



Bihar's Policy and Budgetary Priorities for Transitioning towards Green Economic Recovery

Under The Project

**Building knowledge and capacity for
Greening the Economic Recovery in the states**

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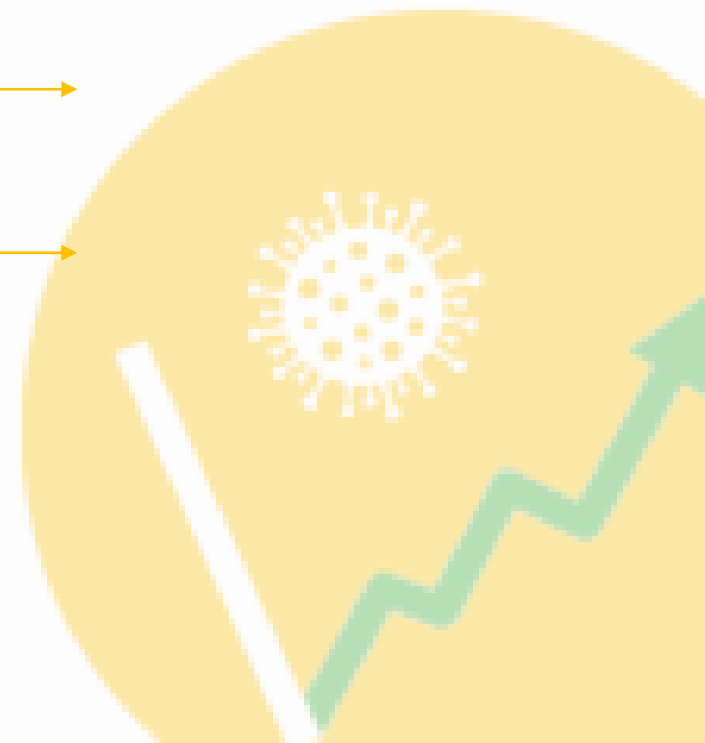
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Issues identified in landscape of efforts, public financing and climate policy for transitioning towards GER

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Green economy recovery is imperative for Bihar



With an average of over **10 percent annual growth**, Bihar has registered a higher growth than the Indian economy in the three years preceding 2020-21.

However, Bihar is also a state that is **vulnerable to climate change and growing population**, which threatens to undermine its developmental efforts.

According to the 2020-21 Bihar Economic Survey , a **shift towards more sustainable development** is imperative for the state's continued economic growth.

Impact of Covid-19 on Bihar Economy



The overall estimates of **growth rate** of Bihar Economy for FY-2020-21 was (-)18.2 per cent*. Growth rate is further expected to decline with the second wave of covid-19.



This negative impact of **Covid-19** on Bihar Economy may be relatively less than Indian Economy, but in absolute terms the negative impact is substantial for poor states like Bihar



Highly impacted sector are - **Construction, Manufacturing, Road Transport**



Unemployment Rate (UER) of Bihar is 12.1 per cent which is much higher than national UER of 7.1 per cent for month of **August 2023****

*Source: Economic Survey of Bihar

**Source: CMIE data: <https://unemploymentinindia.cmie.com/>

Green Economy Recovery (GER) is need of the hour!



There is need to drive an **economic recovery pathway** which is in-sync with **sustainable development** and make the economy strong enough to **withstand any sudden shocks** (pandemic or climatic).

A lot of rethinking happening on avoiding economic practices which are detrimental to environmental and keeping climate change in agenda during economic recovery. Energy is amongst the key driver of any economy has huge potential for GHG emission reduction. Our study focuses on **clean energy transition** in Bihar.



There is need to bring in public discourse, policy recommendations how to mainstream climate concerns in developmental actions and green economy recovery?

Purpose and Scope of Bihar's Study



To identify issues in the transition towards Green Economic Recovery (GER) by assessing the **policy and budgetary priorities** of the Bihar Government for **climate mitigation interventions**.

