

Policy Brief

Assessing the Landscape of Policies and Public Financing for Cohesive and Inclusive Low-carbon Development in Rajasthan

2022



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Views expressed in this factsheet are those of the author and do not necessarily represent the positions of CBGA

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Abbreviations

ADB	Asian Development Bank
AMRUT	Atal Mission for Rejuvenation for Urban Transformation
AT&C losses	Aggregate Technical and Commercial losses
AVVNL	Ajmer <i>Vidyut Vitran</i> Nigam Limited
BAU	Business-as-Usual
CoP	Conference of Parties
DISCOMS	Distribution Companies
DRE	Distributed Renewable Energy
EE	Energy Efficiency
ELSTP	Employment Linked Skill Training Programme
EV	Electric Vehicle
FAME	Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles
FY	Financial Year
GHG	Greenhouse Gas
GoI	Government of India
GoR	Government of Rajasthan
GSDP	Gross State Domestic Product
GW	Gigawatt
HLSs	Home Lighting Systems
IEBR	Internal and Extra Budgetary Resources
IM-Shakti	Indira <i>Mahila Shakti-Kaushal Samridhi</i>
INR	Indian National Rupee
IPDS	Integrated Power Development Scheme
IREDA	Indian Renewable Energy Development Agency
JdVVNL	Jodhpur <i>Vidyut Vitran</i> Nigam Limited
JNNSM	Jawaharlal Nehru National Solar Mission
JVVNL	Jaipur <i>Vidyut Vitran</i> Nigam Limited
MNRE	Ministry of New and Renewable Energy
MW	Megawatt
NBFCs	Non-Banking Finance Corporations
NISE	National Institute of Solar Energy
OBC	Other Backward Class
PM-KUSUM	<i>Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan</i>
R&D	Research and Development



RAJKViK	<i>Rajgar Aadharit Jan Kaushal Vikas Karyakram</i>
RERC	Rajasthan Electricity Regulatory Commission
REVP	Rajasthan Electric Vehicle Policy
RHDS	Rajasthan Horticulture Development Society
RIPS	Rajasthan Investment Promotion Scheme
RPO	Renewable Purchase Obligation
RECL	Rajasthan Renewable Energy Corporation Limited
RREDF	Rajasthan Renewable Energy Development Fund
RSEP	Rajasthan Solar Energy Policy
RSLDC	Rajasthan Skills and Livelihood Development Corporation
RVPNL	Rajasthan <i>Rajya Vidyut Prasaran Nigam</i> Limited
RWHEP	Rajasthan Wind and Hybrid Energy Policy
SCs	Scheduled Castes
SCGJ	Skill Council for Green Jobs
SEWA	Self-Employed Women's Association
SKAY	Saur Krishi Aajeevika Yojana
SPV	Solar Photovoltaic
STs	Scheduled Tribes
SWCS	Single Window Clearance System
UDAY	Ujwal DISCOM Assurance Yojana
UJALA	Unnat Jyoti by Affordable LED for All
UNFCCC	United Nations Framework Convention on Climate Change





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Section 1

Introduction

Over the past few years, India has set several ambitious targets for low-carbon development, in which expanding Renewable Energy (RE) capacity in the country plays a key role. In 2015-16, the Government of India (GoI) set a target of installing RE capacity of 175 Giga Watt (GW) in the country by 2022. In 2019, India announced its revised targets for climate mitigation, including that of reaching 450 GW of renewable energy generation capacity by 2030. In 2021, at the 26th Conference of Parties (CoP) to the United Nations Framework Convention on Climate Change (UNFCCC), an even more ambitious target was set for RE capacity addition in India. Among other things, it was announced that India would raise its RE capacity to 500 GW by the end of the decade, while meeting 50 per cent of its energy demand through renewables.

In reaching these targets, the state of Rajasthan has a crucial role to play for a number of reasons. For one, Rajasthan has geographical and environmental advantages due to which the state has huge potential for solar power generation. In fact, as per the assessment of the Ministry of New and Renewable Energy (MNRE), the state has the potential to generate 142 GW of electricity from solar power. Additionally, it has the largest geographical area in the country and vast tracts of unused and barren land, which are important for setting up solar power plants.

At the same time, for the state of Rajasthan, too, the need for low-carbon development is crucial as it falls in the area of high climate sensitivity, significant vulnerability, and low adoptive capacity (RSAPCC, 2022).

As is well recognised, for low-carbon development, the role of the government, through a mix of policy, budgetary support, and regulatory instruments, is key. In this context, it is important to understand how the COVID-19 pandemic has affected budgetary spending in Rajasthan, especially for the energy sector. In addition, the pandemic has also resulted in increased inequality and unemployment (CMIE, 2022).

This means that a low-carbon development trajectory that is also inclusive is the need of the hour for states in India, including Rajasthan.

The Government of Rajasthan (GoR) has also introduced several policy and regulatory initiatives to promote low-carbon development in the recent past. Given that the involvement of the private sector is very important for facilitating low-carbon development, it is important to also understand the cohesiveness of the newly introduced policies in terms of incentivising private sector involvement.

It is in this context that this Policy Brief attempts to assess the state's overall spending priorities in recent years, in particular in the energy¹ sector. It also attempts to unpack the policy landscape for low-carbon development in Rajasthan and assess the cohesiveness of these policies. Finally, for assessment from the inclusion lens, interventions with socio-economic development co-benefit such as the PM KUSUM scheme and skilling for green jobs, have been looked at.

¹ The words 'energy' and 'power' have been used interchangeably in this policy brief.



Goals and Objectives

The objectives of this Policy Brief are to present the existing efforts of the Government of Rajasthan for low-carbon development and identify issues in the long-term transition towards cohesive and inclusive low-carbon development. To this end, it seeks to:

- Track state financial resources available from various sources for expenditure on renewable energy in Rajasthan, in the recent period.
- Understand the responsiveness of state budgetary expenditure towards low-carbon development.
- Unpack the policy landscape for low-carbon development of the state economy and examine its cohesiveness.
- Assess the PM KUSUM scheme and skilling related schemes from the inclusion lens.

Methodology

To track state finances through various channels, budgetary allocations (including international loans) across major heads related to the energy sector were assessed. In addition, Internal and Extra Budgetary Resources (IEBR) available to the state of Rajasthan through Central PSUs in the power and renewable energy sector, as well as Finance Commission Grants (if any) with respect to clean energy, were collated. As a number of sectors, other than the energy sector, are important for facilitating low-carbon development, budgetary allocations across major heads of sectors such as urban development and transport too were collated and assessed.

To understand the favourability of budgetary expenditure on climate change mitigation, a rating category has been developed for the energy sector, with the following steps.

Step 1: Identification of key budget codes for the energy sector;

Step 2: Identification of budget lines (neutral or with climate change mitigation);

Step 3: Rating of the responsiveness of budget expenditure on climate change mitigation (specifically, clean energy transition).

Please see Appendix A for details of the methodology adopted.

Scope and limitations

This policy brief focuses mainly on the energy sector of Rajasthan for assessing the landscape of financing for low-carbon development in Rajasthan. With respect to policies for low-carbon development, most recent policies, i.e., those initiated since 2019, have been assessed.

There is a deficiency of disaggregated budget allocations for programmes and schemes for clean energy and energy efficiency-related initiatives. It is difficult to firmly say that decline in percentage share of energy department spending is due to stress in state finances or shift in priorities with social welfare of the state without making sectorial analysis and clear bifurcation of total budget expenditure across all the sectors.

