (Other than Captive resources), the state shall have the right of first refusal of the entire allotted project capacity and tariff shall be determined by SERC under Section 62. Alternatively, Discoms shall procure through Tariff Based competitive bidding.

m. For the PSP sites identified by SNA, process of DPR preparation is undertaken by the SNA including clearances till the date of allotment of project to the Developer. Developer will take over the responsibility of balance process of DPR preparation and obtaining clearances from the date of allotment of project by paying the cost incurred by SNA till the date of allotment of the project. Thereafter, the responsibility of DPR & clearances shall stand transferred to the Developer. SNA will work with the Developer for balance process of DPR preparation and obtaining remaining clearances.

5.5 Grid Connectivity and Power Evacuation Facility

a. Grid integration shall be in accordance with the Central Electricity Authority's (Technical Standards for Connectivity to the Grid) Regulations, 2019 and amendments thereto from time to time. Grid stability and safety is paramount and should be ensured due to intermittent nature of renewable energy.

b. Power evacuation costs shall be applicable as per the Andhra Pradesh Electricity Regulatory Commission Power Evacuation from Captive Generation, Cogeneration and Renewable Energy Source Power Plants (Regulation No. 3 of 2017) and its amendments from time to time.

c. The power generated from Clean Energy Projects shall be injected at an appropriate voltage at the sub-station and/or interconnection point of the APTRANSCO/ APDISCOM(s). The Eligible Developer shall bear the entire cost of construction of power evacuation facilities from the project up to the interconnection point and/or up to APTRANSCO/ APDISCOM(s) substation.

d. **Connection to the CTU network:** The Project developers shall follow the procedure laid down by the central agencies and State Government/State Nodal Agency. All liabilities on account of connecting to the CTU shall be borne by the Developer.

e. **Connection to the CTU through STU network:** The application process for availing connectivity to STU shall be on similar lines as that of CTU and STU shall follow the same guidelines as connectivity can be granted before the project can get commissioned. Two options shall be provided for connecting to CTU network through STU.

    i. **Option-1:** Project developer may connect to STU, by laying connecting line to the STU grid substation at his cost and transferring the line asset to STU prior to commissioning. Alternatively, the connecting line may be built by STU at the cost of the Developer if the Developer so chooses. Developers using the Intra-State Transmission network shall pay for Transmission charges and losses as prescribed by APERC in the Transmission Tariff Order.

    ii. **Option-2:** Project developer may bear the entire cost of existing or new external evacuation infrastructure including connecting line, grid substations and upstream network up to CTU. The construction of new network infrastructure shall be done under the supervision of STU and the assets shall be handed over to STU before commissioning. The new network

augmentation required for this purpose shall be determined by STU or at the discretion of the Developer, the Developer may pay a normative capital cost of INR 25 Lakh/MW or actual cost, whichever is higher, to expedite the connectivity and take care of the existing cost of the network or augmentation requirements on normative basis. Developers opting for this option shall pay only the O&M charges (for number of Bays) as decided by STU and the transmission charges shall be exempted for entire life of the project. There shall be no exemption on energy losses.

f. APTRANSCO/ APDISCOM(s) will dispose the proposals for the technical feasibility for evacuation within 14 days from the date of receipt of application. Any upstream system strengthening requirement shall be borne by APTRANSCO/ APDISCOM(s) on priority basis.
g. GoAP shall support for creation and strengthening of Transmission and Distribution network for evacuation of power from RE projects

5.6 Fees and Charges

The fees and charges applicable for all the projects under the policy is provided in clause 17.11. Each of the charges shall be payable by the Project developers within the stipulated timelines as decided by the SNA.

a. All the fees and charges except PBG are non-refundable once paid.
b. The Developer shall pay the applicable GST in addition to the above fees and charges.
c. The applicable fees and charges may be revised from time to time as notified by the Government of Andhra Pradesh.
d. The Performance Bank Guarantee shall be submitted by the Developer from the date of Resource allocation/ LOA and shall be kept with SNA until COD of the project. Additionally, the PBG shall be extended on case-to-case basis upon confirmation by SNA as per the project extensions granted from time to time.
e. The Performance Bank Guarantee shall be returned to the Project developer after commissioning of the project. In case part capacity is commissioned, the proportionate Performance Bank Guarantee may be returned.
f. Green Energy Development Charges shall be paid by the Developers to GoAP throughout the life of the project from Scheduled CoD.
g. In case of SRTPVS and other applications, the fees shall be payable as per the operating guidelines of the policy.
h. In respect of projects already allotted/sanctioned, the fees that are applicable at the time of capacity allocation shall only be applicable. However, in case of capacity transfer, name change, change of location and project time extensions, the Project developers shall pay the applicable fees.

5.7 Transmission & Distribution/Wheeling Charges

a. Intrastate Transmission charges shall be paid by the Developer in 15 minutes block-wise only for the scheduled capacity of generation. For energy storage projects, intrastate transmission charges shall be applicable only on generation and losses to be paid on both sides i.e. drawl and injection.

b. Distribution/wheeling charges shall be waived off if the injection and withdrawal of power are at the same voltage levels. However, if the injection and withdrawal of power are at different voltage levels irrespective of the DISCOM's boundaries, distribution/wheeling charges shall be levied at injection point as follows:

   - For LT Consumers, distribution/wheeling charges shall be paid on per unit basis (INR/kWh), and
   - For HT Consumers, distribution/wheeling charges shall be paid as per the block wise (15 mins) charges for the applicable number of blocks for the scheduled capacity.

c. The above method of charges shall be applicable for a period of 25 years. However, Wheeling charges will be determined by APERC from time to time.

5.8 Cross Subsidy Surcharge & Additional Surcharge

a. Cross-subsidy surcharge and additional surcharge shall not be applicable for consumption from Clean Energy Projects fulfilling the criteria of Captive generating plant as per Electricity Rules 2005 & amendments. The Clean Energy Projects not fulfilling the criteria of Captive generating plant shall be considered as third-party sale projects and Cross-subsidy surcharge and Additional surcharge shall be levied as determined by APERC from time to time for consumption from third party Clean Energy Projects.

b. In case of RE Manufacturing Projects, covered under the policy, the cross-subsidy surcharge shall be exempted for a period of 10 years in case of open access / third party procurement.

5.9 Electricity Duty

a. Electricity Duty for Clean Energy Projects shall be paid as determined by the Government of Andhra Pradesh and its amendments from time to time.

b. In case of RE Manufacturing Projects, the electricity duty shall be reimbursed for a period of 10 years irrespective of Discom/ Open Access/ captive/third party procurement. Any additional exemptions or special provisions shall be addressed in the relevant sections of the policy.

5.10 Open Access Facilities

a. The open access facilities will be governed by the Andhra Pradesh Electricity Regulatory Commission (Green Energy Open Access, Charges, and Banking) Regulation, 2024 (Regulation No. 3 of 2024) and its amendments from time to time.

b. Open access shall be eligible for all consumers with contracted demand or sanctioned load of 100 kW or more through single connection or multiple connections aggregating to a 100 kW or more

located in the same division of a DISCOM, except for captive consumers who shall not have any load limitation.

c. OA/ Connectivity for all new green energy generators shall be as per the provisions of Andhra Pradesh Electricity Regulatory Commission Power Evacuation from Captive Generation, Cogeneration and Renewable Energy Source Power Plants (Regulation No. 3 of 2017).

d. OA approvals to be provided by SLDC and OA approvals shall be permissible only prior to 12 months before COD. In case of delay in COD, after OA approvals, such OA approvals shall be deemed cancelled and the Project developer shall request for a new approval only after commissioning of the project.

e. In case of delay in projects commissioning, after receiving OA approval, the associated OA approval shall be deemed cancelled and the Project developer shall request for a new approval only after commissioning of the project.

f. The charges to be levied for GEOA consumers shall be as per the Andhra Pradesh Electricity Regulatory Commission (Green Energy Open Access, Charges, and Banking) Regulation, 2024 (Regulation No. 3 of 2024) and its amendments from time to time. The charges shall be limited to transmission charges, wheeling charges, cross subsidy charges, standby charges, banking charges, SLDC fees and charges, losses and processing fees and any others as determined by the commission. Transmission and Distribution/Wheeling charges shall be payable as per clause 5.7.

5.11 Energy Banking, Settlement & Balancing

a. Energy accounting and banking for all Clean Energy Projects, including SRTPVS, shall be as per the regulations framed by APERC from time to time in accordance with the Green Energy Open Access Rules 2022 notified by the Ministry of Power, Govt of India. In case of the consumers availing energy banking facility, the settlement of renewable energy against consumer's consumption shall be carried out on billing cycle basis upon payment of applicable banking charges as determined by APERC from time to time in the Green Energy Open Access 2024. Banking charges for residential SRPTVS shall be applicable as per APERC (The Grid Interactive Solar Rooftop Photovoltaic System under Gross/Net Metering) Regulation 2023 (Regulation No 4 of 2023).

b. Energy Settlements and balancing of all the intra-state Green Energy Open Access of Generators/ Consumers shall be done as per Regulation 2 of 2006 and its amendments from time to time.

c. Energy banking shall be on monthly billing cycle basis. Each calendar month shall be treated as one billing cycle and the banked energy should be used in the same billing cycle. The unutilized energy, banking charges, maximum applicable banking, processing fee for open access, all the applicable charges to be levied for green energy open access and other provisions shall be as per GEOA Regulations 2024 and its amendments.

d. The policy defines the hours of supply to ensure grid stability and ensure equity for energy banking and settlement.

- Off-peak Hours (solar time): 9 AM-5 PM
- Peak Hours: 5 AM-9 AM & 7 PM-11 PM
- Normal Hours: 11 PM-5 AM & 5 PM-7 PM

Due to the emergence of democratization of energy, and intermittency of renewable energy, these hours of supply shall be redefined by AP TRANSCO from time to time.

e. DISCOMs shall seek approval from APERC to redefine the peak hours, normal hours and off-peak hours as defined under the policy. These hours of supply to be adopted for RE generation and inclusion in Retail Supply Tariff for the applicable year and its amendments approved by the commission from time to time.

f. The credit for energy banked shall be adjusted during the same banking cycles as per the energy injected in the respective hours of banking determined under the policy. The energy banked during peak hours shall be permitted to be drawn during peak as well as off-peak and normal hours. The energy banked during off-peak (solar) hours shall be permitted to be drawn during off-peak (solar) hours only and energy banked during normal hours shall be drawn during normal and off-peak hours. Provided that the drawl of banked energy during the peak load hours as mentioned in the policy and approved by the Commission shall not be permitted if R&C measures are in force.

g. To ensure grid stability, the maximum allowed banking capacity at grid level shall be capped at 5% of the peak grid demand (700 MW) for FY 2024-25. Thereafter, additional banking capacity at 5% of the incremental peak grid demand year-on-year shall be allowed. AP TRANSCO shall estimate the peak grid demand for the ensuing financial year and SLDC shall notify the allowable maximum banking capacity at grid level. Developers/ OA users shall apply along with duration and get allocation of banking within the limits stipulated from time to time.

5.12 Disbursement of Capital Subsidy on Fixed Capital Investment (FCI)

In case of investments proposed by Clean Energy Projects and RE Manufacturers under various phases and value chain wise, then the Capital subsidy shall be disbursed phase wise/ unit wise and or value chain wise whichever is applicable based on the targeted phasing and value chain defined in the Detailed Project Report/Proposals submitted to SNA.

5.13 Non-Agricultural Status

Deemed Non-Agricultural status will be accorded for the land utilized for development of any Clean Energy Projects and RE Manufacturing Projects. However an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of Clean Energy Projects and RE Manufacturing Projects eligible under the policy.

5.14 Statutory Clearances

a. All the Clean Energy Projects (except PSP, Mini & Small Hydro projects) shall be exempted from obtaining any NOC/Consent for establishment under pollution control laws from AP Pollution Control Board.

b. In case of PSP, Mini & Small Hydro projects, the SNA shall facilitate in faster issuance of Environmental Clearances (EC) & Forest Clearances (FC).