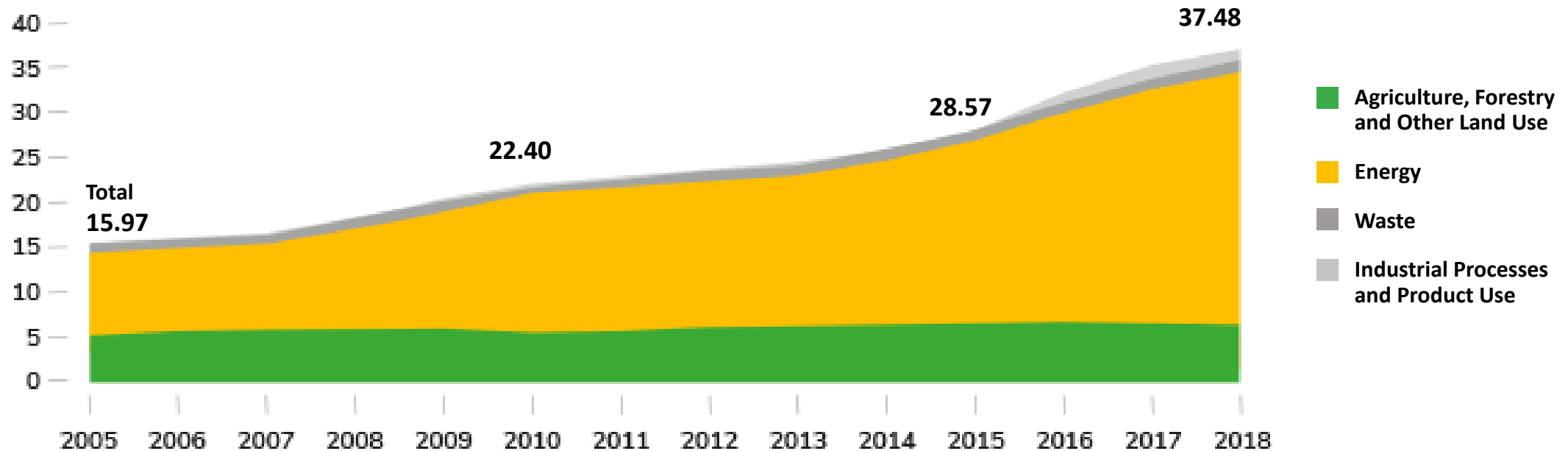
It **highlights Bihar state's current efforts** for financing climate change mitigation actions in various sectors such as; power, agriculture, transport and urban development. It **identifies policy measures** for long-term transformation towards green economic recovery using clean energy alternatives and effective public finance planning through budgets.

Clean energy transition is key intervention as green action and climate change mitigation