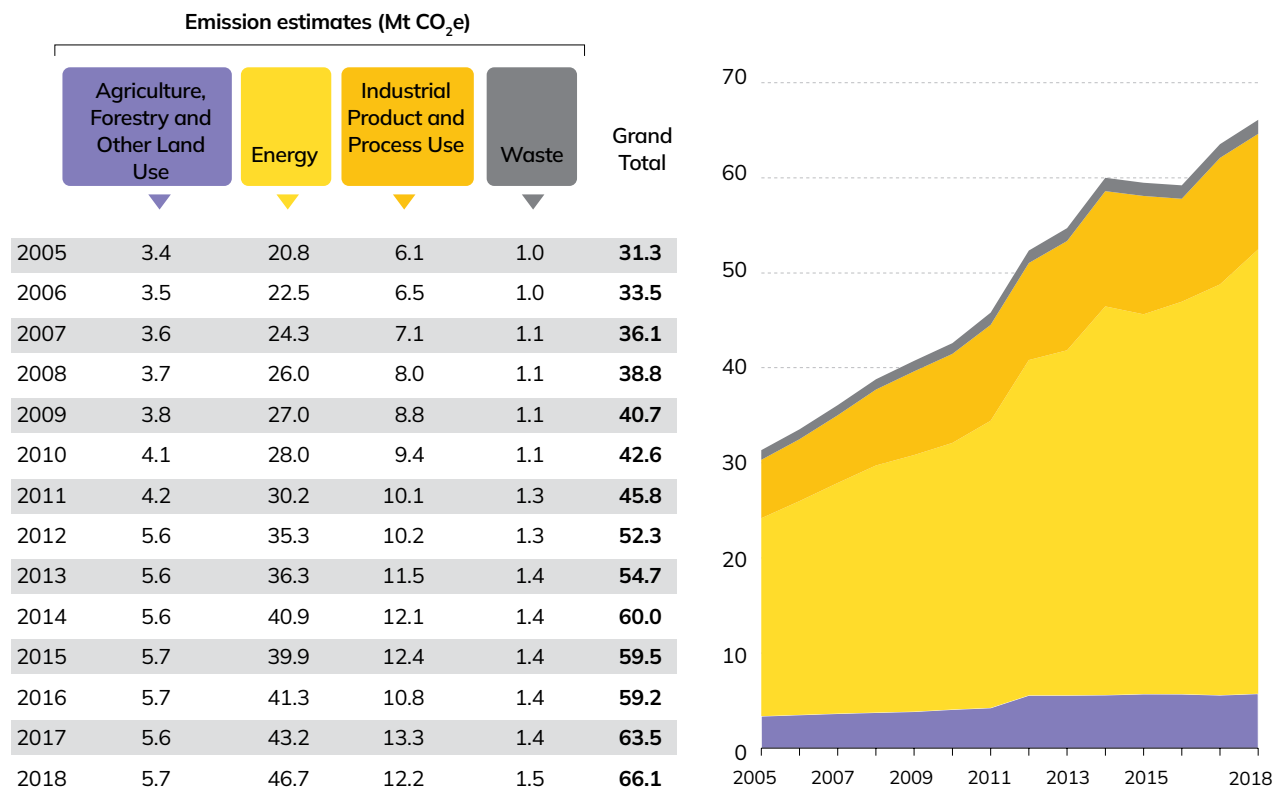
The Policy Brief is Structured as Follows

The first section provides a brief overview of the contribution of various sectors of the economy towards Green House Gas (GHG) emissions in Rajasthan in order to understand which sectors need to be focused on for low-carbon development in the state.

The subsequent section looks at the landscape of efforts aimed at low-carbon development in the state. It begins by looking at the states' progress in Renewable Energy (RE) capacity addition. Thereafter it tracks climate financing from public sources in the state in recent years. It also discusses the favourability of the Energy Sector Expenditure Budget for promotion of low-carbon development



Figure 1: GHG Emission Profile of Rajasthan, 2005-2018



Source: GHG Platform-India

in the state. The idea is to understand whether the COVID-19 pandemic has had any impact on the state's overall spending priorities on the energy sector. Additionally, public financing for schemes and programmes that are important for facilitating low-carbon development in sectors other than RE, is also discussed briefly.

The third section attempts to unpack some of the policies regarding the energy and transport sectors in Rajasthan and tries to understand the cohesiveness of these policies, which are deemed important for the long-term low-carbon development trajectory of the state economy.

Thereafter, section four, focuses on assessing certain interventions from the inclusion angle.

Towards this end, assessment of a) how the PM-KUSUM scheme (which inheres the co-benefit of enhancing farmers' income) has been faring in Rajasthan and b) the skilling related schemes of the government, has been carried out. The final section makes some concluding remarks and provides a few policy suggestions.

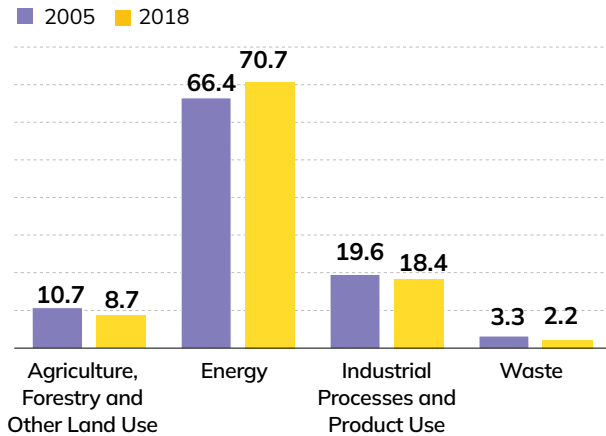
1. Contribution of Various Sectors of the Economy towards GHG Emissions in Rajasthan

According to the GHG platform (India), GHG emissions in Rajasthan doubled between 2005 and 2018, rising from 31.3 MT in 2005 to 66.1 in 2018 (Figure 1). Of the total emissions in 2018, the energy sector alone accounted for 46.74 Mt.

2 This is broken down for eight sectors: thermal power generation, industrial manufacturing, brick production, transportation, residential, agriculture, waste management, and tourism.



Figure 2: Share of Various Sectors in GHG Emission in Rajasthan, 2005 and 2018



Source: GHG platform India (2019)

In fact, according to this estimate, the energy sector is not only the biggest contributor to GHG emissions in Rajasthan, its share in total emissions, too, increased by five percentage points in 2018 compared to 2005 (Figure 2). While the emission profile² presented in the Rajasthan State Action Plan for Climate Change (RSAPCC) 2022 provides a lower estimate of emissions from the energy sector, even by this estimate, power generation (along with the agricultural sector) is among the highest contributors to total emissions in the state. Further, in light of the increasing electricity demand in the coming decades (RSAPCC, 2022), investment in clean and renewable energy for emission mitigation from electricity generation is vital to Rajasthan's low-carbon development.





Section 2

Assessment of the Landscape of Efforts and Financing for Low-carbon Development in Rajasthan

2.1 State Performance on Renewable Energy Capacity Addition

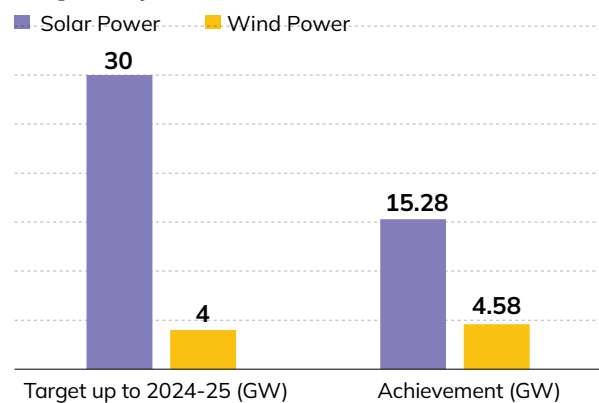
The state of Rajasthan has made significant progress in capacity addition in renewable energy. According to data released by the Ministry of New and Renewable Energy (MNRE), as of September 2022, Rajasthan stood at the top among all states in terms of total installed capacity of solar energy as well as renewable energy (MNRE, 2022).

Even in terms of achieving the targets set in its RE policies, Rajasthan is one of the few states in India to have achieved its target of wind energy capacity addition well within time (Figure 3). It has also achieved more than 50 per cent of its target for solar energy capacity addition by 2024-25 may well achieve the target for that year (The New Indian Express, 2022).

Policies such as the Rajasthan Solar Energy Policy (RSEP) 2019 and Rajasthan Wind and Hybrid Energy Policy (RWHEP) 2019 and state budgetary support, have played important roles in Rajasthan's achievement in renewable energy capacity addition. As has been noted, owing to these policies, in particular, those relating to solar energy, the scenario in the state has changed significantly, such that within three years 6.5 GW of additional solar energy capacity has been developed (The Economic Times, 2022).

At the same time, it needs to be noted that even though the state has made significant progress in

Figure 3: Target vs Achievement in Rajasthan's Wind and Solar Energy Capacity Addition



Notes:

- Achievement as on 30.09. 2022
- Target as given by the Rajasthan Solar Energy Policy 2019 and Rajasthan Wind and Hybrid Energy Policy 2019

Source: MNRE Progress Achievement Data (2022)

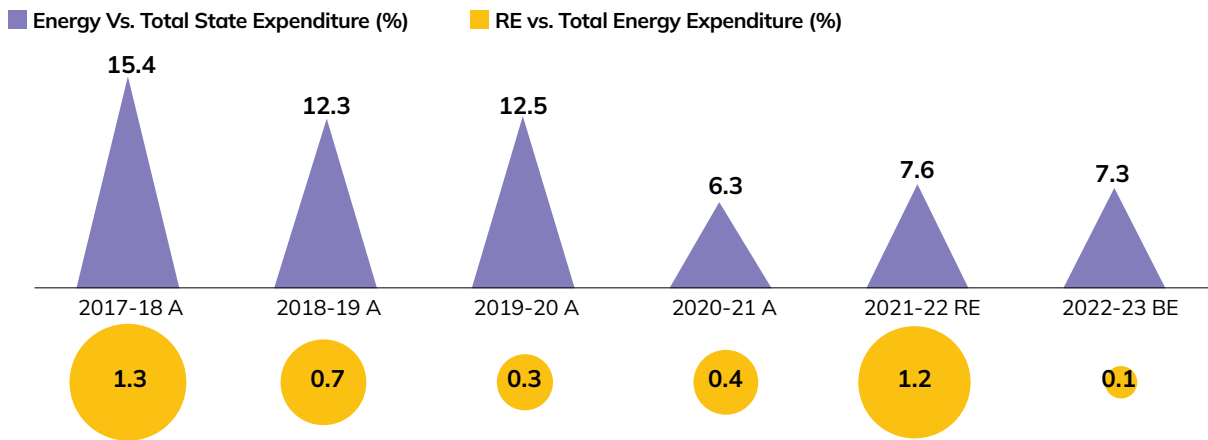
solar and wind energy capacity addition, it is also home to at least seven coal-fired power plants (Subramaniam, 2022) and that electricity in the state continues to be primarily generated through these coal-fired thermal power plants. Clearly, the state needs to do more in the coming years for low-carbon development. In this context, budgetary provisions and policies become even more crucial. The next section looks at these two issues in detail.