5.15 Renewable Energy Certificate (REC)

All projects developed during the operative period of this policy will be eligible for REC benefits subject to APERC Renewable Power Purchase Obligation (Compliance by Purchase of Renewable Energy/Renewable Energy Certificates) regulations, 2022 and its amendments from time to time. Deemed injection into the grid for in-house/co-located solar generation of prosumers will also be eligible for REC benefits subject to applicable guidelines in the APERC Regulation No 5 of 2022.

5.16 Single Window Clearance

NREDCAP will develop a portal for facilitating single window clearance for all projects under this policy. The services of this single window clearance portal will be made available to all the projects under this policy for obtaining time bound statutory clearances.

5.17 Must run Status

Injection from Clean Energy Projects covered under the policy scope shall be considered to be deemed scheduled.

6. Solar Power

Andhra Pradesh, with its abundant solar resources, has set an ambitious target to significantly expand its solar power generation capacity. The state aims to align with the Central Government's target of achieving 500 GW of renewable energy capacity by 2030, solar power being a critical component. The state aims to tap into the potential of the abundant solar resources, along with encouraging decentralization of solar power generation through distributed generation through central schemes like PM Surya Ghar Yojana, Solarization of feeders through PM KUSUM scheme, or any new schemes announced during the policy period etc. The policy looks to take forward the work done under the previous Andhra Pradesh Solar Policy 2018 and promote solar power along with manufacturing in the state.

6.1 Solar Power Projects

6.1.1 Solar Projects for Sale of Energy within Andhra Pradesh:

Selection of projects under InSTS category (excluding open access projects) shall be through a competitive bidding process notified by the Ministry of Power, as per the requirement of APDISCOMs

to fulfil RPO target fixed by the APERC or any requirements beyond RPO target subject to the approval of the APERC.

Project developer shall be allowed to develop the MW scale solar projects through open access route under this Policy for sale of energy within the State subject to evacuation feasibility. Project developer is allowed to setup the off-grid solar project within the same premises for self-consumption duly informing the DISCOMs.

In case, the solar PV project is setup within the premises of a consumer which is connected to the grid interface of DISCOMs or AP TRANSCO, they shall pay the grid support charges and other applicable charges as determined by the APERC from time to time. However, the Project developer is exempted from payment of such charges if the project setup within the premises is not connected to the grid interface. Net-metering facility shall be allowed for solar projects installed within the premises and settlement and compensation for the surplus power exported to the Grid shall be as per the APERC (The Grid Interactive Solar Photovoltaic system under Gross/Net metering) Regulation, 2023 and any other regulation/orders issued by the APERC from time to time.

6.1.2 Solar Projects for Sale of Energy outside Andhra Pradesh:

Selection of projects under ISTS category shall be through a competitive bidding process as conducted by intermediaries such as SECI, NTPC and others. Project developer can also develop the MW scale projects under open access route under this Policy for sale of energy outside the Andhra Pradesh State with guidelines issued by appropriate authorities from time to time.

6.1.3 Solar Rooftop Photovoltaic Power Plant or Solar Rooftop Photovoltaic System (SRTPVS)

a. The Government of Andhra Pradesh shall promote grid connected SRTPVS on public buildings, domestic buildings, commercial and industrial establishments, and others through net metering/gross metering arrangements as per the APERC (The Grid Interactive Solar Photovoltaic system under Gross/Net metering) Regulation, 2023 and its amendments/Tariff Orders/Guidelines/Orders issued from time to time. There are no administration charges payable for installations of SRTPVS projects below 5 kWp.
b. SRTPVS Projects will be promoted in the Government and domestic sectors under “PM - Surya Garh: Muft Bijili Yojana” or any other Scheme of the Government of India and Government of Andhra Pradesh. It is targeted to empower at least 10 Lakh households to generate their own electricity by installing grid connected SRTPVS projects under this Policy. It is targeted to cover all the owned buildings of State Government Departments, institutions, organisations on saturation mode on CAPEX and/or RESCO mode if required by availing the services of Scheme Implementation Partners (SIPs) designated by the MNRE. Any SRTPVS in Government/Corporations/Institutions shall be implemented through SNA only.

c. The Government of India incentives under MNRE schemes (or any others) such as Central Financial Assistance, concessional custom duty on specified items and others shall be extended to the Project developer under this Policy.

d. Government shall enable the provision for Distributed Energy Resource (DER) aggregation for SRTPVS to fasten the implementation of Rooftop solar in the state. DER aggregators are necessary for large-scale implementation of residential SRTPVS for AP DISCOMs and achieving the state's goal of democratisation of power generation. DER aggregators shall undertake customer acquisition, coordinate necessary approvals with DISCOMs, install the SRTPVS, support in CFA disbursement, O&M, etc, for a service/aggregator fee.

6.1.4 Distributed Solar Generation (Solar pumps, Solarization of Agricultural Feeders, Solar PV Street Lights, Solar Off Grid Standalone systems, Solar Lanterns, etc.,)

Solarization of existing grid connected Irrigation pumps through feeder Solarization i.e., connecting the solar project at Substation bus [subject to the evacuation feasibility], and Solarization of grid connected Irrigation pumps as per the guidelines or prevailing schemes of the State Government/Central Government including PM-KUSUM or any other forthcoming schemes/programs. GoAP shall also promote Standalone Solar PV Street Lightings, Domestic solar PV systems, Solar Lanterns, etc.

6.1.5 Floating Solar Projects

a. Floating solar on existing reservoirs/dams of hydro stations or any other water bodies including reservoirs and lakes shall be promoted under this policy. The State will allocate the water body on long term lease/rental basis for development of projects under InSTS and ISTS programs for sale of energy to DISCOMs/Procurers or licensed intermediaries like SECI or Urban Local Bodies by utilization of the lake/reservoir water bodies, canal tops and canal bunds.

b. These floating Solar Projects can be developed with or without energy storage system. All components of the Floating Solar PV plant shall be in accordance with technical specifications given in relevant IS/IEC Standards. The design and commissioning shall be as per latest IS/IEC/BIS standards and the project shall not cause any environmental concerns to the water bodies.

6.1.6 Solar Parks

a. The Government of A.P will encourage large scale development of solar parks which could accommodate large scale solar projects along with storage, utilizing the abundant resource availability of solar in certain parts of Andhra Pradesh. The capacity size of a solar park shall be 0.5GW or above for both government and private solar parks. One time processing fee of INR 2,000/acre to be paid by Developer for allocation of capacity in the park. NREDCAP to act as a State Nodal Agency for allotment of revenue/government land.

b. Development of Solar Parks by State entities - APSPCL shall be the nodal agency for development of solar parks. APSPCL to develop necessary infrastructure required for solar parks such as power

evacuation system, administrative building, infrastructure including road, water, drains, ducts etc. APSPCL may recover applicable charges from solar Project developers i.e. Lease charges, infrastructure/ development charges, utilities charges, O&M charges for infrastructure, O&M of plant etc. Alternatively, provision for Private Developers to set up solar parks with plug and play facilities for solar power projects with priority allotment of land parcels (on lease basis).

c. Development of Solar Parks by Private Developers – Government shall encourage dedicated private solar parks. NREDCAP shall act as the State Nodal Agency for allotment of revenue/government land. Park developer to develop necessary infrastructure required for solar parks such as power evacuation system, administrative building, infrastructure including road, water, drains, ducts etc. Park developer may recover applicable charges from solar Project developers i.e. Lease charges, infrastructure/ development charges, utilities charges, O&M charges for infrastructure, O&M of plant etc.

d. All the entities in the solar parks should be focused on the demands of small consumers and consumption within the state, followed by export to other states. AP DISCOMs may procure power from projects set up in the solar parks through a tariff based competitive bidding mechanism to meet their energy/RPO requirements.

6.2 Incentives from State Government

6.2.1 Incentives & applicable charges for all solar power projects

To enable solar power capacity addition in the State, following incentives shall be provided for eligible Developers for those projects set up during the operative period of this policy. In addition to the below mentioned incentives, the applicable fees & charges for all types of solar projects shall be applicable as per clause 5.6 & clause 18.1. In addition to the charges mentioned in , the applicable charges and incentives are as below:

a. Transmission and Distribution/Wheeling Charges

Applicable T&D charges shall be paid as mentioned in the clause 5.7 of the policy.

b. Energy Banking, Settlement & Balancing

Banking shall be applicable as per the Green Energy Open Access Regulations 2024 as detailed in the clause 5.11 of the policy.

c. Reactive Power Charges

The reactive power charges shall be payable in compliance with the Indian Electricity Grid Code (IEGC). Reactive power charges for SRTPVS connected to 33kV shall be INR 0.25/kVARh up to 10% of net active energy generated at that level & INR 0.50/kVARh thereafter.

d. Virtual Net Metering/ Gross Metering

The gross/net metering for SRTPVS will be governed by the APERC (The Grid Interactive Solar Rooftop Photovoltaic System under Gross/Net Metering) Regulation 2023 (Regulation No 4 of 2023) and its amendments from time to time.

e. Distributed Energy Resource (DER) Aggregation Fee

DER aggregation to be provided for Solar Rooftop and an aggregation/service fee shall be payable by the DISCOM to the aggregator. A service charge/ aggregators fee shall be payable of INR 1,500/kWp for the first 2 kW and thereafter INR 1,000/kWp.

f. SGST on SRT projects

GoAP shall provide reimbursement of 100% net SGST on SRT projects implemented for domestic/ residential consumers or any government buildings under PM Surya Ghar scheme. This shall be paid in addition to any support provided by GoI under its schemes.

6.2.2 Incentives & applicable charges for solar manufacturing

The disbursement of capital subsidies on FCI shall be payable as per clause 5.12. The applicable incentives and charges are as below:

a. Capital Subsidy

Capital subsidy shall be provided on 25% of the Fixed Capital Investment (FCI) of manufacturing plant including Captive generating plant and captive mines. The capital subsidy shall be paid over a period of 5 years from COD of the solar manufacturing project/ unit/ phase.

b. Land

GoAP/ NREDCAP shall facilitate procurement/ Acquisition of land on actual cost basis for the manufacturing plant. There shall be preferential allotment of captive resources for the projects allocated under Production Linked Incentives (PLI) scheme. Priority allotment of revenue/ government land on long-term lease basis at INR 31,000/acre/year with 5% escalation for every 2 years.

c. Provision for land conversion

Deemed Non-Agricultural status will be accorded for the land utilized for development of Solar Manufacturing Projects. However, an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of Solar Manufacturing Projects eligible under the policy.

d. Open Access Charges and Energy Banking

Exemption of Open Access Charges including Transmission charges, Distribution/ Wheeling charges and Cross Subsidy Surcharge for 10 years. Energy Banking shall be as per GEOA Regulations 2024.

e. SGST Reimbursement

GoAP shall provide reimbursement of 100% net SGST on sale of products for a period of 5 years.

f. Production linked incentive

Production linked incentive (PLI) shall be provided as per the applicable MNRE guidelines.

g. Subsidy on Power Costs & Electricity Duty

- For all the Solar Manufacturing projects qualified under PLI/Non-PLI subsidy on electricity tariff of INR 1.0/unit (kVAh) for 10 years from COD shall be provided for the manufacturing plant.

- The Electricity Duty as applicable shall be reimbursed for a period of 10 years. Thereafter, the electricity duty shall be payable as applicable from time to time.

h. Preferential banking capacity allotment

- RE manufacturing units having presence from Mine - Module (Vertically Integrated Solar PV value chain) and allocated Production Linked Incentive (PLI) under "National Programme under High Efficiency Solar PV Module" scheme issued by GoI shall be given priority for banking of energy/banking capacity allotment for a period of 25 years from the COD of the Captive generating plant.

i. Industrial water

Industrial water shall be provided at the doorstep of the manufacturing facility and 25% exemption shall be payable of the applicable industrial water charges for 10 years. Thereafter, the water charges shall be payable as per the applicable rates from time to time.

j. Connectivity

Power connectivity to the manufacturing facility shall be provided at the doorstep based on APERC (Licensee's Standards of Performance) Regulation, 2004 (Regulation No. 7 of 2004). The manufacturing unit shall be exempt from payment of applicable development and supervisory charges for power connectivity to the unit. The power evacuation connectivity to the captive generating plant shall be provided on the basis of high value addition (INR Cr/Acre) for allocation of the manufacturing unit and shall be guided as per the APERC Power Evacuation from Captive Generation, Cogeneration and Renewable Energy Source Power Plants (Regulation No 3 of 2017) and its amendments from time to time.

k. Off-take guarantee

The distribution licensee shall provide off-take guarantee of 10% of total annual solar capacity (MW) procured by DISCOM to the solar manufacturers at L1 tariff discovered in AP DISCOMs procurement or SECI bids (last quarter). The off-take guarantee shall be applicable only for manufacturing facilities present across the value chain of Ingot -Wafer-Cell-Module and for 5 years from the COD of the manufacturing facility.