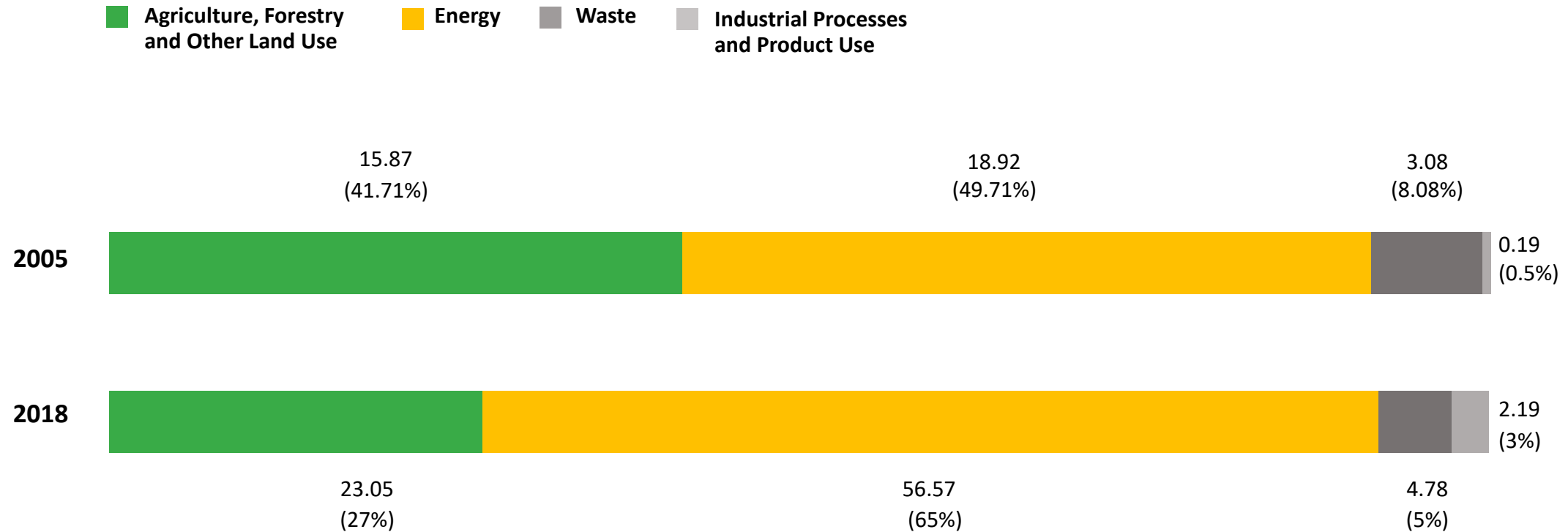
Energy with 65.61 per cent share in GHG emissions contribution

GHG Emission Profile of Bihar – CAGR of 6.53 per cent



Source: [GHGPI Trend-Analysis 2005-to-2018 Bihar_Sep22.pdf \(ghgplatform-india.org\)](#): Analysis of GHG emissions from 2005-2018

Sector-wise Contribution (Mt CO₂e) and Percentage Share in Total Economy-Wide GHG Emissions of Bihar



Bihar at a Glance (2018) -GHG emissions



Population and Area share
8.92% of India's population
2.86% of India's area



Population Density (Persons/km²)
Bihar 1,250.37 | India 401.48



Forest Area
7.8% of Bihar's Total Area
1.03% of India's Forest Area



GDP **2.70% of India's GDP**



Net GHG Emissions
Bihar { 86.59 Mt CO₂e
2.93% of India's emissions

Mt CO₂e: Million tonnes of carbon dioxide equivalent



Population Density (Persons/km²)



Per Capita emissions (t CO₂e/capita)