2.2 Budgetary Provisions and Financing from other Public Channels for the Energy Sector in Rajasthan

The financing requirement for climate mitigation actions and low-carbon development in India is



Figure 4: Expenditure on Energy Sector as Share of Total Budget and Expenditure on Renewable Energy as Share of Energy Budget, Rajasthan (%)



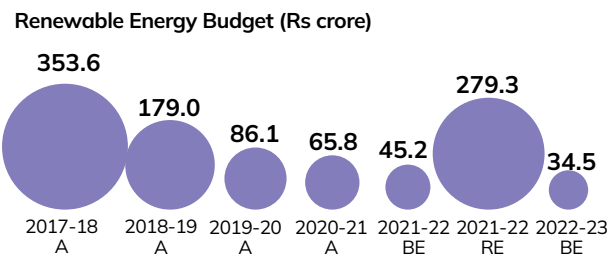
Note: A = Actuals; BE = Budget Estimated and RE = Revised Estimates
 Source: CBGA analysis of Rajasthan Budget and Major Codes related to the Energy Department of Rajasthan

large. Although nodal ministries at the Centre, such as the Ministry of New and Renewable Energy (MNRE) and the Ministry of Power, have the mandate to strategise policies and finances to meet India's climate mitigation targets, in practice, it is the states that implement the Electricity Act of 2003. However, given the limited budgetary resources states have, it is difficult for them to fund climate change mitigation actions through their budgetary resources alone. Indeed, this is also reflected in Rajasthan's budgetary expenditure on renewable energy. Thus, even when the share of budgetary spending on the energy sector ranged between 12 and 15 per cent in the years before the COVID-19 pandemic hit, the outgo on renewable energy was a minor proportion of expenditure on the energy sector as a whole (Figure 4).

As is clear from figure 4, with the onset of the COVID-19 pandemic, there has been a sharp drop in budgetary spending on the energy sector as a whole. Likewise, the amount allocated for renewable energy in 2022-23 (BE) has been the lowest in absolute terms since 2017-18 (Figure 5).

Furthermore, the favourability of energy sector expenditure on mitigation actions, too, has dipped since 2020-21 (A) (Figure 6a and Figure 6b). For instance, there has been a decrease in the

Figure 5: Rajasthan Budgetary Expenditure on Renewable Energy (Rs crore)



Note: A = Actuals; BE = Budget Estimated and RE = Revised Estimates
 Source: CBGA analysis of Rajasthan State Budget and Major Codes related to the Energy Department of Rajasthan

Rajasthan government's spending in the 'highly favourable' category from 2017-18 to 2022-23. This is largely owing to lower amounts showing in the budgetary expenditure for projects such as the Green Energy Corridor Project and the Rajasthan Renewable Energy Broadcasting Investment Programme, funded by external loans accessed through KfW, Germany, and the Asian Development Bank (ADB), respectively. Among the five categories, the 'neutral category takes the largest share of budget expenditure. This is partly due to the non-availability of supplementary information from the power department to confirm any spending to receive grant-in-aid support for state PSUs, for the promotion of renewable energy. Budgetary



Figure 6: Categorisation of Energy Sector Budget According to its Favourability for Low-carbon Development

Figure 6a: Amount under various categories (Rs crore)

	Highly Favourable	Quite Favourable	Neutral	Total
2017-18 A	353.6	13,307.5	13,985.0	27,646.0
2018-19 A	179.0	13,334.8	11,691.3	25,205.1
2019-20 A	86.1	14,198.9	12,427.4	26,712.5
2020-21 A	65.8	376.6	14,273.3	14,715.8
2021-22 BE	45.2	558.3	18,342.0	18,945.4
2021-22 RE	279.3	1,300.5	22,576.7	24,156.6
2022-23 BE	34.5	1,886.2	23,342.1	25,262.8

Figure 6b: Various categories' share in total expenditure (%)

	Highly Favourable	Quite Favourable	Neutral	Total
2017-18 A	1.3	48.1	50.6	100.0
2018-19 A	0.7	52.9	46.4	100.0
2019-20 A	0.3	53.2	46.5	100.0
2020-21 A	0.4	2.6	97.0	100.0
2021-22 BE	0.2	2.9	96.8	100.0
2021-22 RE	1.2	5.4	93.5	100.0
2022-23 BE	0.1	7.5	92.4	100.0

Note: A = Actuals; BE = Budget Estimated and RE = Revised Estimates

Source: CBGA analysis of Rajasthan Budget and Major Codes related to the Energy Department of Rajasthan

expenditure for transmission and distribution (except for revenue expenditure) are categorised in quite favourable category.

Other financing channels for an RE transition:

Budgetary trends for financing of renewable energy are likely a reflection of the state finances being under stress following the pandemic and a possible shift in priorities to focus on immediate pandemic relief measures. While increased funding from the Union government could have helped, unlike the Thirteenth Finance Commission, the latest Central Finance Commission, i.e., the Fifteenth Finance Commission, did not make any provision for performance-based grants to state governments for the promotion of renewable energy³.

At the same time, financing from other public channels, e.g., loans provided by public non-banking finance corporations (NBFCs) such as the Indian Renewable Energy Development Agency (IREDA), has been fairly consistent. The amount disbursed was highest in Financial Year (FY) 2021-22, after FY 2016-17 (Figure 7). At the same time, it needs to be noted that financing from NBFCs cannot be considered part of state finances (Goel, 2020).

2.3 Budgetary Provisions for Select Schemes in Urban Development and Transport Sectors in Rajasthan

For facilitating for low-carbon development, the government of Rajasthan has also been implementing various programmes and schemes

³ The 13th Finance Commission proposed a performance-based grant of Rs 5,000 crore for the promotion of renewable energy among state governments.

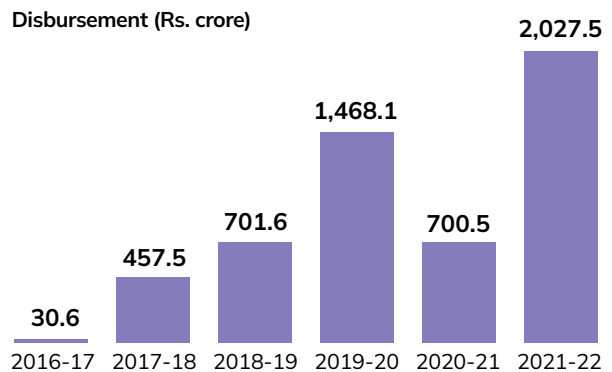


initiated by Gol in sectors other than the RE sector (Singh, 2020 and RSAPCC, 2022). These include initiatives for Energy Efficiency (EE), low carbon development of transportation, waste to energy project development, etc. Thus, Rajasthan has been implementing central schemes and programmes such as National Energy Efficient Agricultural Pumps Programme, Energy Efficiency Street Lighting Project, Unnat Jyoti by Affordable LED for All (UJALA); Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME-India) Scheme; Smart Cities Mission; components under Swachh Bharat Mission, etc. These schemes and programmes are partially financed by the Central Government.

Besides these, Rajasthan is implementing its own exclusive programmes. Some of the important state-level programmes aimed at promoting low-carbon development include, programmes for EE street lighting and EE water pumping, Rajasthan solar water pump programme⁴, etc. It has also been supporting the low-carbon development in the transport sector by aiding the establishment of a mass transit system, through measures such as the setting up of a metro rail network in one of its Smart Cities.