7. Wind Power

With its long coastline and favourable wind conditions, Andhra Pradesh is poised to become a leader in wind energy production. The policy aims to increase the state's wind power capacity in line with the Central Government's target of achieving 140 GW of wind energy by 2030. This policy aims to promote new wind power projects and repowering of existing wind power projects.

7.1 Wind Power Projects

7.1.1 Wind Projects for Sale of Energy within Andhra Pradesh:

Selection of projects under InSTS category (excluding open access projects) shall be through a competitive bidding process, as per the requirement of APDISCOMs to fulfil RPO target fixed by the

APERC or any requirements beyond RPO target subject to the approval of the APERC. Project developer shall be allowed to develop the MW scale wind power projects through open access route under this Policy for sale of energy within the State subject to evacuation feasibility.

7.1.2 Wind Projects for Sale of Energy outside Andhra Pradesh:

Selection of projects under ISTS category shall be through a competitive bidding process as conducted by intermediaries such as SECI, NTPC and others. Project developer can also develop the MW scale projects under open access route and for sale of energy outside the Andhra Pradesh State as per this Policy and with guidelines issued by appropriate authorities from time to time.

7.1.3 Repowering of Existing Wind Power Projects

The Government of Andhra Pradesh will promote repowering of existing wind turbines which have completed at least 10 years in operation. Repowering shall include provisions for repowering existing wind power projects by replacing lower-capacity, lower-hub-height WTGs with more advanced, higher-capacity WTGs in line with the National Repowering and Life Extension Policy for Wind Power Projects, 2023. In the case of power being procured by AP discoms through PPA, the power generated corresponding to average of last three years' generation prior to repowering would continue to be procured on the terms of PPA in-force, as approved by the commission and remaining additional generation may be purchased by discoms as per their requirements at a tariff discovered through competitive bidding, subject to the approval of commission. The repowered wind projects shall also be allowed to use the additional power for captive/group captive or third-party sale within and/or outside the State. The pre-feasibility for evacuation of repowered energy through STU or CTU (as the case may be) shall be assessed by the Project developer.

7.2 Incentives from State Government

7.2.1 Incentives & applicable charges for wind power projects

To enable wind power capacity addition in the State, following incentives shall be provided for Eligible Developers for setting-up projects during the operative period of this policy. In addition to the below mentioned incentives, the applicable fees & charges for all types of wind projects shall be applicable as per clause 5.6 & clause 18.1. In addition to the charges mentioned in clause 18.1, the applicable charges and incentives are as below:

a. **Transmission and Distribution/Wheeling Charges**
   Applicable Transmission & Distribution/Wheeling charges shall be paid as mentioned in the clause 5.7 of the policy.
b. **Energy Banking, Settlement & Balancing**
   Banking shall be applicable as per the Green Energy Open Access Regulations 2024 as detailed in the clause 5.11 of the policy.
c. **Reactive Power Charges**

The reactive power charges shall be payable in compliance with the Indian Electricity Grid Code (IEGC). Reactive power charges shall be INR 0.25/kVARh up to 10% of net active energy generated &INR 0.50/kVARh thereafter.

7.2.2 Incentives & applicable charges for wind turbine manufacturing facilities

The disbursement of capital subsidy on FCI shall be payable as per clause 5.12. The applicable incentives and charges to be payable are given below:

a. Capital Subsidy

Capital subsidy shall be provided on 25% of the Fixed Capital Investment (FCI) including Captive generating plant. The capital subsidy shall be paid over a period of 5 years from COD of the manufacturing project.

b. Land

GoAP/ NREDCAP shall facilitate procurement/ Acquisition of land on actual cost basis (Manufacturing plant). Priority allotment of revenue/ government land on long-term lease basis at INR 31,000/acre/year with 5% escalation for every 2 years.

c. Provision for land conversion

Deemed Non-Agricultural status will be accorded for the land utilized for development of Wind Manufacturing Projects. However, an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of Wind Manufacturing Projects eligible under the policy.

d. Open Access Charges and Energy Banking

Exemption of Open Access Charges including Transmission charges, Distribution/ Wheeling charges, and Cross Subsidy Surcharge for 10 years. Energy Banking shall be as per GEOA Regulations 2024.

e. SGST Reimbursement

GoAP shall provide reimbursement of 100% net SGST on sale of products for a period of 5 years.

f. Production linked incentive

Production linked incentives shall be payable as per applicable MNRE guidelines, if any.

g. Subsidy on Power Costs/ Electricity Duty

Subsidy on electricity tariff of INR 1.0/kWh for 10 years from COD of the manufacturing plant. The Electricity Duty as applicable shall be reimbursed for a period of 10 years. Thereafter, the electricity duty shall be payable as applicable from time to time.

h. Industrial water

Industrial water shall be provided at the doorstep of the manufacturing facility and 25% exemption of the applicable industrial water charges for 10 years. Thereafter, the water charges shall be payable as per the applicable rates from time to time.

i. Connectivity

Power connectivity to the manufacturing facility shall be provided at the doorstep based on APERC (Licensee's Standards of Performance) Regulation, 2004 (Regulation No.7 of 2004). The manufacturing unit shall be exempt from payment of applicable development and supervisory charges for power connectivity to the unit.

j. Off-take guarantee

The distribution licensee shall provide off-take guarantee of 10% of total annual wind capacity (MW) procured by DISCOM to the WTG manufacturers at L1 tariff discovered in AP DISCOMs procurement or SECI bids (last quarter). The off-take guarantee shall be applicable for 5 years from COD of the manufacturing facility.

8. Wind-Solar Hybrid Power

Solar and wind power are variable and unpredictable in nature, posing certain challenges on grid security and stability. Studies reveal that, solar and wind resources are complimentary to each other and hybridization of these two technologies would help in minimizing the variability apart from optimally utilizing the infrastructure including land and transmission system. Andhra Pradesh, with its abundant solar and wind resources, has set an ambitious target to significantly expand its solar, wind and wind-solar hybrid power generation capacity. The policy aims to take forward the work done under the previous Andhra Pradesh Wind Solar Hybrid Policy 2018 to promote hybrid green energy generation in the state.

8.1 Wind-Solar Hybrid Power Projects

Hybrid projects can be Wind-Solar projects with or without energy storage system. The rated capacity of one resource (wind or solar) shall be as per the National Wind-Solar Hybrid Policy 2018, vide notification No.238/78/2017-Wind, dated 14 May 2018, issued by the Ministry of New & Renewable Energy and its amendments or as per the guidelines issued by MNRE for Hybrid Projects. Other provisions as per the National Wind-Solar Hybrid Policy 2018 shall be applicable. This Policy is applicable for hybridization of existing or under construction Wind or Solar projects into hybrid projects and also for new Wind-Solar Hybrid projects. New wind-solar hybrid projects shall be encouraged for third party use, captive usage, and sale within the state through competitive bidding process.

8.2 Incentives from State Government

8.2.1 Incentives & applicable charges for wind-solar hybrid power projects

To enable wind-solar hybrid power capacity addition in the State, following incentives shall be provided for Eligible Developers for setting-up project during the operative period of this policy. In addition to the below mentioned incentives, the applicable fees & charges for all types of wind-solar hybrid projects shall be applicable as per clause 5.6 & clause 18.1. In addition to the charges mentioned in clause 18.1, the applicable charges and incentives are as below:

a. Transmission and Distribution/Wheeling Charges

GoAP shall provide 50% exemption on Transmission and Distribution/ Wheeling Charges for wheeling of power generated from wind-solar hybrid projects from the COD for a period of 5 years. Thereafter, the transmission and distribution/wheeling charges shall be payable in full as applicable from time to time.

b. Energy Banking, Settlement & Balancing

Banking shall be applicable as per the Green Energy Open Access Regulations 2024 as detailed in the clause 5.11 of the policy.

c. Reactive Power Charges

The reactive power charges shall be payable in compliance with the Indian Electricity Grid Code (IEGC). Reactive power charges shall be INR 0.25/kVARh up to 10% of net active energy generated & INR 0.50/kVARh thereafter.

9. Renewable Economic Zones (REZs)

a. The Government of A.P will encourage large scale development of renewable economic zones which could accommodate solar, wind and wind-solar hybrid plants along with storage given the abundant resource availability of both solar and wind in certain parts of Andhra Pradesh. NREDCAP/APSPCL or any other agency as notified by GoAP (Nodal Agency) for development of REZ. Nodal agency to develop the plug & play infrastructure for REZ which would subsequently be recovered from Project developers located in the parks by levying development and O&M charges. REZ hosting the projects should be focused on the consumption within the state, followed by export to other states.

b. REZ Developer to develop necessary infrastructure required for REZ such as power evacuation system, administrative building, infrastructure including road, water, drains, ducts etc. REZ Developer may recover applicable charges from Project developers i.e. Lease charges, infrastructure/ development charges, utilities charges, O&M charges for infrastructure, O&M of plant etc.

c. The REZ shall follow the contours of the policy and shall pay all the applicable fees and charges as per clause 5.6 upon allocation along with the applicable GEOA charges as per the GEOA Regulations 2024.

10. Green Hydrogen and its derivatives

Green hydrogen represents the next frontier in the clean energy transition, offering a sustainable alternative to fossil fuels in industries and transportation. Green Hydrogen and its derivatives reduce greenhouse gas emissions by replacing fossil fuels in hard-to-abate sectors, such as refineries, fertilizers, steel, transport, etc., enabling clean energy storage, and producing low carbon chemicals. Thus, Green Hydrogen and its derivatives are important pillars of the net zero economy. Andhra Pradesh has been instrumental in advancing the Government of India's energy initiatives, introducing several measures like investor-friendly solar and wind power policies, developing green energy corridors for power transmission, and allocating land to expedite the growth of the renewable energy sector in the state.

The state boasts the second-longest coastline in India, featuring six operational ports, with additional ports under development to enhance export capabilities. It also has a strong infrastructure network of roads and railways connecting major industrial hubs, abundant water resources from the Godavari and Krishna rivers, and rich natural resources. Andhra Pradesh is well-positioned to produce cost-effective Green Hydrogen leveraging its resources. The state's ports, equipped with infrastructure for storing liquid nitrogen, can also be used for storing and exporting Green Hydrogen, making it more affordable for international users.

This policy supports the production, storage, and utilization of Green Hydrogen and its derivatives, aligning with the National Green Hydrogen Mission. It encourages the establishment of Green Hydrogen and its derivatives production facilities using renewable energy and biomass, with incentives for rapid deployment of renewable energy and Electrolyzer capacities to achieve economies of scale.

To minimize the cost of renewable energy and to enable green hydrogen ecosystem, the policy proposes to extend various supporting incentives for transmission, connectivity, banking, open access, and energy storage for Green Hydrogen production projects.

10.1 Incentives from the State Government

10.1.1 Incentives for producers of Green Hydrogen & its derivatives

The following incentives shall be provided for the Green Hydrogen and its derivatives projects set up during the policy operative period:

a. Capital Subsidy

i. Capital Subsidy for Electrolyzer-based Green Hydrogen Projects on Electrolyzer:

Capital subsidy of 25% only on plant and equipment costs of Electrolyzer stack, subject to a maximum of INR 1 Cr. per MW or INR 1 Cr. per 1,400 TPA shall be paid to the Developer over a period of five (5) years post commissioning of the plant. The subsidy shall be eligible only for plants with minimum capacity of 150 KTPA of Green Hydrogen and applicable only for first 10 plants or up to 1.5 MTPA capacity whichever is achieved first.

ii. Capital Subsidy for Integrated Green Hydrogen, Green Ammonia and Green Methanol Facilities:

Capital subsidy of 25% shall be provided on plant & equipment costs (including Electrolyzer stack) for integrated Green Hydrogen, Green Ammonia & Green Methanol (including Biogenic Carbon) production facilities, subject to a maximum of

- INR 1.85 Crore per KTPA production unit of Green Ammonia facility
- INR 2.25 Crore per KTPA production unit of Green Methanol facility

The subsidy shall be paid to the Developer over a period of five (5) years post commissioning of the plant.