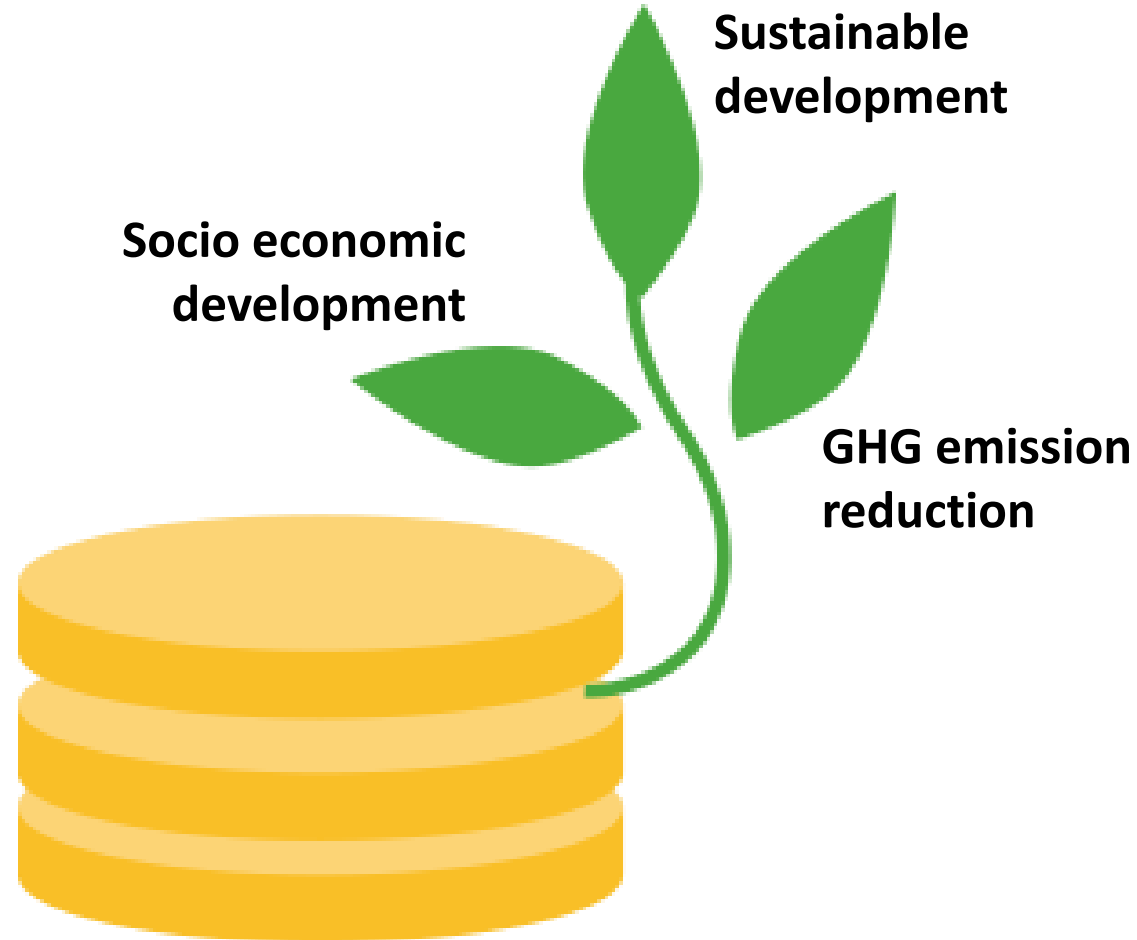


Per Capita emissions (t CO₂e/capita)

Bihar 0.74
India 2.24

Green Economic Recovery expected outcomes

Public Policy design is critical as a poorly designed recovery process will be ineffective in delivering desired social, economic and climate outcomes. GER offers opportunity to meet these three troika of objectives



About the Study – “Green Economic Recovery”



Why?

- Ongoing COVID-19 pandemic distorted the entire cycle of public finance led to compression in state budgetary expenditure.
- Recovery packages are not coupled with long term climate financing targets
- Complementing the stressed public resources amid pandemic situation with external (private / International) climate resources for place holding the co- benefits is need of hour
- Adding dimension of equity and inclusion to existing climate budgeting frameworks is need of hour (to motivate states for climate mainstreaming)
- Lack of specific knowledge on how to?
 - build cohesiveness in public actions for thriving climate investments and its requirements?
 - how to prepare climate responsive proposals based on evidence research