At the same time, it needs to be noted that public financing for some of these schemes and programmes, specifically those related to urban development and transport sectors, does not seem

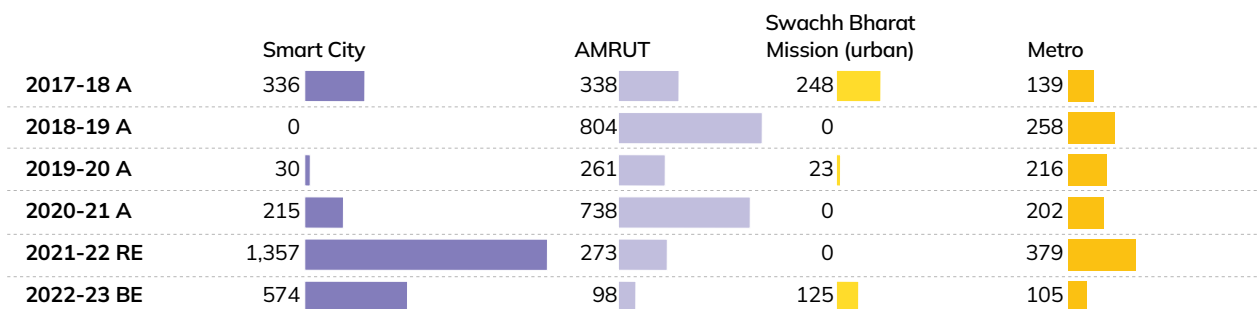
Figure 7: Disbursals through IREDA to Rajasthan (Rs crore)



Source: Annual Report, IREDA, various years

to have a consistent pattern (Figure 8). Thus, in the case of schemes such as the Smart City and AMRUT, the first year of the COVID-19 pandemic saw an increase in budgetary spending while that on Metro rail project has been adversely affected marginally. Budgetary spending on Smart City and Metro rail project increased further in 2021-22 (RE). However, subsequently in 2022-23 (BE), allocation for all these three schemes have reduced significantly compared to 2021-22 (RE). In short, budgetary allocations for these schemes, specifically the lack of consistency in them, seem to reflect that the state is yet to prioritise spending, in a consistent way, on such schemes that can play a significant role in the state's long-term transition towards a low-carbon development trajectory.

Figure 8: Budgetary Expenditure on Select Non-RE Schemes for Low-carbon Development in Rajasthan (Rs crore)



Note: A = Actuals; BE = Budget Estimated and RE = Revised Estimates
Source: CBGA analysis of Rajasthan Budget

4 Goyal, 2013



Section 3

Assessment of Cohesiveness of Select State Policies for Low-carbon Development

As mentioned earlier, the GoR has been implementing a number of policies for low-carbon development. In fact, Rajasthan had introduced a policy for promoting the generation of power through non-conventional energy sources in the year 1999, i.e., much before the notification of the Electricity Act, 2003. Thereafter, in 2004, a comprehensive policy for non-conventional sources 'Policy for Promoting Generation of Electricity through Non-Conventional Energy Sources' was introduced (Polumahanti, 2021). Under its rubric exclusive policies for promoting the generation of electricity from solar, wind and biomass have been promulgated over the years. The modifications of policies have led to a greater alignment of the Rajasthan RE programme with the national missions and policies, the most prominent being the National Solar Mission⁵ (Singh, 2020).

Some of the recent policies in the state aimed at low-carbon development include the revised Rajasthan Solar Energy Policy 2019 and Rajasthan Wind and Hybrid Energy Policy 2019⁶, and the recently approved Rajasthan Electric Vehicle Policy (REVP) 2022.

As mentioned earlier, policies such as the RSEP 2019 and RWHEP 2019, are said to have played important roles in Rajasthan's achievement in renewable energy capacity addition.

3.1 Key Features of Rajasthan Solar Energy Policy 2019 and Rajasthan Wind and Hybrid Energy Policy 2019

The Rajasthan Solar Energy Policy (RSEP) 2019 and the Rajasthan Wind and Hybrid Energy Policy (RWHEP) 2019 have been revised to ensure a greater alignment with national targets, missions, and policies.

The key objectives of the RSEP 2019 are to: a) be a major contributing state for achieving the national target of 100 GW capacity of solar energy as a part of global commitment; b) promote new technologies in solar energy generation and storage to make solar energy more cost competitive and reliable source of energy for consumers; c) facilitate development of infrastructure in generation, transmission, distribution and manufacturing sector of renewable energy; d) create better atmosphere to innovate and invest for micro, small and medium enterprises; e) facilitate human resource development with particular reference to renewable energy and generation of employment opportunities, etc.

The RWHEP 2019 aims to promote developing new wind as well as hybrid projects as well as re-power existing wind projects and hybridise existing wind and solar power plants. The key objectives of the policy, include a) establishing Rajasthan as a national leader in wind energy in phased manner

⁵ Also known as the Jawaharlal Nehru National Solar Mission (JNNSM)

⁶ For earlier versions of these policies, see Singh, 2020.



for promoting use of Renewable Energy in various applications; b) harnessing renewable potential in the state and thereby increase share of Renewable Energy in genera on mix of the state and meeting Renewable Purchase Obligation (RPO) requirement; c) developing power evacuation infrastructure and distribution network; d) attracting investors/ developers to set up RE genera on capacity for Rajasthan and other states; e) creating employment opportunities, and creation of skilled and semi-skilled manpower resources through promo on of technical and other related training facilities, etc.







Given that financing climate change mitigation actions through the state budget is difficult, these

policies aim to help leverage private investments by offering various kinds of concessions and incentives and providing an enabling environment for participation by the private sector (Table 1a and 1b).

Measures to attract private investment in RE projects: Both these policies lay out various financial and non-financial incentives, including:

- Concessions (at various rates) for transmission and wheeling charges,
- Investment subsidy on State Goods and Services Tax (SGST) due,





Table 1a: Incentives Offered to Private Investors in the Rajasthan Solar Energy Policy 2019

Type of Concession/Incentives	Category
 <p>Concessions for Transmission and Wheeling charges</p>	<p>50% of normal transmission and wheeling charges for a period of 7 years from date of commissioning of the project for Utility Grid Solar Power Projects for Captive Use outside the premises of consumer of Rajasthan and for grid connected Solar Power Projects for Third Party Sale set up for sale of power within state through open access.</p> <p>25% of normal transmission and wheeling charges for 7 years from the date of commissioning of the project. Applicable to Solar Power Projects with a storage system for captive use or third-party sale.</p> <p>100% exemption in normal transmission and wheeling charges for 10 years from the date of establishing of an Electric Vehicle (EV) charging station.</p>
 <p>Exemption/Relaxation from Electricity Duty for 7 years</p>	<p>Rooftop PV Solar Power Systems with Net Metering.</p> <p>Utility Grid Solar Power Projects for Captive Use within as well as outside the premises of a consumer in Rajasthan.</p> <p>Solar Power Projects with storage system for captive use or third-party sale.</p> <p>Renewable Energy based EV Charging Station provider.”</p> <p>Manufacturing of Solar energy equipment by MSMEs.</p>
 <p>Grant of incentives available to Industries</p>	<p>Different types of incentives available to industrial units under the Rajasthan Investment Promotion Scheme (RIPS) will be applicable to generation of electricity from Solar Power Plant as well.</p>
 <p>Land allotment at concessional rates</p>	<p>At 50% concessional rate for the first 500 renewable energy-based EV charging stations installed within 5 years from the date of commencement of the Policy.</p> <p>At 50% concessional rate for MSMEs in industrial area/any other are.</p>
 <p>Ensuring availability of Water</p>	<p>Water to be made available for cleaning of solar panels and auxiliary consumption of hybrid power plants, subject to availability.</p>
 <p>Grid Connectivity and Transmission Arrangements</p>	<p>State DISCOMS / Rajasthan Rajya Vidyut Prasaran Nigam Limited (RVPNL) to provide a grid connectivity arrangement in line with RERC norms.</p>

Source: Rajasthan Solar Energy Policy 2019



Table 1b: Incentives Offered to Private Investors in Rajasthan Wind and Hybrid Energy Policy 2019

Type of Concession/Incentives	Category
 <p>Concessions for Transmission and Wheeling charges</p>	Concession in transmission and wheeling charges to be provided for seven years to Power Projects set up for captive use/third-party sale within the state after the commencement of this Policy and up to March 2023, or for a capacity of 500 MW (Solar, Wind & Wind-Solar Hybrid, with or without storage, taken together), whichever is earlier.
 <p>Exemption/Relaxation from Electricity Duty</p>	Electricity consumed by the Wind/Wind-Solar Hybrid Power Producer for captive use within the state is exempted from payment of Electricity Duty.
 <p>Grant of incentives available to Industries</p>	Incentives extended to industrial units under various schemes administered by the Industries Department and the Rajasthan Investment Promotion Scheme (RIPS) to be available to Wind/Hybrid Power Producers.
 <p>Ensuring availability of Water</p>	Water to be made available for cleaning of solar panels and auxiliary consumption of hybrid power plants, subject to availability.