All incentives provided under Green Hydrogen, Green Ammonia, Green Methanol are also applicable to produce SAF derived from Green Hydrogen & its derivatives.

b. Capital Subsidy on Desalination Plant

Capital subsidy of 20% on Fixed Capital Investment (FCI) of desalination plant set up for Green Hydrogen and its derivatives subject to a maximum of INR 1 Cr. per MLD shall be paid to the Developer over a period of five (5) years post commissioning of the plant. Desalination plant may be setup by Project developer, or any third party are eligible for capital subsidy.

c. Finance assistance for Green Hydrogen Hubs

In addition to the Central Financial Assistance (CFA) provided by Central Government, the state will provide up to 25% of the cost, up to INR 10 Crore, for infrastructure related to power, water & roads required to develop Green Hydrogen Hubs within the state, limited to one hub per port and the incentives will be disbursed in five (5) years from the time of approval by the SNA. The available government/ revenue land parcels in port vicinity shall be leased at INR 1 Lakh per acre per year.

d. Provision for land conversion

Deemed Non-Agricultural status will be accorded for the land utilized for development of Green Hydrogen and its derivatives projects. However, an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of Green Hydrogen and its derivatives projects eligible under the policy.

e. SGST Reimbursement

GoAP shall provide reimbursement of 100% net SGST revenue to the Developer from sale of Green Hydrogen and its derivatives within the State for a period of five (5) years from COD.

f. Other infrastructural requirements

Industrial water shall be provided at the doorstep of the manufacturing facility and 25% exemption of the applicable industrial water charges for 5 years. Thereafter, the water charges shall be payable as per the applicable rates from time to time. Any other charges on power & other infrastructure shall be paid as applicable from time to time.

g. Intra-State Transmission Charges for wheeling of power

50% of Intra-state transmission charges shall be exempted to the Developer for a period of five (5) years from COD for the power procured from Renewable Energy (with or without storage) plants located within the State subject to maximum of INR 15 Lakhs per MW per year of installed Electrolyzer capacity and thereafter shall be paid as applicable from time to time.

h. Transmission Losses

Applicable losses to be paid for sourcing Renewable Energy for Green Hydrogen and its derivatives generation.

i. Cross Subsidy Surcharge:

The cross-subsidy surcharge, as applicable to the Energy Intensive Industry category, shall be exempted for energy drawn from Renewable Energy plants located within the State for production of Green Hydrogen and its derivatives for a period of five (5) years from the COD.

j. Additional Surcharge:

100% exemption of Additional Surcharge for a period of five (5) years from COD and thereafter shall be paid as applicable from time to time.

k. Electricity Duty:

100% reimbursement of Electricity Duty for the power consumed for production of Green Hydrogen and its derivatives from RE plants (with or without storage) for a period of five (5) years from COD and thereafter shall be paid as applicable from time to time.

l. Energy Banking, Settlement & Balancing:

Banking shall be applicable as per the Green Energy Open Access Regulations, 2024 as detailed in the clause 5.11 of this policy.

m. Renewable Energy for production:

As per Green Hydrogen Policy notified by Ministry of Power, Govt. of India on 17th February 2022, the State will promote production of Green Hydrogen and its derivatives by using Renewable Energy and/or Biomass from any of the following ways:

- Open access route from co-located or differently located RE plant.
- Captive route from co-located or differently located RE plant set up by the Developer.
- Third-party sale/Power exchange.
- Procuring from APDISCOMs and shall only pay the cost of procurement as well as the wheeling charges, if applicable and a small margin as determined by the State Commission.

n. Other Incentives

Any other incentives as provided by the Central Government for production of Green Hydrogen and its derivatives shall be extended by the SNA to the Developer without any financial commitment by the State Government. All incentives provided for Green Hydrogen/Green Ammonia/Green Methanol are also applicable to produce SAF derived from Green Hydrogen & its derivatives.

10.1.2 Incentives for Electrolyzer Manufacturing facilities:

The following incentives shall be provided for the Electrolyzer Manufacturing units for production of Green Hydrogen and its derivatives set up during the policy operative period:

a. Capital Subsidy

Capital subsidy of 25% on Fixed Capital Investment (FCI) for manufacturing of electrolyzer over 5 years from COD. The minimum size of the plant shall be 500 MW of Electrolyzers production per annum and the subsidy shall be applicable only for first 5 plants or up to 3,000 MW capacity whichever is achieved first.

b. Provision for land conversion

Deemed Non-Agricultural status will be accorded for the land utilized for development of Electrolyzer Manufacturing projects. However, an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of Electrolyzer Manufacturing projects eligible under the policy.

c. SGST Reimbursement

GoAP shall provide reimbursement of 50% net SGST revenue to the Developer for a period of five (5) years.

d. Electricity Duty

100% reimbursement of Electricity Duty for a period of five (5) years from COD for manufacturing of Electrolyzers and thereafter shall be paid as applicable from time to time.

e. Power Subsidy

Reimbursement of Power Tariff at INR 1/kWh for a period of five (5) years and thereafter shall be paid as applicable from time to time.

f. Industrial water:

Industrial water shall be provided at the doorstep of the manufacturing facility and 25% exemption of the applicable industrial water charges for 10 years. Thereafter, the water charges shall be payable as per the applicable rates from time to time.

10.1.3 Incentives for Hydrogen Refueling Stations

a. Capital Subsidy

Capital subsidy of 25% on Fixed Capital Investment (FCI) for hydrogen refueling plants for the first 10 units shall be paid to the Developer over a period of five (5) years from commissioning of the plant post approval from SNA.

b. SGST Reimbursement

GoAP shall provide reimbursement of 100% net SGST for purchase of machinery for refueling stations for a period of five (5) years from commissioning of the plant post approval from SNA.

11. Biofuels

India is one of the fastest growing economies in the world and achieving energy security remains critical for India's growth. India is currently world's third biggest oil consuming and importing nation and its energy security remain vulnerable until alternate fuels to substitute/supplement crude oil-based fuels are developed indigenously.

In order to cut India's dependence on the imports of fossil fuels and encourage production of sustainable and alternate fuels, Government of India (GoI) has notified National Policy on Biofuels 2018 - Ethanol Blended Petrol Programme, National Biodiesel Mission, Biodiesel Blending Programme - to promote Biofuels in the Country and setup a target of 20% blending of ethanol in petrol by Ethanol Supply Year (ESY) 2025-26 and 5% blending of biodiesel in diesel/direct sale of biodiesel by 2030.

In addition, the Government of India has launched the SATAT (Sustainable Alternative Towards Affordable Transportation) scheme to promote the production of Bio-CNG/ Compressed Biogas (CBG), targeting 15 MMT of Bio-CNG/ CBG by 2023 from 5,000 plants across the country. The government has also introduced the "Waste to Energy" program to support the development of projects that generate Biogas, Bio-CNG, Power, or producer/ syngas from urban, industrial, and agricultural wastes or residues.

Andhra Pradesh has been playing a pivotal role in supporting Government of India's various initiatives in the energy domain and has been rolling out several initiatives such as investor friendly solar and wind power policies, development of large-scale solar park(s) and green corridors for power evacuation and providing lands for accelerating development of RE sector in the State.

Andhra Pradesh is an agrarian economy, with 62% of its population dependent on agriculture. The prospective increase in the production of agricultural commodities such as sugarcane, broken rice, maize, sugar beet, sweet sorghum, corn, cassava, etc., along with initiatives like "**Clean Andhra Pradesh (CLAP)**" for waste management through public participation, provides significant scope and impetus for establishment of Biofuel plants (bioethanol, biodiesel, bio-CNG/ Compressed Biogas (CBG), etc.) in the State. Additionally, as one of the top crude oil consuming states, Andhra Pradesh has immense potential for Biofuel production to meet blending targets with petrol or diesel.

In order to realize India's vision of increasing the use of biofuels in the energy and transportation sectors, the Government of Andhra Pradesh hereby notifies this policy to promote production and attract potential investors in industries manufacturing Biofuels such as ethanol, bio-CNG/ Compressed Biogas (CBG), etc., in the State.

11.1 Incentives from the State Government

11.1.1 Incentives for producers of Biofuels

The following incentives shall be provided for the Biofuels projects set up during the policy operative period:

a. Capital Subsidy

i. CBG Plant:

Capital subsidy of 20% on Fixed Capital Investment (FCI) of CBG plant, subject to a maximum of INR 1 Cr per TPD capacity of CBG plant and shall be provided over a period of 5 years post COD. The subsidy shall be eligible only for plants with minimum capacity of 10 TPD of CBG

plant. The subsidy shall be applicable only for first 1,000 plants or up to 10,000 TPD capacity whichever is achieved first.

ii. **2G Ethanol:**

Capital subsidy of 20% on Fixed Capital Investment (FCI) of 2G Ethanol plant, subject to a maximum of INR 1.5 Cr per KLPD capacity of 2G Ethanol plant and shall be paid over a period of 5 years post COD. The subsidy shall be eligible only for plants with minimum capacity of 25 KLPD of 2G Ethanol. The subsidy shall be applicable only for first 50 plants or up to 1,500 KLPD capacity whichever is achieved first.

iii. **1G Ethanol:** Nil

b. SGST Reimbursement for 1G & 2G Ethanol and CBG Plants

GoAP shall provide reimbursement of 100% net SGST revenue to the Developer for sale of 1G & 2G Ethanol and CBG in the State for a period of five (5) years from COD.

c. Electricity Duty for 1G & 2G Ethanol and CBG Plants

100% reimbursement of Electricity Duty for power consumed for production of Biofuels for a period of five (5) years from COD.

d. Power Subsidy

Reimbursement of Power Tariff at INR 1/kWh for a period of five (5) years and thereafter shall be paid as applicable from time to time.

e. Biomass Collection/Subsidy for setting up 2G Bio Ethanol plant

Capital subsidy of 20% for Co-operative agencies for biomass processing equipment shall be paid to the Developer over a period of five (5) years through Agriculture Infrastructure Fund (AIF) and other applicable routes. The Policy incentivizes local bodies and farmers to establish feedstock collection centres with storage facilities, using benefits from the Andhra Pradesh Industrial Development Policy (AP IDP). Manufacturers are required to source feedstock from these centres.

f. Land

Land lease charges of revenue/ government/private/patta land shall be INR 15,000 per acre per year with 5% escalation for every 2 years for biofuel plants.

g. Provision for land conversion

Deemed Non-Agricultural status will be accorded for the land utilized for development of biofuels projects. However, an application has to be submitted to Revenue Department for one time land conversion. Any applicable fee for such land conversion shall be exempted for all types of biofuels projects eligible under the policy.

h. Single Window Clearance

NREDCAP will develop a portal for facilitating single window clearance for all projects under this policy. The services of this single window clearance portal will be made available to all the projects under this policy for obtaining time bound statutory clearances for establishing Biofuel plants.

i. Feedstock Collection Centres

This policy provides support to local bodies/ farmers/ concerned stakeholders for setting up of feedstock collection centres with feedstock storage facilities. The manufacturers shall be mandated to procure the feedstock/raw materials from such feedstock collection centres.

j. Other Incentives

Any other incentives as provided by the Central Government for production of Biofuels shall be extended to the Developer without any financial commitment by the State Government. All incentives provided under biofuels category are also applicable to produce SAF derived from biofuels.