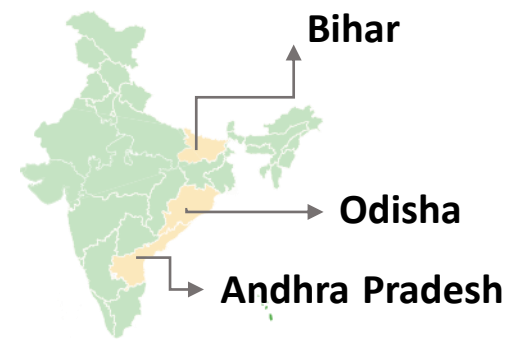


Focus area

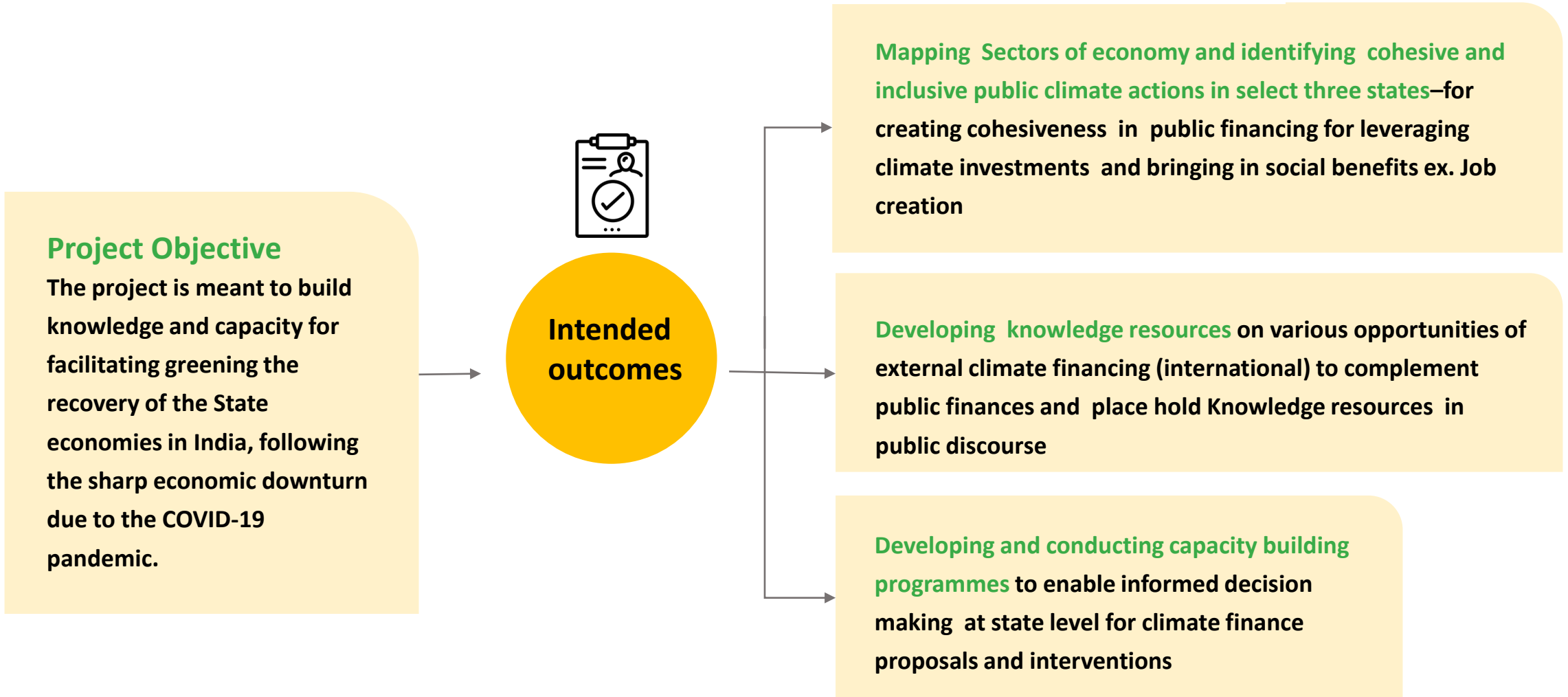
All sector of economy contributing to GHG emissions. Intends to:

- Assess the impact of the COVID-19 pandemic on different sectors of the State economies and climate financing
- Assess existing climate financing framework in three states and present factsheets and knowledge resources
- Identify the focus areas for capacity building of State Governments / institutions with regard to adoption of climate financing alternatives and, mainstreaming the climate concerns in public finance

Select States



Green Economic Recovery Project- Objective and Outcomes



Study Objectives



To understand starting points for a long-term transformation towards a clean energy-based economy and assess the **impact of the pandemic** on the state's overall spending priorities on various sectors, including Energy, Transport, and Urban Development

To assess policy and institutional **landscape of climate mitigation policies** in the energy, transport and urban development sectors in Bihar and also to assess the state's participation in various national climate change mitigation programmes

To track the **financial resources** available with Bihar from various sources, for expenditure on clean energy initiatives

To understand the **responsiveness of State Budgetary Expenditure** towards a clean energy transition so that provisions can be aimed at greening the economic recovery





Objective

To understand the impact of the COVID-19 pandemic on the state's overall expenditure, and the starting points for a long-term transformation towards a Green Economy



Scope of analysis

Analysis has been carried out of Bihar's Total Budget Expenditure covering the post and pre-COVID years for various departments from 2018-19 to 2021-22.