Source: Rajasthan Wind and Hybrid Energy Policy 2019

- Exemption in payment of electricity duty for a number of years,
 - Grant of incentives available to industries,
 - Land allotment at concessional rates,
 - Power and water supply to solar parks, etc.
 - These policies also feature several **incentives and concessions meant for units manufacturing solar energy equipment and wind energy equipment**, such as exemption of stamp duty, employment and interest subsidy, as per the Rajasthan Investment Promotion Scheme (RIPS), etc.
 - RSEP 2019 also seeks to facilitate **private participation in solar parks by investing up to 50 per cent equity⁷ in joint venture with private developers**. Towards this end, the state government has established Joint Venture Companies (JVCs) with the Essel Group and the Adani Group for the development of solar parks,
- with 50 per cent equity participation by the Government in both companies (Singh, 2020).
- Additionally, the state government has initiated other supportive measures, such as creating a dedicated fund, namely, the 'Rajasthan Renewable Energy Development Fund (RREDF)' for RE projects, and creating single-window clearances for immediate approval of solar power projects to be developed by private developers. RRECL was appointed the Nodal Agency for single-window clearance of RE power projects set up in Rajasthan (Projects Today, 2022, RSEP, 2011). Further, to strengthen the existing **Single Window Clearance System (SWCS)**, the Rajasthan government recently established a **"One Stop Shop"** facility to facilitate investment proposals in a time-bound manner, under one roof (Economic Review 2020-21, 2021 and Economic Review 2021-22, 2022). Available information shows that several renewable energy projects have got approval under this facility (SWCS).

⁷ The cost of land allotted by the state government is counted as part of its equity participation in the joint venture company (RSEP, 2019).



3.2 Key Features of the Rajasthan Electric Vehicle Policy 2022

Until recently, Rajasthan did not have its own Electric Vehicle (EV) policy. While the GoR had issued an EV Policy in 2021, it was mainly focused on increasing sales of electric 2 Wheelers and 3 Wheelers. Thus, it had no provision on incentives for e-four-wheelers and did not have any proposals for either e-buses or EV charging stations (Nair, 2021).

In 2022, the Rajasthan government approved a new Rajasthan Electric Vehicle Policy (REVP), which aims to promote the use of Electric Vehicles (EVs) throughout the state. The key objectives of REVP – 2022 are to:

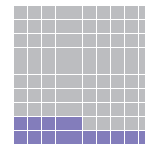
- Support the adoption of EVs in both the personal mobility and public transport segments
- Enable the creation of a robust network of EV charging stations and battery swapping stations catering to all types of EVs, with a focus on clean energy sources
- Foster R&D and skill development in the state's electric mobility space
- Promote the manufacture of EVs and batteries in the state by providing appropriate incentives under RIPS-2019.

In order to promote the use of EVs in the state, the Policy has set targets for addition of different categories of EVs in new vehicle registrations (Box 1).

The policy lays out several financial and non-financial incentives and initiatives to promote the sale of EVs and provides category-wise targets for the number of EVs to be incentivised (Appendix B).

One of the defining features of REVP 2022, is that it also seeks to promote EV manufacturing and related

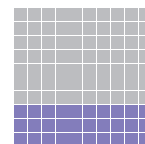
Box 1: Category-wise Targets under REVP 2022



e Two wheelers

15%

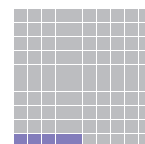
Electric Vehicle share in new vehicle registrations



e Three wheelers

30%

Electric Vehicle share in new vehicle registrations



e Four wheelers

5%

Electric Vehicle share in new vehicle registrations



e Buses

Phased transition

to e Buses on routes connecting priority cities



Source: Rajasthan Electric Vehicle Policy 2022

industries and to set up a wide network of charging stations. Further, the policy also proposes training programmes to create a skilled workforce to support the electric vehicle ecosystem.

Measures to attract private investment

Some of the incentives proposed in the policy for manufacturing EVs include:

- An investment subsidy of 75 per cent of SGST dues
- Reimbursement of 50 per cent of the employer's contribution towards the Employees' Provident Fund (EPF) and Employees' State Insurance Scheme (ESI) for seven years
- Full exemption from payment of electric duty, land tax, market fee, stamp duty, and conversion



charges payable for change of land use and conversion of land for seven years

The policy also provides several incentives for the setting up of charging stations and battery swapping facilities, including making these a de-licensed activity, requiring no special permissions (REVP, 2022).

In short, REVP 2022 is a step forward from the 2021 EV policy, as it takes a more holistic approach to EV adoption in the state. REVP 2022 goes beyond just boosting demand for EVs by reducing the upfront costs of owning an EV to include measures to provide EV charging infrastructure, making use of renewable energy in EV charging, etc.

3.3 Assessment of Cohesiveness of State RE Policies to Leverage Private Finance

As discussed above, the state policies pertaining to RE, i.e. the RSEP 2019 and RWHEP 2019, provide a robust set of incentives to attract private investment in renewable energy power projects. At the same time, a number of issues have surfaced in terms of the implementation of these policies on the ground, which impair the cohesiveness of these policies in terms of their ability to attract private investments in the future.

Some of these issues relate to **the lack of certainty on the incentives offered for private investment** as well as lack of clarity on who is to bear the financial costs associated with incentives/concessions announced in RSEP 2019. Thus, for instance, even though as per the RSEP 2019 different types of solar projects⁸ are exempted from payment of electricity duty for seven years from the commercial operation commencement date, electricity duty has been levied on the consumption of power by captive solar projects, rooftop solar, and grid-connected small solar projects with a net metering facility. It has also

been noted that even after several months of the RSEP 2019 being approved, the policy has not been fully implemented in the state. Owing to the lack of certainty on incentives offered, the “stakeholders are deprived of the incentives available to solar projects under the policy, such as those relating to transmission, and wheeling charges, and electricity duty, among others” (Nair, 2021 b).

Likewise, there also seems to be a **lack of clarity regarding who is to bear the cost of various incentives offered in RE policies of the state**. Analysts note that the costs arising out of concessions announced in RE policies are typically cross subsidised by other users of the grid. However, in the case of Rajasthan, in March 2020, the Rajasthan Electricity Regulatory Commission (RERC) passed an order saying “that costs arising out of implementing the state government’s renewable energy (RE) policies (regarding banking and concessions on transmission and wheeling charges) will not be passed onto consumers and need to be subsidised by the state government” (Josey and Gambhir, 2020). As pointed out, if, however, the state government does not provide an additional subsidy, it would add to the losses faced by the DISCOMs in Rajasthan. While it is not clear if the state DISCOMs have been abiding by the RERC directions or if the state government is providing subsidy support for the same, the lack of certainty on this issue can come in the way of smooth implementation of these policies on the ground and impair the transition towards low-carbon development in the state.

This is corroborated by the challenges wind power projects face in several states, including Rajasthan, owing to the persisting weak financial health of DISCOMs. As per reports, wind power projects in Rajasthan have been facing payment delays from state-owned DISCOMs, with the receivables period having nearly doubled in December 2020 from March 2020 (CRISIL Ratings, 2021). Such

⁸ These include rooftop photovoltaic solar projects with net metering; solar projects within the premises of consumers in Rajasthan; solar projects outside the premises of consumer in Rajasthan; solar projects with a storage system for captive use; and charging station service providers who set up renewable energy generation projects within their premises for captive use.



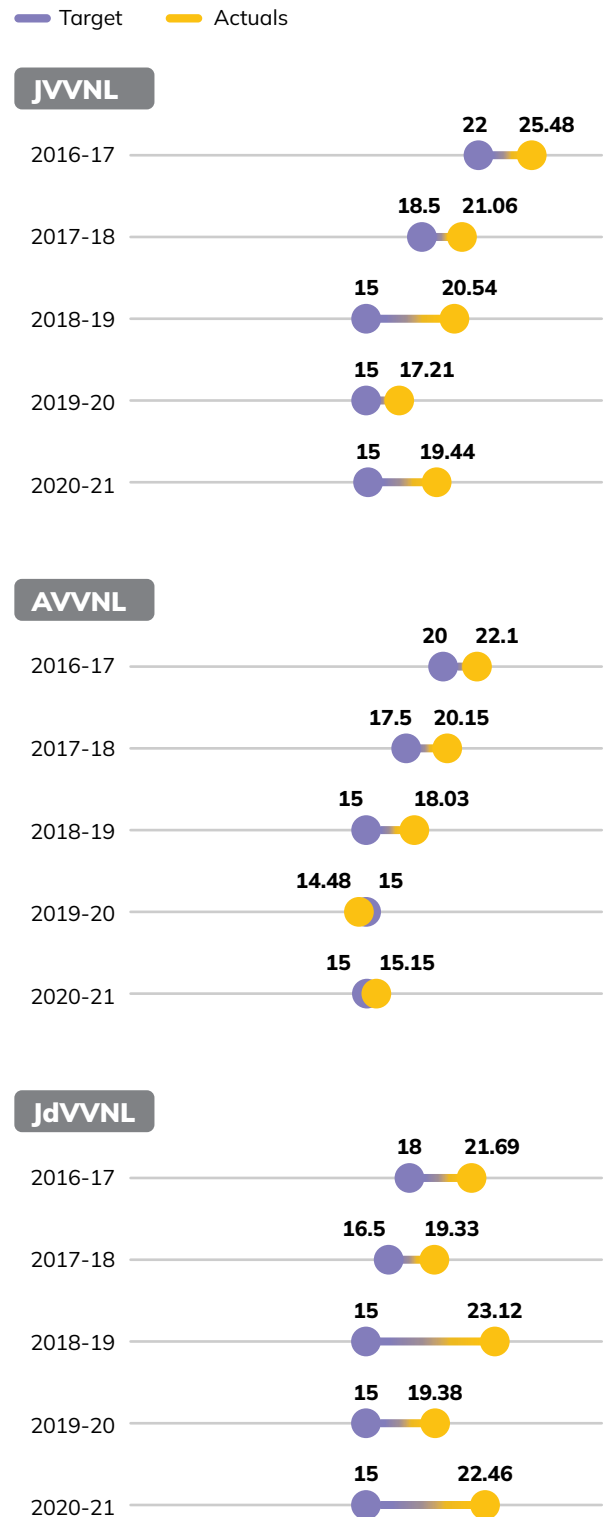
unpredictability and volatility in the payment pattern puts pressure on renewable power developers, adds to their financial risks, and often results in the delay of such projects (Lele, 2022; Bhatti and Das, 2022).