12. Energy Storage

CEA in its Report titled “Optimal Generation Capacity Mix for 2029-30” projected the solar and wind generation capacities would be 140 GW and 280 GW respectively by 2029-30 and requirement of 10 GW PSP and 27 GW of BESS capacities. Identifying the importance of Energy Storage Systems, Ministry of Power (MoP) has undertaken various initiatives to promote these technologies as highlighted below:

a. Introduction of Energy Storage Obligations (ESO) for the DISCOMs to procure 4% of total RPO requirement through Energy Storage systems by FY 2030.
b. MOP vide notification dated. 29th January 2022 “Clarification regarding usage of ESS in various applications across the entire value chain of power sector” highlighting that ESS can be utilized either on stand-alone basis or in complementary with power generation, transmission, and distribution. ESS shall be accorded status based on its application area i.e., generation, transmission, and distribution. Additionally, ESS Developers have the flexibility to Sell, lease, or rent storage space to any utility engaged in generation or transmission or distribution or to a load dispatch Centre. The owner of ESS may use part or all of the storage space to buy, store, and sell electricity at a later time.
c. MOP vide dated 9th June 2023, issued Guidelines for Tariff based Competitive bidding process for Procurement of Firm and Dispatchable Power from Grid connected Renewable Power Projects with Energy Storage Systems
d. In August 2023, MOP has issued National Framework for Promoting Energy Storage Systems
e. The Central Electricity Regulatory Commission (Ancillary Services) Regulations, 2022 enable ESS to provide Secondary Reserve Ancillary Service (SRAS) and Tertiary Reserve Ancillary Service (TRAS), under certain conditions. This development will generate a new source of income for Energy Storage System (ESS) service providers, incentivizing investments in the energy storage sector and driving growth.

Building on the momentum from various central government initiatives, Andhra Pradesh state has come up with a policy on pumped storage in 2022. With a renewed vision to establish Andhra Pradesh as the **"Storage Capital of India"**, the subsequent sections of the Policy shall highlight the key

incentives and provisions provided for Energy Storage Systems, both Pumped Storage Power (PSP) and Battery Energy Storage Systems (BESS).

12.1 Pumped Storage Power (PSP) Projects

In April 2023, the Ministry of Power introduced guidelines for pumped storage hydropower projects, acknowledging their crucial role in grid stability and meeting peak power demands. The guidelines offer recommendations for the PSP market, policies, and safe development practices. Key aspects include:

- Budgetary support for construction of roads and bridges by Hydro Power Project developers, including PSPs up to Rs 1.5 crore/MW for projects up to 200 MW and up to Rs 1 crore/MW for projects above 200 MW.
- Monetization of ancillary PSP services to meet critical electricity market requirements.
- Directions on offering tax incentives and land acquisition fee exemptions for off-river projects.
- Eliminating upfront premiums for project allocation.
- Identifying and safe development of abandoned mines as potential PSP sites.

To ensure timely clearances for Pumped Storage Projects, the Central Electricity Authority has issued Guidelines for Formulation of Detailed Project Reports for Pumped Storage Schemes in June 2023. In addition, since no tariff/financial evaluation is required to be done by CEA for PSP projects allotted through Tariff Based Competitive Bidding or as part of integrated Clean Energy Project or as Captive generating plant, CEA has reduced the timeline for concurrence of such projects to 50 days. For other PSPs, the timeline for concurrence has been reduced to 90 days.

On August 22, 2024, MOP has introduced draft guidelines for competitive bidding to procure storage capacity and stored energy from Pumped Storage Plants, aiming to establish a transparent, equitable, and standardized framework that distributes risk fairly among stakeholders.

Andhra Pradesh is at forefront in the country in identifying potential PSP sites totaling 34 GW capacity near to the existing reservoirs and off-the-river locations for promotion of Pumped Storage Hydro Power Projects. Taking into consideration the RE capacity addition targets, HPO targets and the huge PSP potential within the State, the State Government to encourage, develop and promote PSP projects by Developers notified “Andhra Pradesh Pumped Storage Hydro Power Projects Policy 2022”.

As part of the Integrated Clean Energy Policy 2024, the Government of Andhra Pradesh is introducing a revised policy framework to drive the development of Pumped Storage Power (PSP) projects. This updated policy considers the significant advancements made since the previous policy was released and addresses the evolving needs of Developers, ensuring a more conducive environment for PSP growth.

12.1.1 Incentives from State Government

a. Resource Allocation

Resource allocation process shall be done as per clause 5.4 of the policy.

b. Land allotment/ facilitation

Concessional land allotment /facilitation shall be done as per clause 5.4 of the policy.

c. Budgetary Support

Ministry of Power guidelines dated 10.04.2023 extends its Budgetary Support in the form of reimbursement towards Cost of Enabling infrastructure such as all Roads and Bridges required to connect major components like Dam, Powerhouse, pressure shaft, etc. to the nearest State/National Highway. SNA shall facilitate the Developer for getting “in principle” approval for the grant from Ministry of Power.

d. Grid Connectivity & Power Evacuation

Grid connectivity & power evacuation shall be provided as per clause 5.5 of the policy.

e. Waiver of Stamp Duty & registration fee

In line with MOP guidelines dated 10.04,2023 to promote development of Pump Storage Projects, Stamp duty and registration fees shall be exempted for land to be acquired by off-the-river PSP projects.

f. Water allocation & Charges

In line with MOP guidelines dated 10.04,2023 to promote development of Pump Storage Power Projects, no water cess shall be levied. GoAP shall facilitate water allocation on priority as per the Industrial Water Supply Policy / guidelines issued by the Water Resources Department. Water for one time filling and annual recoupment shall be charged as per applicable rates, as amended from time to time.

g. Electricity Duty

Electricity Duty is exempted on conversion losses for the period of 25 years.

h. Cross Subsidy Surcharge (CSS)

Cross Subsidy Surcharge shall be levied only on final consumption or sale of electricity.

i. Free Royalty Power

No imposition of requirement of free power to home state (Andhra Pradesh)

j. Market reforms

APERC may devise appropriate rules in line with MOP’s Guidelines to promote development of Pump Storage Power Projects dated 10.04.2023, to create market for ancillary services, thereby provide appropriate market signal for PSP generators. In the event of capacity contracted not being fully utilized by the contracting agency, the Developer would be free to transfer the usage of the capacity to other interested entities so that resources do not remain idle. The gains made shall be shared with the original beneficiary in the ratio of 50:50.

k. Cost of Local Area development

Developers shall follow the guidelines issued by the Government of India from time to time for promotion of Hydro Power Projects.

l. **Rehabilitation & Resettlement**

Developers shall mandatorily follow the provisions of Rehabilitation & Resettlement Policy of the Government of India and Government of Andhra Pradesh scrupulously at their own cost.

m. **Input Power**

If Developer sets up Captive generating plant for the purpose of meeting input power requirement for PSP, the SNA shall facilitate allotment of project as per 'AP Integrated Clean Energy Policy 2024'. Energy Banking facility will not be extended for such Captive generating plants.

n. **Transmission Charges**

Applicable Transmission charges shall be paid as mentioned in the clause 5.7 of the policy.

o. **Distribution/Wheeling Charges**

Applicable Distribution charges shall be paid as mentioned in the clause 5.7 of the policy

p. **Approvals & Clearances**

SNA shall expedite the issuance of statutory clearance including Pollution Clearance, Environment Clearance and Forest Clearance for Pumped Storage Power (PSP) projects from concerned Ministry and authorities at both the central and state levels.

q. **Others**

Upon Developer's request, APGENCO/APTRANSCO may offer expertise in planning, construction, and operation of Pumped Storage Projects (PSPs), subject to availability. The SNA will facilitate consultancy services from APGENCO/APTRANSCO.

12.2 Battery Energy Storage Systems

Ministry of Power vide resolution dated 10.03.2022 has issued detailed guidelines for procurement and utilization of BESS as part of generation, transmission, or distribution assets, or along with ancillary services aimed to create a comprehensive framework for the procurement, integration, and optimization of BESS in India's renewable energy sector, ensuring transparency, standardization, and risk-sharing to maximize grid efficiency, flexibility, and bankability.

Central government has taken following key initiatives for the promotion of BESS:

- The Ministry of Power, vide note dated October 11, 2022, has included Battery Energy Storage Systems (BESS) in the list of eligible generators permitted to participate in the High Price Day-Ahead Market (HP-DAM) segment of the Energy Exchange. This would enable BESS Developers to take suitable advantage of the price differential between Peak and Off-Peak tariffs.
- To ensure financial sustainability and commercial success, National framework for promoting energy storage systems specified that Energy Storage System (ESS) Developers and intermediary agencies will be allowed to offer a variety of market-driven energy and power products, enabling them to tap into diverse revenue streams and maximize their economic potential. These products may include:
    a) Spot Energy Market

b) Capacity Market/Energy Arbitrage (boosting capacity value by shifting off-peak generation to peak times)
c) Provision of ancillary services to the grid
d) Providing storage to other generating stations
e) Bundling to make RE firm and dispatchable RE power.
f) Replacing diesel generators in various sites such as construction sites, commercial and residential areas, and islands
g) Any other product that meets market demand or requirements

MOP vide its "guidelines for procurement and utilization of Battery Energy Storage Systems as part of generation, transmission, and distribution assets, along with ancillary services" dated 11.03.2022, has identified following business cases regarding utilization of BESS in supply of energy and grid maintenance:

i. **RE Supply with BESS** where BESS is included as part of the Clean Energy Project, utilized to meet Peak power and firm dispatchable RE requirements of Procurers.
ii. **BESS with transmission infrastructure:** By maximizing transmission capacity and reducing congestion, it minimizes the need for new infrastructure, making the grid more efficient and cost-effective.
iii. **Storage for ancillary services:** The system operator (RLDC/NLDC and SLDCs) may use BESS for frequency control and balancing services to manage the inherent uncertainty/variations in load and generation.
iv. **Storage for Distribution:** BESS can help Discoms in managing Peak load and grid resilience, Portfolio management and flexible operations, support large-scale electric vehicle adoption, Extend asset life through optimal asset shifting.
v. **Other options** such as Arbitrage operation, sell storage space for a particular duration by charging capacity charges, or utilize as merchant capacity.

The Government of Andhra Pradesh introduces the Battery Energy Storage Systems (BESS) policy as part of the ICE policy, aligning with the national framework. GoAP to encourage BESS/DER Aggregators who can provide "Storage as Service" can set up BESS projects in the state and can cater the services specified below:

Consumer Category	Services Offered by Aggregator
Central Grid	Ancillary services as per CERC Ancillary Services Regulation, 2022 and its amendments
State	Ancillary services as per SERC Regulations/State Grid
	Avoidance of DSM/UI Charges
	Sharing of Transmission/Distribution losses
	Arbitrage of power cost/exchange

All consumers (OA/Captive/Discoms)	Storage/Demand Response service to all consumers

To leverage the abovementioned market opportunities, the state intends to empower BESS/DER aggregators with the following market models:

i. Cost Plus model (For procurement of Power/Services)
ii. Competitive bidding (For procurement of Power/Services)
iii. Storage as a Service (SAAS) - Sharing of profit/benefit between the parties (75:25 basis between Developer and Discom) for any applications/ use cases – Avoiding/ deferment of Capex, Avoidance of UI charges, demand response etc.

12.2.1 Incentives from State Government

a. Transmission Charges

Applicable Transmission charges shall be paid as mentioned in the clause 5.7 of the policy.

b. Distribution/Wheeling Charges

For Charging & Discharge of BESS in the distribution license area, distribution/ wheeling charges shall be waived off for 12 years from COD and thereafter levied as Block wise charges (15 mins) for applicable no. of blocks. The distribution/ wheeling charges for sale of power from BESS through OA shall be payable as per clause 5.7.

c. Electricity Duty

Electricity duty on conversion losses is waived off for the lifetime of BESS projects.

d. Cross Subsidy Surcharge (CSS)

Cross Subsidy Surcharge (CSS) shall only be levied on final consumption of electricity.

e. SGST Reimbursement

GoAP shall provide reimbursement of 100% net SGST revenue accrued to the state on the services provided by BESS for a period of five (5) years from COD.

f. Market Reforms

APERC may devise appropriate rules in line with MOP's Guidelines to promote the development of BESS to create market for ancillary services, thereby provide appropriate market signal for Aggregators.

g. Storage as Service

AP Transco and AP Discoms shall identify and notify the list of vacant land parcels at/near EHT substations, and Distribution sub-stations for setting up of BESS by Aggregators. This would yield benefit to state utilities such as avoidance of (n-1) contingency at the planning stage, avoidance of overloading of the T&D lines or deferment of T&D capex. The savings shall be shared between the state entity and the Private Developer on 75:25 basis between Developer and Discom.