Key sources of Information

- GHG platform India – web portal for identifying carbon intensive areas
- Bihar State Economic Survey
- State Budget document of various departments
- MNRE data on state wise progress indicators
- Annual reports of Power distribution company and Tariff Orders
- Bihar Electricity Regulation Commissions documents for Renewable Energy Purchase Obligations and Transmission and Distribution losses



Objective

Assess policy and institutional landscape of climate mitigation policies in the energy, transport and urban development sectors in Bihar and also to assess the state's participation in key national climate change mitigation programmes.



Scope of analysis

- The state-level institutional and policy assessment for the promotion of renewable energy is presented.
- Interventions and policies were assessed in terms of their ability to augment strategies for low-carbon development in sectors such as energy, transport and urban development.
- Programmes and schemes for the promotion of public transit systems and electric mobility were collated.
- State participation status in central schemes meant for the promotion of electric vehicles, energy efficiency and solar pumps.
- The budgeted schemes of the Bihar Skill Development pertaining to RE were studied



Key sources of Information

- Bihar Electric Vehicle Policy
- Disaggregated budgeted information on programmes and schemes with climate relevance as available
- Union government guidelines for mainstreaming climate concern in SMART Cities Mission
- Central government guidelines under specific programmes to promote electric vehicles and solar pumps, such as the FAME-II scheme and PM KUSUM
- Central scheme-specific portals providing information on state-wise performances. This is available for FAME-II, KUSUM, and energy efficiency-related schemes.
- The Budget document of the Bihar Skill Development and Social Welfare Department
- The Bihar State Skill Development Mission strategic document
- Bihar government orders
- News media articles