As is known, distribution is the most important link in the entire power sector value chain. The future of renewables and hence low-carbon development is closely linked to the health of DISCOMS. In fact, the poor operational and financial health of DISCOMS is often considered to be among the biggest factors impeding the uptake of and scaling up of renewable energy in states (Singh, 2020). A key challenge in Rajasthan is the large and growing financial losses that the DISCOMS face, owing to, among other things, high aggregate technical and commercial (AT&C) losses.

The state of Rajasthan has been participating in several GoI schemes, such as the Integrated Power Development Scheme (IPDS), which is aimed at reducing AT&C losses in urban areas, and the Ujwal DISCOM Assurance Yojana (UDAY), aimed at improving the financial and operational efficiency of state DISCOMS. The GoR has also initiated state schemes, such as the Mukhyamantri Bijli Sudhar Yojana, with the objective of, inter alia, reducing AT&C losses (GoR, 2018). While the three state-owned DISCOMS, namely, Ajmer Vidyut Vitran Nigam Limited (AVVNL), Jaipur Vidyut Vitran Nigam Limited (JVVNL) and Jodhpur Vidyut Vitran Nigam Limited (JdVVNL) have been able to reduce AT&C losses over time, they are far from achieving the prescribed targets (Figure 9). In fact, as per Power Finance Corporation (PFC) data, in 2020-21, average AT&C losses of 26.23 per cent in Rajasthan were higher than the national average of 22.32 per cent (PFC, 2022).

Clearly, given that the health of DISCOMS is the bedrock for the success of the RE sector, it is vital to improve it to ensure continued interest from private developers in sectors considered crucial to Rajasthan's long-term transition to low-carbon development.

Figure 9: Target vs Actual Distribution Losses of JVVNL, AVVNL and JdVVNL



Source: RERC, 2022



Section 4

Assessment of Specific Interventions from the Inclusion Lens

4.1 PM-KUSUM Scheme

The *Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan* (PM-KUSUM) scheme, approved by Gol in 2019, inheres several potential co-benefits with the goal of mitigating climate change. In addition to eliminating use of diesel in the agricultural sector and reducing the power subsidy to agriculture, the scheme aims to foster inclusion by enhancing farmers' income and providing energy and water security to them, with a particular focus on small and marginal farmers (MNRE, 2019).

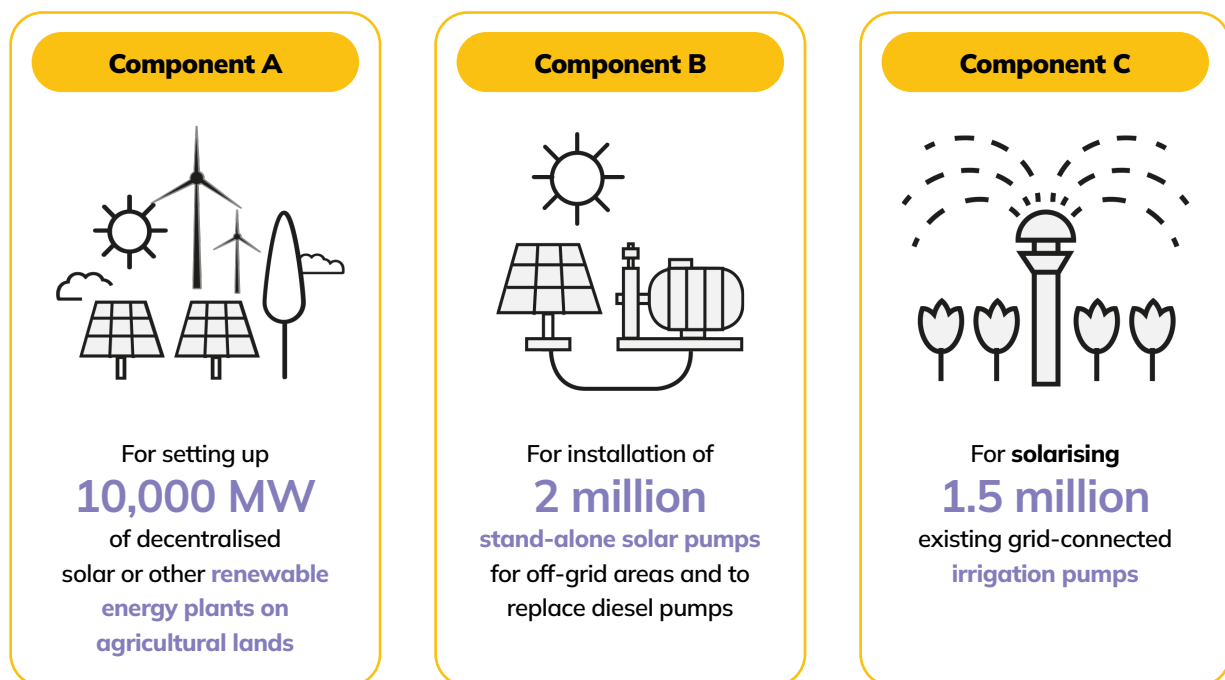
These objectives are to be achieved by facilitating the deployment of more than 2.5 GW of solar capacity by 2022 under three components (Figure 10).

Components B and C of the scheme are partially financed by the state and the Gol, with each providing financial assistance of 30 per cent of the cost. The remaining 40 per cent is to be borne by the farmer, of which bank financing is available for 30 per cent. Thus, a farmer is required to initially pay just ten per cent of the total cost of the pump.

The scheme is of particular importance for Rajasthan as agriculture accounts for nearly 40 per cent of electricity consumption in the state, which is amongst highest in the country (RSAPCC, 2022; RERC, 2022).

Analysts note that Rajasthan was among the first states to adopt the PM-KUSUM scheme and was the first state to invite expressions of interest from

Figure 10: Components of PM-KUSUM Scheme



Source: Rahman, et al., 2021



farmers under Component A (Amkrau, et al. 2020; ET Energy World, 2021). Moreover, Rajasthan is also the only state that has begun installation of grid-connected solar pumps under Component C. Thus, unlike other states, where it is mainly Component B of the scheme that has seen some progress, Rajasthan has made progress across all three components of the scheme (Rahman et al., 2021).

Further, in order to promote decentralised solar power plants, recently, the GoR formulated the Saur *Krishi Ajivika Yojna* (SKAY), under PM KUSUM component C, to help farmers set up solar power plants on their unutilised or barren land. Under this scheme, the developers will also be able to get the Central grant (30 per cent of the cost) under the PM KUSUM Yojana to set up the plant. Further, the government will enter into a tripartite agreement with the landowner/farmer, the developer and the concerned DISCOM or company to ensure that the landowner/farmer is protected from risk. To aid the process, Rajasthan's DISCOMs have developed a dedicated online portal where farmers can register land to be leased out for solar power plants (Sharma, 2022).

While the relative success in adoption of the scheme in Rajasthan is welcome, it also needs to be noted that the inclusion aspect of the PM-KUSUM scheme in terms of enhancing farmers' income and reducing inequality is likely to be diluted. Some analysts believe that the scheme may even increase inequality in the state by excluding a section of farmers (Amkrau, et al. 2020). Given the unequal distribution of landholdings and wealth in Rajasthan, this is a vital issue for the state to consider.

4.1.1 Challenges to the Inclusion Aspect of the PM-KUSUM Scheme in Rajasthan

The main challenges to the inclusion aspects of the PM-KUSUM scheme arise from initial barriers to entry due to the lack of ownership of land, capital

to invest in solar pumps of qualifying size, etc. (Amkrau, et al. 2020).