12.2.2 Incentives for Battery manufacturing units

a. Land

GoAP/ NREDCAP shall facilitate procurement/ Acquisition of land on actual cost basis.

b. Water

Water supply shall be provided (as per availability with irrigation dept.) at 50% of existing industrial water supply tariff for the initial 3 years from COD. 25% of the cost of water treatment plant wherever necessary, shall be reimbursed with a limit of INR. 2 crores per BESS manufacturing unit.

c. Capital Subsidy

Capital subsidy of 20% will be provided on the fixed capital investment for battery manufacturing units, disbursed annually over 5 years from the Commercial Operation Date (COD). The 20% capital subsidy for battery manufacturing units is applicable only for initial projects, until the cumulative capacity reaches 5,000 MWh. However, all the other incentives shall be extended to the eligible Battery Manufacturing projects.

d. Stamp Duty

100% stamp duty paid on purchase or lease of land, lease of land/shed/buildings, mortgages and hypothecations related to BESS manufacturing plant shall be reimbursed.

e. Power subsidy

Fixed power cost reimbursement @ INR1.00 per unit for a period of 5 years from COD of the battery manufacturing unit.

f. Electricity Duty

Electricity duty will be reimbursed for a period of 5 years.

g. Cross Subsidy Surcharge

Cross subsidy surcharge (CSS) is waived off for 10 years from COD.

h. SGST Reimbursement

100% net SGST accrued to the state will be reimbursed for a period of 5 years.

i. Off-take guarantee

10% of the manufacturing capacity shall be off taken by GoAP at average of AP DISCOM procurement or latest SECI's standalone BESS tender discovered rates (in the last quarter)

j. Recycling units

Battery recycling plants will be incentivized to mine for compounds from used batteries.

13. Mini and Small Hydro

This Policy will promote generation of energy through mini and small-hydro projects in the State. Procurement of energy from mini and small-hydro projects shall be based on the tariff based competitive bidding process as per the requirement of DISCOMs, subject to the approval of the APERC. Mini and Small-hydro projects allotted under open access category are permitted to use the power for captive/group captive or third-party sale within the State.

The Government of AP will promote Mini and Small Hydro Projects as per the guidelines or prevailing schemes of State Government/Central Government including the MNRE's scheme on "Small Hydro Power Programme" and its amendments or any other forthcoming schemes/programs. The Project developer shall obtain various statutory clearances including but not limited to techno-economic clearances, Forest and Environmental (if necessary) clearances, clearance regarding water availability and others required for the project development. Payment of royalty shall be as per the Orders of Irrigation/WRD, GoAP issued from time to time.

The policy shall be applicable for all project self-identified by Project developers or for all projects where resources are allocated by GoAP. Discoms shall procure power from all these projects and such procured power is eligible for meeting HPO of Discoms. In addition to the budgetary support that can be availed from MNRE as per the central government policies, these projects shall also be eligible for

- Capacity/Fixed Charges in INR/MW/Year or
- Tariff without any ceiling on CUF

The power procured by Discoms from such Mini and Small Hydro projects shall be eligible for meeting HPO.

13.1 Incentives from State Government

13.1.1 Incentives & applicable charges for mini and small hydro power projects

a. Resource & Land Allocation

Resource allocation process and details of concessional land allotment is mentioned in clause 5.3 & 5.4 of the policy. GoAP shall provide a provision for an outright purchase of land by Developer at INR 5 lakhs/acre or basic value, whichever is higher, for the project, given the long gestation period and project life.

b. Determination of Tariff

Discoms shall procure either through competitive bidding route or Commission determined generic tariff without having any ceiling on CUF/ PLF.

c. Transmission and Distribution/Wheeling Charges

Applicable T&D charges shall be paid as mentioned in the clause 5.7 of the policy.

d. Energy Banking, Settlement & Balancing

Banking shall be applicable as per the Green Energy Open Access Regulations 2024 as detailed in the clause 5.11 of the policy.

14. Electric Mobility – EV Charging Infrastructure

Andhra Pradesh has witnessed a remarkable surge in Electric Vehicle (EV) registrations from 1,939 no's in 2018-19 to 36,291 no's in 2023-24 with 80% CAGR, driven primarily by the policy initiatives

during this period. The growth was led by electric two-wheelers, followed by electric three-wheelers and electric four-wheelers, indicating a significant shift towards sustainable transportation in the state[4].

The electric vehicle (EV) sector's fast-evolving landscape demands a flexible and adaptive policy framework, necessitating regular updates and revisions to keep pace with the latest developments and trends. Therefore, the Energy Department, GoAP is revising the policy related to Electric Vehicle Charging Infrastructure (EVCI) as part of the ICE policy, since this aspect of the EV mobility value chain is closely tied to electricity sector. The policy details for the remaining components of the EV value chain can be found in the policy document to be released by the Department of Industries & Commerce and GoAP.

14.1 Incentives from State Government

14.1.1 Incentives for Electric Vehicles Charging Infrastructure (EVCI) projects.

a. Land

SNA shall invite tenders through competitive bidding for identification of Charge Point Operators (CPO) who shall install and operate EV charging stations at the sites notified by the SNA. Government/Public entity sites shall be offered at floor price of Rs. 1 per unit to private CPOs as per MOP guidelines 2024. SNA shall charge PMA charges for the same.

b. Capital Subsidy

Capital Subsidy of 25% on cost of public charging station (excluding land, cost of electricity connection, DTR, any civil costs) subject to a maximum of INR 3 Lakhs/ PCS for the first 5,000 EV Public Charging Stations over a period of 5 years

i. State Corporations, Dist. Headquarters, Private commercial buildings /apartments /societies (>500 flats/ houses) – 1,000 no’s
ii. State Highways – 150 no’s; NHs – 1,500 no’s.
iii. National Highways – 1,500 no’s.
iv. Municipalities, Towns, MHQs – 1,000 no’s

SNA can aggregate the available sites in collaboration with various government entities and call for tenders from eligible CPOs for establishing EV PCS. However, State government entities with suitable sites can independently issue tenders. Capital subsidy shall be extended to first 5,000 EV PCS established by SNA, State govt. entities, and Private Developers or CPOs.

The specified EV PCS numbers for various categories as per 14.1.1.b(i) are indicative numbers, however the numbers may vary with in the categories as per market conditions. But in total the incentive shall be given to only first 5,000 charging stations.

c. Charging Infrastructure Connectivity and Tariff

[4] Vahan Portal Dashboard

A separate EV tariff category with ToD tariff and Dynamic tariff mechanisms to CPOs. The maximum ceiling tariff (MCT) of INR 15 per unit for EV end-consumers or as determined by APERC in line with guidelines issued by MoP. DER Aggregators shall be empowered to operate Smart EV charging stations for Demand Response management. EV charging stations can avail input power from any Open Access/Green OA generator. Green OA shall be governed as per APERC Green Energy Open Access, Charges, and Banking Regulation 2024.

d. Mandates

All new permits for commercial complexes, housing societies and residential townships with a built-up area 5,000 sq.mt and above will mandate charging stations. Public parking spaces will be mandated to have charging stations. Municipalities shall issue provisional permissions online immediately to setup charging/battery swapping stations. Any verification shall only be posting sanction of provisional permission. City codes will be modified for both public places and private buildings in order to make the infrastructural changes needed for charging infrastructure. Urban local bodies, Municipality rules/regulations will be modified to allow charging and stations to be setup within its limits as and when required.

e. IT & Communication

NREDCAP shall develop an integrated mobile application to enable EV users to identify existing EV Public charging stations, communicate to Central Management Systems (CMS) of Charging equipment for effective coordination of Time of Day (ToD), Time of Use (ToU) tariffs and share sales data with Discoms. Cloud charging features will be encouraged to have all metering and transactions done digitally with payment apps, NFC enabled devices, RFID tags, etc., while keeping it flexible and customer friendly.

f. Others

NREDCAP shall facilitate CPO in getting the applicable central government subsidies towards establishment of EV Public Charging Stations under FAME-II or other schemes announced from time-to-time. Third party EV charging service providers can also setup their own renewable energy generating stations at their premises only for charging electric vehicles.

g. Quality and Standards

Standards for charging equipment will also be created in close association with the central government departments and scientific bodies. The state will follow the charging specifications as per the guidelines issued by Department of Heavy Industries, GOI.

15. Renewable Energy Manufacturing Zone (REMZ)

a. The Government of A.P will encourage large scale development of Renewable Energy Manufacturing zones (REMZ) which would accommodate RE Manufacturing Projects (solar, wind, battery and electrolyzers manufacturing). APSPCL shall be the Nodal Agency for REMZ and in coordination with other GoAP departments shall establish REMZ as a dedicated manufacturing hub. Nodal agency shall

provide last mile connectivity for power, roads, water, etc. to each of the manufacturing units within the REMZ. APSPCL to develop the plug & play infrastructure for REMZ which would subsequently be recovered from Developers located in the REMZ by levying development charges.

b. REMZ Developer to develop necessary infrastructure required for REMZ such as power evacuation system, administrative building, infrastructure including road, water, drains, ducts etc. REMZ Developer may recover applicable charges from Project developers i.e. Lease charges, infrastructure/ development charges, utilities charges, O&M charges for infrastructure, O&M of plant etc.

c. The REMZ shall follow the contours of the policy and shall pay all the applicable fees and charges as per clause 5.6 upon allocation along with the applicable GEOA charges as per the GEOA Regulations 2024.

16. Promotion of New and Innovative RE (NIRE) Technologies

a. The Government of A.P designated SNA shall encourage and promote NIRE technologies in the state. NIRE technologies including offshore, geothermal, tidal, other oceanic energies, storage (other than PSP and BESS), carbon capture & sequestration, etc. Demonstration of the new RE technology or the pilot would be enabled on fast-track basis with focused support from the SNA and CEKSDC.

b. GoAP shall provide Viability Gap Funding (VGF) or capital subsidy at 20% for the demonstration/ pilot projects with capacity not exceeding 5 MW with a maximum limit of INR 5 Crores/project. The capital subsidy shall be disbursed to Developer in a phased manner with 10% before COD and 10% after COD in 2 years.

c. Discoms shall procure the power from NIRE technologies at the tariff determined by APERC.

17. General terms pertaining to the policy.

17.1 Project/SPV Transfer/Name Change

a. The policy provides for Project/SPV transfers/name change of a project with approval from SIPC, SIPB and Government of Andhra Pradesh. The transferee shall meet the eligibility criteria as per clause 5.2 of this policy. Such transfer shall be allowed for only one time for project/SPV transfer in part or full capacity to any other party(ies) before the commissioning of the project, along with the resources including land, connectivity (STU) and any other approvals already in place, as applicable. Project/SPV transfer in part/full capacity shall be allowed for multiple times to 100% subsidiary(ies)/parent entity at any stage of the Project. Project developer shall seek name change of the Project/SPV for part/full capacity. The Project/SPV transfer shall be applicable for all the Clean Energy Projects covered under the policy.

b. Applicable transfer fee/name change fee as per clause 17.11 shall be payable for each such transfer/name change.