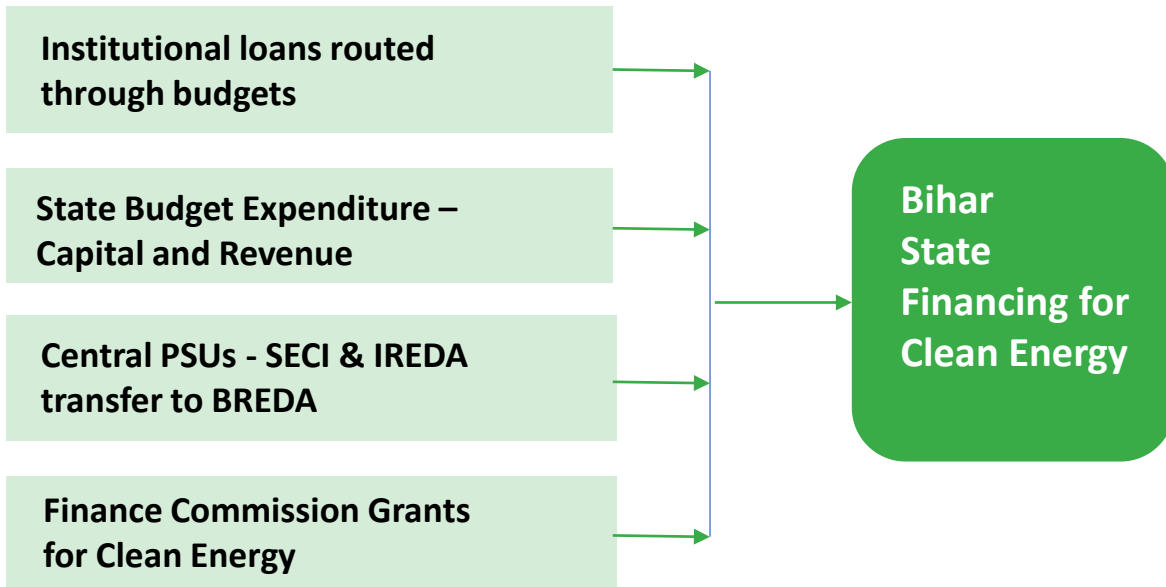
Methodology



Objective

Track the financial resources available with Bihar from various sources, for expenditure on clean energy initiatives- Bihar's Financial Resource Envelope for Power sector financing was assessed and a plausible estimate on finances was arrived at across four major channels

Different channels of energy financing



Key sources of Information

Budget document of various Departments

- Annual report of Indian Renewable Energy Development Agency and Solar Energy Corporation of India
- Documents related to loan components and Distribution losses

Methodology



Objective

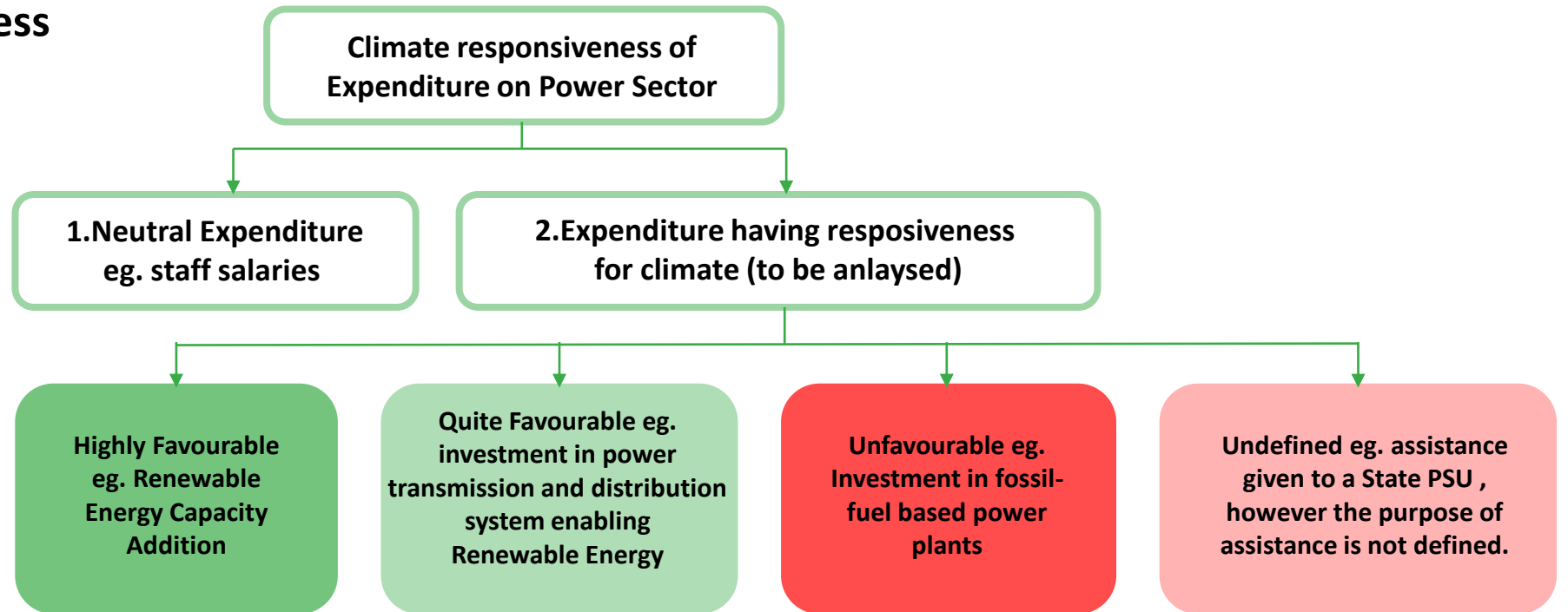
Understand the responsiveness of State Budgetary Expenditure towards a climate mitigation interventions