Lack of land ownership: A large proportion of the population in Rajasthan that depends on agriculture for their livelihood is landless. As a result, such farmers are unlikely to be eligible for the land lease-related income that Component A of the PM-KUSUM scheme offers. These farmers are also unlikely to be able to invest in solar pumps as they tend to be more financially distressed than larger farmers (Amkrau, et al. 2020).

Affordability: Given that farmers are required to invest in the upfront cost of the solar pumps, affordability can be a major challenge for small and marginal farmers (Goel, S. et al., 2021).

Even for farmers who can afford the upfront cost, accessing formal bank credit can be a dampener in the uptake of the scheme. In fact, reports show that farmers in Rajasthan have been facing difficulties in accessing financing for pumps. "Reportedly, out of 623 farmers shortlisted based on their applications, 201 have deposited security money of INR 5 lakh/MW for grid-connected solar plants to power irrigation pumps. However, only 170 have signed agreements with the state DISCOMS. Further, out of the 170 farmers who have signed agreements with DISCOMS to set up solar plants, only around 15 have started working on these projects. The rest have yet to tie up bank funding" (Shah, 2021).

Non-ownership of own electric pumps: Small and marginal farmers, who constitute almost sixty per cent of Rajasthan's total land area, rarely own electric pumps. Analysts note that owing to this, small and marginal farmers may not benefit from the PM KUSUM scheme, as the scheme may drive up water prices⁹ and reduce water access for those without pumps (Amkrau, et al. 2020).

Challenges for historically marginalised groups:

9 For details, please see Amkrau, et al., 2020



Marginalised groups of farmers, such as Tribal communities (which comprise a sizeable 13.5 percent of Rajasthan's population), Scheduled Castes (SCs), and Other Backward Classes (OBCs) are also likely to be excluded from the PM-KUSUM scheme. This is owing to the fact that these marginalised communities often tend to have smaller landholdings and are concentrated on the lower end of the income scale. Further, for women farmers, who generally do not own land and lack financial capital, schemes such as PM-KUSUM can also tend to perpetuate gender inequality in the ownership of agricultural assets (Rahman & Jain, 2021).

In short, due to the design of the PM-KUSUM scheme, and the characteristics of the farming population in Rajasthan, those with the lowest socioeconomic status and those who are the most marginalised are the least likely to benefit from the scheme.

In the Budget 2022-23, the Rajasthan government has announced additional subsidy up to INR 45,000 for Scheduled Caste (SC) and Scheduled Tribe (ST) farmers for installation of solar pumps (Government of Rajasthan, 2022). While this is a step in the right direction, much more needs to be done to enhance the inclusion aspect of the PM-KUSUM scheme.

4.2 Skilling Interventions for Green Jobs

It is now widely recognised that the renewable energy sector offers a significant opportunity for the inclusion co-benefit of livelihood creation alongside clean energy expansion. For this, skill development of the population, particularly those at the lower end of the income scale, is a key intervention. The availability of a skilled local workforce can also help accelerate the deployment of solar parks and mini/microgrid projects (Tyagi, et al., 2022).

The GoR recognises creating skilled human power

as one of the key goals of its various policies related to low-carbon development. REVP 2022, for instance, mentions the aim of introducing courses on electric mobility, repair and maintenance, battery manufacturing and maintenance, etc. by the Rajasthan Skills and Livelihood Development Corporation (RSLDC).

Towards, this end, it has been participating in various skilling programmes promoted by the Ministry of New and Renewable Energy (MNRE). These include initiatives by the National Institute of Solar Energy (NISE), Skill Council for Green Jobs (SCGJ)¹⁰ and other schemes, including the *Suryamitra* training programme, which aims to skill technicians in the field of solar technology for installation, commission, and operation and maintenance.

In addition, it has also instituted state-sponsored schemes, such as The Employment Linked Skill Training Programme (ELSTP), which has been reformulated as the *Rojgar Aadharit Jan Kaushal Vikas Karyakram* (RAJKViK), to provide green job training. The scheme is implemented by RSLDC (Table 2).

In this context, it also needs to be noted that access to such skilling programmes is often not easy for the vast majority of Rajasthan's population. This is due to the fact that an "essential requirement to enrol in many of these courses is a graduation certificate from high school, equivalent to completion of Grade "10+2". Another issue that mars the inclusiveness of such skilling programmes is that "often the training centres are located in bigger towns and cities, making programmes inaccessible or unaffordable for those who do not live there". This, research shows, often hindered the inclusion of women in training programmes as many women "find it difficult to leave their villages and households to attend such programmes" (Jairaj and Deka, 2021).

¹⁰ The Skill Council for Green Jobs (SCGJ) is the sectoral skill council supporting the National Skill Development Mission, National Solar Mission, Make in India, Smart City Mission, AMRUT and Swachh Bharat Abhiyan. SCGJ has been created under the Ministry of Skill Development and Entrepreneurship (MSDE), with the mandate to undertake an industry skills gap analysis, and develop National Occupational Standards along with course curricula and certification of trainers and candidates to support skill development activities in India.



Table 2: Green Job Skilling in Rajasthan

Green Job Role	
1	Agri-residue Aggregator
2	Animal Waste Manure Aggregator (Option: Biogas Plant Operator/Compost Plant Operator)
3	Biomass Depot Operator
4	Desludging Operator
5	Faecal Sludge Treatment Plant O&M Technician
6	Manager- Waste Management (Elective: Biomass Depot/Compost Yard/Dry Waste Center)
7	Recyclable Waste Collector & Segregator
8	Safai Karamchari (Option: Wet Cleaning/ Mechanised Cleaning)
9	Septic Tank Technician
10	Solar PV Installer - Civil
11	Solar PV Installer - Electrical
12	Solar PV Installer (Suryamitra)
13	Solar PV Maintenance Technician - Civil (Ground Mount)
14	Wastewater Treatment Plant Helper
15	Wastewater Treatment Plant Technician

Source: Rajasthan Skill and Livelihood Development Corporation (RSLDC) (n.d)

While skill training programmes for distributed renewable energy (DRE) are often seen to be more inclusionary, currently, there is a lack of disaggregated information interfacing ongoing programmes and departments with job opportunities in the DRE

application. As a result, it is not clear how inclusive these training programmes are in terms of providing skilling to people who lack the required educational qualifications or do not have the wherewithal to take part in these programmes.





Section 5

Conclusion and Policy Suggestions

The state of Rajasthan has made significant strides in terms of RE capacity addition and has come to occupy the first place in the country among all states. The state's policies for low-carbon development, particularly policies such as the Rajasthan Solar Energy Policy (RSEP), 2019, and Rajasthan Wind and Hybrid Energy Policy (RWHEP), 2019, have played an important role in achieving its renewable energy capacity addition targets. These policies provide a robust set of financial and non-financial incentives to leverage private investment in the sector.

However, the decline in state budgetary support for the RE sector, and the business-as-usual (BAU) trend of public financing in other sectors important for low-carbon development, do not bode well for the state's long-term transition towards a low-carbon development trajectory. A number of other challenges have also cropped up in recent years that could stymie financing from the private sector in future.

Rajasthan has also fared relatively better with respect to interventions with inclusion co-benefits, such as the PM-KUSUM scheme and skilling interventions for green jobs. However, here, too, much more can be done to enhance the inclusionary aspect of these interventions.

In this context, the following policy suggestions may help in making Rajasthan's long-term transition towards a low-carbon development trajectory more cohesive and inclusive.

Measures to Increase Financing for Renewable Energy and Improve Cohesiveness of Policies

- Explore new climate finance mechanisms like

green bonds for investments in the transmission and distribution network: Given that high transmission and distribution (T&D) losses can prove to be a challenge in attracting private investments in the RE sector, the Rajasthan Government should explore new climate finance mechanisms such as green bonds to leverage investments in transmission and distribution infrastructure.

- **Prioritise budgetary spending on the RE sector:** In the recent past, the GoR introduced the *Mukhyamantri Kisan Mitra Urja Yojana*, a scheme under which an additional subsidy up to INR 1,000 per month (maximum INR 12,000 per annum) has been provisioned for metered and flat-rate agricultural consumers through adjustments in energy bills. An additional subsidy of INR 324.09 crore was provided under this scheme up to December, 2021. There is a need to orient public finance outlays on schemes such as the *Mukhyamantri Kisan Mitra Urja Yojana* towards investments in clean technologies like solar-based irrigation pumps.
- **Seek direct grants for the RE sector from the next Finance Commission:** The Fifteenth Finance Commission has recommended an additional borrowing space of 0.5 per cent of Gross State Domestic Product (GSDP) for states during the four-year period 2021-22 to 2024-25. However, the performance matrix recommended by the Fifteenth Finance Commission to monitor the performance improvement of states in the energy sector does not include renewable energy addition or other climate change mitigation actions as performance criteria. States therefore need to seek additional grants from the next Central Finance Commission.