17.2 Waste disposal

a. Ministry of Environment, Forest, and Climate Change (MoEFCC), Government of India has notified the E- Waste (Management) Rules, 2022 on 2nd November 2022. These rules have been notified for environmentally sound management of e-waste generated from electrical and electronic equipment, including solar photo-voltaic (PV) modules or panels or cells.

b. As per these rules, every manufacturer and producer of solar photo-voltaic modules or panels or cells has been mandated to obtain registration, maintain inventory of solar PV modules, store the waste generated from Solar PV modules/panels/cells up to the year 2034-35 as per the guidelines laid down under the rules, file annual returns, comply with Standard Operating Procedures, and process the waste other than solar PV modules as per the applicable waste management rules.

c. Further, Recycling of solar photo-voltaic modules or panels or cells shall be mandated for recovery of material as laid down by the Central Pollution Control Board. All the Developers shall abide by the above rules, or any other regulations/rules notified by the Government of India or Government of Andhra Pradesh for disposal of waste generated from Clean Energy Projects.

d. Central Pollution Control Board has issued Battery Waste Management Rules, 2022 for environmentally sound battery waste management and conservation of natural resources. These rules mainly emphasize on Extended Producer Responsibility (EPR) wherein manufacturers/importers responsible for collection, recycling/refurbishment waste batteries prohibiting landfill disposal and incineration. The rules have mandated annual targets for the manufacturers.

e. The MoEFCC Biofuel Waste Management Guidelines, 2018, aim to ensure environmentally sound management of biofuel waste through segregation, storage, treatment, and disposal. The guidelines emphasize recycling and energy recovery from waste and encourage the use of composted biofuel waste as fertilizer.

f. Similarly, The CPCB Biofuel Waste Management Rules, 2019, provide a regulatory framework for biofuel waste management, outlining responsibilities for manufacturers, producers, and disposers. The rules also specify standards for treatment and disposal facilities.

g. Also, The National Biofuel Policy, 2018, promotes the development and use of biofuels, focusing on sustainability, energy security, and environmental protection. The policy encourages research and development in biofuel waste management and conversion of waste to energy.

17.3 Project Timelines

a. The time schedule for completion of Clean Energy Projects and RE Manufacturing Projects that utilize resources allocated by GoAP, such projects shall be bound by the timelines as defined in the policy. However, if those projects are allocated through bidding process without any resource allocation by the state, they will be governed by the bid document and Power Purchase Agreement.

b. In case of land & resource allocation by the SNA, all the projects shall follow the prescribed timelines as detailed below or as decided by SNA to meet the project milestones. The milestones are divided into two phases of (A) Allotment & (B) Project Construction Schedule. The detailed project milestone

timelines shall be applicable as per clause 18.2 (Clean Energy Projects) & clause 18.3 (RE Manufacturing Projects).

c. In the allotment phase, a project shall achieve 7 milestones within the combined prescribed timeline and the maximum extension timeline based on each type of project. A project shall achieve the milestones of payment of applicable fees, DPR approval, connectivity approval & agreement, land (sale/lease) and commercial agreement to achieve financial closure.

d. In the project construction schedule phase, a project shall achieve 4 milestones until the commissioning of the project. The milestones include achieving placement of equipment order, start of construction, mid-term status and commissioning of the project.

Sl. No.	Project Milestones
A	**Allotment (SNA)/ LOA**
a1	Payment of applicable fee/ charges
a2	DPR approval in case of PSP
a3	Connectivity approval (ISTS/STU) -STU to follow ISTS process i.e., 50% of land required for setting up project to be under applicant possession or duly paying BG amount
a4	Connectivity Agreement (copy to be submitted to SNA)
a5	Land (Sale or Lease)
a6	Commercial Agreement (PPA)
a7	Financial closure (Letter or in principle approval from banker/ Banker consortium to be submitted SNA)
B	**Project Construction Schedule**
b1	Placement of Equipment Order (Payment proof to be submitted)
b2	Construction start date (Intimation to be sent SNA)
b3	Construction status updated by Developer (Quarterly progress update to SNA)
b4	Scheduled COD of the Project

e. A maximum extension period of 12 months for PSP and 6 months for other projects shall be provided. The non-achievement of any of the pre-defined project milestone timelines including the maximum extension period in the allotment phase, the project shall be deemed cancelled along with the capacity allotment.

f. The timeline for completion of each project along with the maximum extension available under the policy:

Category of Project	Financial Closure (FC)[5] from the allotment (T0)	Scheduled COD timeline from the allotment (T0)	Maximum extension of timeline allowed before FC on payment of applicable time extension fee
Solar	6 months	24 months	6 months
Wind	6 months	24 months	6 months
Solar – Wind Hybrid	6 months	24 months	6 months
Mini and Small Hydro	6 months	36 months	6 months
Pumped Hydro Storage	12 months	48 months	12 months
BESS	12 months	18 months	6 months
Green Hydrogen and its derivatives	6 months	36 months	6 months
Biofuels	6 months	36 months	6 months
EVCI	NA	6 months	6 months
Solar Manufacturing	6 months	36 months	6 months
Wind Manufacturing	6 months	36 months	6 months
Battery Manufacturing	21 months	48 months	6 months
Electrolyzers Manufacturing	8 months	36 months	6 months

g. Project developers shall handover the resources to the SNA within 14 days from intimation of deemed cancellation. Thereafter, the resources shall be made available for allocation to other Project developers.

h. SNA shall provide the maximum extension time, subject to payment of time extension fee at INR 20,000 per MW per month of delay along with the applicable GST.

i. In case the project under construction requires additional time beyond 6/12 months (permissible time extension), subject to verification by SNA, shall be permitted by levying penalty of 0.25% of project cost per quarter (in parts thereof) for a period of maximum 6 months. Beyond 6 months of delay, no incentives shall be available for the project.

[5] Without any permissible extension period

j. If forest land diversion is required, the commissioning timeline will be extended by up to one year from the date of submission of the request with necessary documents, without any additional fees.

k. In case part capacity is commissioned within the overall allowed time period, the remaining capacity will be cancelled, and the Performance Bank Guarantee of uncommissioned capacity will be encashed /forfeited.

l. Government of Andhra Pradesh/ NREDCAP will cancel the project allotment and will encash/forfeit the Performance Bank Guarantee if the project is not commissioned as per the stipulated timelines.

m. The Project developer shall submit the quarterly progress reports to SNA on regular basis.

17.4 University for Green Energy & Circular Economy (UGC)

a. GoAP shall collaborate with GoI and industry(ies) for establishment of a University for Green Energy & Circular Economy (UGC), under Public Private Partnership (PPP) route which shall play a pivotal role in creation of manpower for Clean Energy Projects and RE Manufacturing Projects.

b. UGC shall be a dynamic knowledge and training hub for clean energy, with training facilities for corporates and certification programs. UGC will involve active industry participation, partnership with academia, think tanks & industry and build intellectual capital for clean energy sector along with technology transfer. UGC shall be accorded deemed university status.

c. UGC shall focus on creating a talent pool across the Clean Energy Projects value chain in the state by focusing on

- Tailor made curriculum to meet clean energy industry requirements.
- Bringing new programs with innovative pedagogies in collaboration with industry & academia
- UGC shall offer courses: UG, PG, PHDs, Integrated Degree in Green Energy and Deep technology.
- Certification Programs (1 Year/6 Months) & Continuous Short-term courses both in person and online for existing workforce as well as graduate trainee students
- Students trained in Entrepreneurship.
- Skilling the youth of the State for improved employability

17.5 Clean Energy Knowledge & Skill Development Center (CEKSDC)

a. NREDCAP along with Andhra Pradesh Skill Development Corporation will establish a Clean Energy Knowledge & Skill Development Center (CEKSDC) along with industry participation. The key focus of CEKSDC shall be to become a knowledge and training hub of clean energy in India.

b. The Center shall form active partnerships with Academia, Think Tanks & Industry for certification courses & training programs. CESKDC to facilitate Learning & Development requirements for existing workforce and future workforce. CEKSDC to be available for private, public companies, universities etc.

c. **Skill Development Support for Green Hydrogen and its derivatives**

To create a pipeline of skilled workforce tailored for the needs of Green Hydrogen and its derivatives production, SNA shall undertake following interventions:

i. Facilitate the development of a sustainable Green Hydrogen and its derivatives ecosystem by promoting collaboration among various stakeholders such as academic institutions, Renewable Energy Developers, hydrogen producers, industry consumers, think-tanks, etc.
ii. Introduce courses related to production of Green Hydrogen and its derivatives and manufacturing of Green Hydrogen equipment and its ancillaries in existing Skill Development Centres in the State based on the curriculum developed in coordination with industry using skill gap mapping.
iii. Develop digital platform with database of manpower available in the State to match skilled manpower with requirements of manpower in manufacturing of Green Hydrogen equipment/production of Green Hydrogen and its derivatives.
iv. Facilitate apprenticeship training for all the eligible students at Green Hydrogen equipment manufacturing plants or Green Hydrogen and its derivatives production plants.
v. Explore technology demonstration and proof of concept pilots for green hydrogen applications in emerging use cases such as heavy-duty transport, energy storage, etc.

d. **Skill Development Support for Biofuels**

To build a specialized workforce equipped for Biofuels production, SNA shall introduce the following interventions:

i. The policy will encourage a minimum of 100 village/Mandal-level entrepreneurs (VLEs) through identified skilling centres.
ii. The policy will encourage and support farmers/FPOs/SHGs to enhance skilling for Biomass aggregation and sales.

17.6 State Nodal Agency

a. New and Renewable Energy Development Corporation of A.P. Ltd (NREDCAP) shall act as a State Nodal Agency (SNA) under this policy and as decided by the State Government from time to time. NREDCAP, as an organisation shall be strengthened as the State Nodal Agency (SNA) in line with the ambition of AP to become a Clean Energy Hub in the country & Global Export Hub for Green Hydrogen. The SNA and/or designated offices by the SNA shall be responsible for the following activities:

i. Registration of all projects and classification of the projects in the single window clearance provision through the Energy Department portal, GoAP for associated approvals and clearances.
ii. Scrutiny of all issues/proposals and submission of the same to Energy Department for further consideration
iii. Verification and recommendation of proposals to GoAP
iv. NREDCAP shall be responsible for capacity allotment for upto 40 MW and to recommend capacity allotment beyond 40 MW to Government of AP.

v. Identify the available Government/Revenue/Private/Patta Lands for lease basis and facilitate the allotment of Government Land/acquisition of private land for projects and provide land near Ports for storage.

vi. Facilitate water allocation on priority as per the Industrial Water Supply Policy/Guidelines and subject to guidelines issued by the Water Resources Department.

vii. Facilitate in getting power evacuation and/or Open Access as per the regulation issued by APERC/CERC and amended from time to time.

viii. Collection of associated fees/charges for allotment of resources.

ix. Act as single window clearance facilitator for allotment of projects/ clearance of proposals received from Private sector/CPSUs/SPSUs.

x. Coordination with all the relevant stakeholders for all statutory clearances/approvals applicable for all the Clean Energy Projects and RE Manufacturing Projects.

xi. Monitor progress of project development continuously until projects are commissioned. The Project developer shall be obliged to allow unhindered access to the project site and provide requisite information to the SNA/any other entity nominated by of the SNA for proper monitoring of the project progress.

xii. Disbursement of incentives after duly verifying the claims and processing the incentives through the Project Monitoring Committee.

xiii. Impose penalties and/or deallocate projects in case of default of timelines/non-compliance/ non-performance by the Developers in accordance with the defined project milestone timelines.

xiv. Co-ordinate with MoP /MNRE /SECI /CERC /CTUIL /CEA /PGCIL /APERC /APTRANSCO / POSOCO / DISCOM(s) and any other Central/State agencies in obtaining necessary clearances, approvals, incentives, grants, and subsidies for GoI sponsored schemes.

xv. Development of Renewable Economic Zones (REZ)

xvi. Coordinate with APDISCOMs, APTRANSCO and support the APERC in framing various Regulations and orders that are required for implementation of this Policy.

xvii. For ease of administering the incentives and operationalizing the ICE policy, detailed operational guidelines will be issued separately by Energy Department within 45 days from the notification of the ICE policy.

17.7 Policy Implementation

a. **State Investment Promotion Committee (SIPC)** and **State Investment Promotion Board (SIPB)** - For creating an enabling structure to expedite decision making pertaining to investment promotion in the State, SIPC and SIPB have been constituted by the Government. NREDCAP shall receive all the investment proposals pertaining to Clean Energy Projects and RE Manufacturing Projects. A detailed process of evaluation (technical and financial eligibility) will be undertaken by NREDCAP to carry out initial screening of all the proposals. Thereafter NREDCAP shall recommend the proposals to Energy Department. Energy Department shall place the proposals before SIPC. After scrutiny of all investment proposals by SIPC, the same shall be forwarded to SIPB. The SIPB shall review the

investment proposals and recommend the same to the Government of Andhra Pradesh. The final decision to approve any investment proposal will rest with the Government of Andhra Pradesh.