- **Need for policy clarity and certainty:** Given that the share of the energy sector in Rajasthan's total budgetary expenditure has declined considerably, the state's need to tap external finance (domestic private and international) is crucial. For that it is essential to have policy clarity and certainty, which has been missing in the recent past

Measures to Enhance the Inclusion Aspects of Interventions with Socio-economic Development Co-benefits

- **Ways to enhance inclusion of marginalised groups in PM KUSUM:** The current design of the PM KUSUM scheme does not include specific provisions to ensure small and marginalised farmers can access its benefits. To ensure all farmers share in the opportunities afforded by this scheme, the Government of Rajasthan could prioritise feeders in areas with high proportions of marginalised groups and also reduce other barriers to entry.
- In the Budget 2022-23, the GoR has provided additional subsidy to Scheduled Caste/ Scheduled Tribe farmers to increase their participation in the scheme. This is similar to what has been implemented in Maharashtra under the *Mukhyamantri Saur Krushi Pump*

Yojana (cKinetics & Climate Policy Initiative, n.d.). *This is something other states can emulate.*

- **Focus on DRE to generate employment:** Decentralised/off-grid Renewable Energy (DRE) is known to be more employment-intensive compared to utility-scale solar projects. The former, therefore, provide an opportunity for both livelihood generation low-carbon pathways. This is particularly important given the sharp increase in the unemployment rate in Rajasthan following the Covid-19 pandemic and the decline in Female Labour Force Participation in Rajasthan. Towards this end, some existing schemes being implemented in Rajasthan, such as the Indira Mahila Shakti-Kaushal Samridhi (IM-Shakti) Yojana, for the training of women, can include certain domain-specific training for service sector-related job opportunities in the DRE sector or in other climate mitigation interventions.
- **Learn from success stories:** A 2019 NRDC-SEWA-SCGJ report on building skills and improving the livelihoods of women salt farmers in Gujarat has captured how the focus on developing the necessary skills for solar pumps has played a critical role in expanding the use of clean energy for salt-farming.





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Appendix A: Methodology Used to Assess the Favourability of State Energy Sector Budgetary Expenditure

An assessment was carried out on the favourability of the State Energy Sector's Expenditure Budget for the promotion of renewable energy, by classifying budgetary expenditure based on their **coherence** with national targets for Clean Energy and the support provided for a clean energy transition. Several steps, listed below, were involved in assessing the climate responsiveness of budgets:

1) Identification of Budget lines that is, neutral or "with climate responsiveness": There are six tiers of information in Budget accounts, namely, Major head, Sub-major head, Minor Head, Sub-minor Head, Detailed Head and Object Head. Identification of the budget lines into categories such as "with climate responsiveness" or neutral, is carried out by unifying the information lying across these six tiers of information (by concatenating them). The decision criteria to identify the budget lines as neutral or "with climate responsiveness" were as follows:

- 1. Neutral:** This expenditure does not have a significant responsiveness to emissions or towards capturing greenhouse gases. It therefore does not actively contribute to climate change mitigation, nor does it help reduce GHG emissions. Examples include social benefits to employees, salaries, administration travel, recoveries and food allowances.
- 2. With climate responsiveness:** This expenditure is compatible with the national ambition for climate change mitigation, particularly for Renewable Energy. It provides a significant reduction in emissions compared to existing alternatives. Examples

include addition of renewable energy, transmission and distribution networks, electrification using off-grid technologies etc.

2) Analysis of priorities of expenditure "with climate responsiveness": The aim of this stage of the analysis is to identify the climate responsiveness of all expenditure included in the budget of the Power Department of State Governments. It consists of a line-by-line analysis of the budget, based on a rationale-based categorisation of actions. The actions are then rated as **highly favourable, quite favourable, unfavourable, and undefined**. The results provide a better understanding of the coherence of expenditure in achieving a clean energy transition and low-carbon development. Expenditure items are classified into four categories according to their responsiveness to climate change (Figure A1):

- i. Highly Favourable:** This expenditure is coherent with the national ambition for climate change mitigation. Expenditure on this activity leads to a significant reduction in emissions compared to existing alternatives. For example: Installation of Renewable Energy Capacities.
- ii. Quite Favourable:** This expenditure reduces emissions in the short term, but the reduction is insufficient to drive low-carbon development. This category notably includes equipment and infrastructure that present a risk of carbon lock-in over the long term. For example: a transmission and distribution network.



iii. **Unfavourable:** This expenditure is **non-coherent** with the Indian commitment on combating climate change because it makes a significant contribution to greenhouse gas emissions. Examples include subsidies for diesel-based pumps or fossil fuel-based power generation.

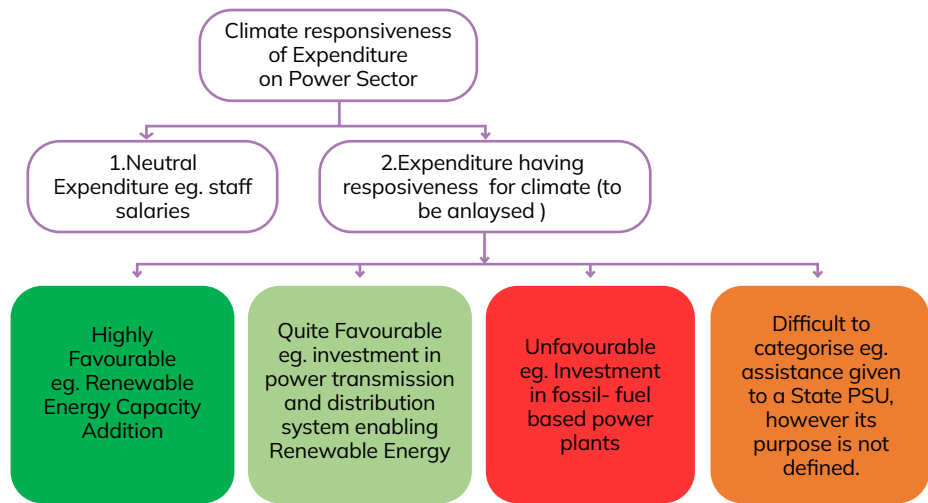
iv. **Undefined:** This expenditure cannot be categorised in the above three ratings, as these heads require extra-budgetary supplementary information and need to be discussed with the State Government.

Figure A1: Climate Responsiveness Categorization

Step 1: Identification of key department(s) for power sector






Step 2: Identification of Budget lines that is, neutral or "with climate mitigation responsiveness"

Step 3: Rating the responsiveness of budget expenditure for Climate Change Mitigation (clean energy transition)





Appendix B: Incentives Offered for EV Adoption in the Rajasthan EV Policy 2022

Vehicle Category	Incentives	Number of EVs to be incentivised
 All eligible EVs	100% SGST reimbursement	As per limits indicated below for each category
 Two Wheelers	Upfront incentives as per battery capacity. Fixed Battery: from INR 5,000-10,000; Swappable Battery: from INR 2,000-5,000	1,00,000 e-2Ws
 Three Wheelers (e-Rickshaw, e-Cart, e-Auto and e-Goods Carrier)	Upfront incentives as per battery capacity. Fixed Battery: from INR 10,000-20,000; Swappable Battery: from INR 4,000-10,000	25,000 in e-Rickshaws, e-Carts 25,000 E-Autos and E-Goods Carriers
	Retrofit kit - 15% of the retrofit kit cost (including taxes) up to INR 10,000 per vehicle	3,000 Retrofit vehicles
 Four Wheelers (4W): Personal Cars/ Taxis/CVs/ Light Goods Vehicle (LGV)	Upfront incentives to vehicles. The maximum ex-showroom price to avail this incentive is INR 20 lakh, as per battery capacity: from INR 30,000-50,000	1,000 personal e-4Ws 1,000 commercial e-4Ws 2,000 e-Maxi cab and e-Goods carriers
	Retrofit kit - 15% of the retrofit kit cost (including taxes), up to INR 15,000 per vehicle	2,000 Retrofit vehicles
 Buses	Upfront incentive as per battery capacity - from INR 1,00,000-5,00,000	500 e-buses
	Retrofit kit - 15% of the retrofit kit cost (including taxes) up to INR 2,50,000 per vehicle	200 Retrofit vehicles

Source: Rajasthan Electric Vehicle Policy 2022



Green Economic Recovery of Andhra Pradesh

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About Policy Brief:

Assessing the Landscape of Policies and Public Financing for Cohesive and Inclusive Low-carbon Development in Rajasthan

This policy brief attempts to unpack the policy landscape for low-carbon development in Rajasthan and assess the cohesiveness of these policies. It also assesses select interventions with socio-economic development co-benefit such as the PM KUSUM scheme and skilling for green jobs, from the inclusion lens.

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