17.8 Project Monitoring Committee (PMC)

a. A "High Level Committee" constituted with the following members will monitor the progress of implementation of the Clean Energy Projects and RE Manufacturing Projects cleared under the policy:
    i. Secretary, Energy Department, GoAP (Chairman)
    ii. CMD, AP TRANSCO
    iii. CMD of APDISCOMs
    iv. VC & MD, NREDCAP (Member-Convener)
    v. Representative of Revenue, Finance & Industries Departments
    vi. Representative of FAPCCI/CII/AP Chambers
    vii. Representatives of Project Developers & Manufacturers Associations if any
b. The PMC shall be chaired by Secretary, Energy Dept, GoAP and VC& MD, NREDCAP as the Convener and PMC shall convene once in 2 months. The twin objectives of PMC will be to monitor projects & expedite approvals.
c. If any difficulty arises in giving effect to this policy, the High-Level Committee is authorized to issue clarification as well as interpretation to such provisions, as may appear to be necessary for removing the difficultly either on its own motion or after hearing those parties who have represented.

17.9 Project Management Unit

a. A Project Management Unit (PMU) shall be constituted under the supervision of SNA. The PMU will support SNA in monitoring of projects, facilitating approvals & stakeholder management. The PMU shall consist of experts from diverse fields to support and advise the SNA in tracking and monitoring the progress of all the projects.
b. The SNA shall define various milestones from project award/allotment till commissioning for each technology separately.
c. Once a project site is awarded/allocated, the SNA shall continuously monitor progress of development till it is commissioned. The Project developer shall be obliged to allow unhindered access to the project site and provide requisite information to the SNA/ any other entity nominated by the SNA for proper monitoring of the project progress.

17.10 Speed of Doing Business

a. Single Window Clearance shall be applicable for the projects as per the operating period specified in this policy. Single Window Clearance aims to create a single stop for facilitating necessary clearances required for commissioning of these projects.
b. The SNA shall be responsible for "single window clearance" for these projects. It shall create the online portal for filing and tracking of applications. It shall also allow payments to be made electronically to obtain timely approvals online. Under this system:

i. The applicant shall register through the Single window clearance provision on the Energy Department Portal, GoAP.
ii. On registration, applicant will be given a unique ID and password for future reference.
iii. The application form along with prescribed attachments shall be submitted/uploaded online, wherever feasible. Other attachments (wherever necessary) shall be sent to the concerned designated competent authority through courier and can be tracked online through a built-in system as per guidance available in the Single window clearance portal of NREDCAP.
iv. On receipt of application form, the system will automatically forward it to the concerned competent authorities.
v. All competent authorities will be provided online access to the Energy Dept. Portal through a secure user id and password, to process the applications forwarded to them.
vi. For additional attachments dispatched by courier to respective departments, the concerned competent authority shall enter the date of receipt in the system which will be the reference date specific to clearance/department.

17.11 Summary of Fees and Charges

S. No.	Fees and Charges	Solar	Wind	Hybrid	PSP	BESS	Mini and Small Hydro	GH	Biofuels
1.	**Application Fee (One time)**	INR 25,000/MWp	INR 25,000/MW	Charges to be paid for installed capacity of Solar and Wind: INR 25,000/MW	Nil	Nil	INR 5,000/application	INR 25,000/KTPA	2G Ethanol – INR 25,000/KLPD CBG – INR 25,000/TPD
2.	**Facilitation/ Allotment Fees (One time)**	INR 25,000/MWp	INR 1,50,000/MW	Charges to be paid for installed capacity of Solar and Wind subject to maximum of 1,50,000: /MW	INR 50,000/MW	NA	INR 1,50,000/MW	NA	NA
3.	**Performance Bank Guarantee***	INR 1,00,000/MWp	INR 2,00,000/MW	Charges shall be paid for each source, i.e., Solar, Wind.	INR 50,000/MW	As per tender	INR 1,00,000/MW	INR 1,00,000/KTPA	2G Ethanol – INR 1,00,000/KLPD CBG – 1,00,000/TPD

S. No.	Fees and Charges	Solar	Wind	Hybrid	PSP	BESS	Mini and Small Hydro	GH	Biofuels
4.	**Onetime local area development fund (One time for RE export)**	INR 50,000/Acre	INR 50,000/Acre	INR 50,000/Acre	as per Central Policies	NA	INR 50,000/Acre	Nil	Nil
5.	**Green Energy Development Charges (Annually)**	Nil for Discom procurement. INR 1 Lakh/MW year from scheduled COD for 12 years & INR 1.5 Lakhs/MW/year for the next 13 years and thereafter INR 2 Lakhs/MW/year, wherever it is applicable. In case of hybrid the above charges shall be paid for each source, i.e., Solar, Wind.				NA	NA	NA	NA
6.	**Net worth**	INR 50 lakhs/MWp	INR 100 lakhs/MW	Payable as per solar & wind capacities	INR 50 lakhs/MW	NA	INR 50 lakhs/MW	NA	NA
7.	**Time extension fee #**	INR 20,000/MWp	INR 20,000/MW	INR 20,000/MW	INR 20,000/MW	INR 20,000/MW	INR 20,000/MW	INR 20,000/KTPA	2G Ethanol – INR 50,000/KLPD CBG – INR 50,000/TPD
8.	**Transfer/ Name Change fee ****	INR 2,00,000/MWp	INR 2,00,000/MW	INR 2,00,000/MW	INR 2,00,000/MW	INR 50,000/MW	INR 50,000/MW	NA	NA

S. No.	Fees and Charges	Solar	Wind	Hybrid	PSP	BESS	Mini and Small Hydro	GH	Biofuels
9.	**Distributed Energy Resource (DER) Aggregation Fee@**	INR 1,500/kWp for the first 2 kW and thereafter INR 1,000/kWp.	NA	NA	NA	NA	NA	NA	NA
10.	**Onetime Processing Fee for land (One time; applicable for Solar Parks & REZ)**	INR 2,000/Acre	-	INR 2,000/Acre	Nil	NA	Nil	Nil	Nil
11.	**Land Lease Charges (Rev/ Govt./ Pvt/ Patta land) (Annually)**	INR 31,000/Acre/Year @5% escalation every 2 years				NA	INR 31,000/Acre/Year @5% escalation every 2 years		INR 15,000/Acre/Year @5% escalation every 2 years (Only for Rev/ Govt. land)
12.	**Remittance to GoAP – from land lease**	INR 31,000/Acre/year				NA	INR 31,000/Acre/year		INR 15,000/Acre/year

S. No.	Fees and Charges	Solar	Wind	Hybrid	PSP	BESS	Mini and Small Hydro	GH	Biofuels
	(Annual fee for Rev/ Govt.)								
13.	**Remittance to NREDCAP – from land lease (Annual fee for Pvt/ Patta land)**	INR 1,000/Acre/year				NA	INR 1,000/Acre/year		

** - PBG is one time payable by the Project developer. SNA shall return PBG upon COD*

***#** - To be paid monthly for maximum extension period of the project from any of the predefined milestone timeline in allotment phase and after the scheduled COD of the project in construction phase of a project*

*** SNA will examine and submit the proposals with recommendations to Energy department. Thereafter, the Energy department shall place the proposals before SIPC, SIPB and GoAP to seek approval. The final decision to approve any such requests will rest with the Government of Andhra Pradesh.*

17.12 Timelines of Clean Energy Projects

	Project Milestone	Solar	Wind	Hybrid	Mini & Small Hydro	PSP	BESS	GH&D	Biofuels	EVCI
A	**Allotment (SNA)/ LOA**	T0	T0	T0	T0	T0	T0	T0	T0	T0
a1	**Payment of applicable fee/ charges**	3 months	3 months	3 months	3 months	3 months	NA	3 months	3 months	2 weeks
a2	**DPR approval in case of PSP**	-	-	-	-	12 months	-	-	-	NA

	Project Milestone	Solar	Wind	Hybrid	Mini & Small Hydro	PSP	BESS	GH&D	Biofuels	EVCI
a3	**Connectivity approval (ISTS/STU)** ▪ **STU to follow ISTS process i.e., 50% of land required for setting up project to be under applicant possession or duly paying BG amount**	2 months	2 months	2 months	2 months	2 months	1 month	-	-	-
a4	**Connectivity Agreement (copy to be submitted to SNA)**	4 months	4 months	4 months	4 months	4 months	1 month	NA	NA	As per Discom timelines
a5	**Land (Sale deed or Lease)**	6 months	6 months	6 months	4 months	12 months	3 months	6 months	6 months	3 weeks
a6	**Commercial Agreement (PPA/PSA/BESPA)**	6 months	6 months	6 months	6 months	12 months	1 month	6 months	6 months	NA
a7	**Financial Closure (Letter or in principle approval from banker/ Banker consortium to be submitted SNA**	6 months	6 months	6 months	6 months	12 months	12 months	6 months	6 months	NA
B	**Project Construction Schedule**									
b1	**Placement of Equipment Order (Payment proof to be submitted)**	8 months	8 months	8 months	8 months	15 Months	12 months	8 Months	8 Months	1 month
b2	**Construction start date (Intimation to be sent SNA)**	10 months	10 months	10 months	10 months	17 months	12 months	10 months	10 months	

	Project Milestone	Solar	Wind	Hybrid	Mini & Small Hydro	PSP	BESS	GH&D	Biofuels	EVCI
b3	**Periodic status update by Developer (Quarterly Progress)**	12 months and every quarter thereafter				24 months and every quarter thereafter	15 month and 18 months	12 months and every quarter thereafter		3 months
b4	**Scheduled COD of the Project**	24 months	24 months	24 months	36 months	48 months	18 months	36 months	36 months	6 months

17.13 Timelines of RE Manufacturing Projects

	Project Milestone	Solar Mfg.	Wind Mfg.	Battery Mfg.	Electrolyzer Mfg.
A	**Allotment (SNA)/ LOA**	T0	T0	T0	T0
a1	**Sample DPR/ DPR approval**	2 months	2 months	6 months	2 months
a2	**Project approvals (Utilities & Industries)**	4 months	4 months	9 months	4 months
a3	**Land (Sale or Lease)**	5 months	5 months	12 months	6 months
a4	**Commercial / Off-take Agreement**	6 months	6 months	15 months	8 months
a5	**Financial closure (Letter or in principle approval from banker/ Banker consortium to be submitted SNA)**	6 months	6 months	21 months	8 months
B	**Project Construction Schedule**				
b1	**Placement of Equipment Order** *(Payment proof to be submitted)*	8 months	8 months	24 months	10 months

	Project Milestone	Solar Mfg.	Wind Mfg.	Battery Mfg.	Electrolyzer Mfg.
b2	**Construction start date (Intimation to be sent SNA)**	10 months	10 months	30 months	12 months
b3	**Raw material Sourcing**	30 months	30 months	30 months	16 months
b4	**Scheduled COD of the Project** (*Commercial Operations of the plant)*	36 months	36 months	48 months	36 months

17.14 Regulation

The provisions of this policy shall be the guiding principles for Andhra Pradesh Electricity Regulatory Commission (APERC) to enable the implementation of the policy. AP DISCOMs and AP TRANSCO shall approach the commission for the required amendments and changes for issuance of orders based on the policy provisions.

17.15 Mid Term Review

State Government may undertake a mid-term review of this policy after a period of two (2) years, or as and when the need arises in view of any technological breakthroughs or to remove any difficulties pertaining to implementation of the policy or any inconsistency with Electricity Act 2003, rules and regulations made there under or any Government of India policy.

17.16 Power to remove difficulties

If any difficulty arises in giving effect to this policy, Energy Department is authorized to issue clarification as well as interpretation to such provisions, as may appear to be necessary for removing the difficulty either on its own motion or after hearing those parties who have represented for change in any provision.


H2
H2 HYDROGEN