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)





**Issue identified in the
landscape of Green
Economy Recovery
of Bihar**

Issues in the Landscape of Efforts, Budgets and Policies for GER of Bihar



- State performance of clean energy addition
- State Budgetary provisions
- Programmatic planning for clean energy addition
- Additional financing channels for clean energy transition to the State
- Cohesiveness of clean energy policy for leveraging finance
- Bringing in social sector improvement and Distribution losses

Low spending on Renewable Energy

Energy is highest contributor to GHG emissions; projection for 2021 shows the same

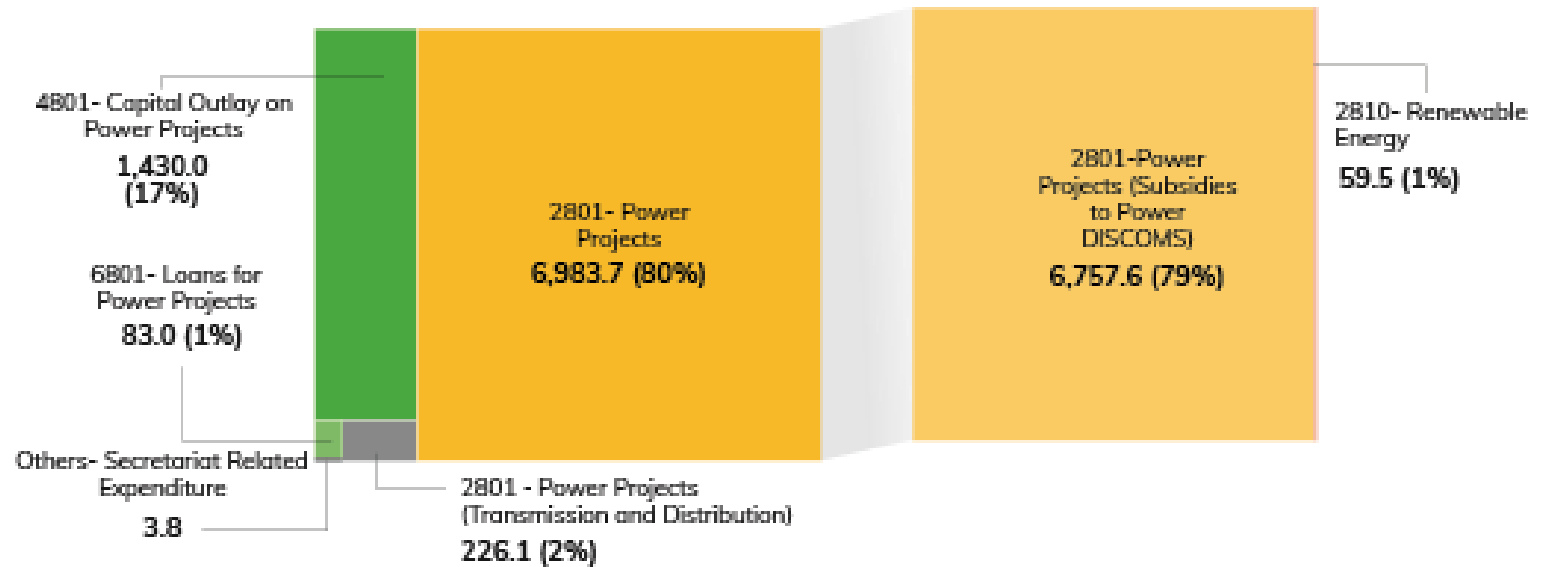
Power budget expenditure share in total state budget expenditure (%) has declined

Power sector Transmission and Distribution losses are still higher than stipulated targets

State failed to achieve the Renewable Energy Purchase Obligations in post- pandemic years

11 per cent of stipulated RE Targets per policy is achieved`

Bifurcation of budget of state power department for 2021-22 (Rs crore)

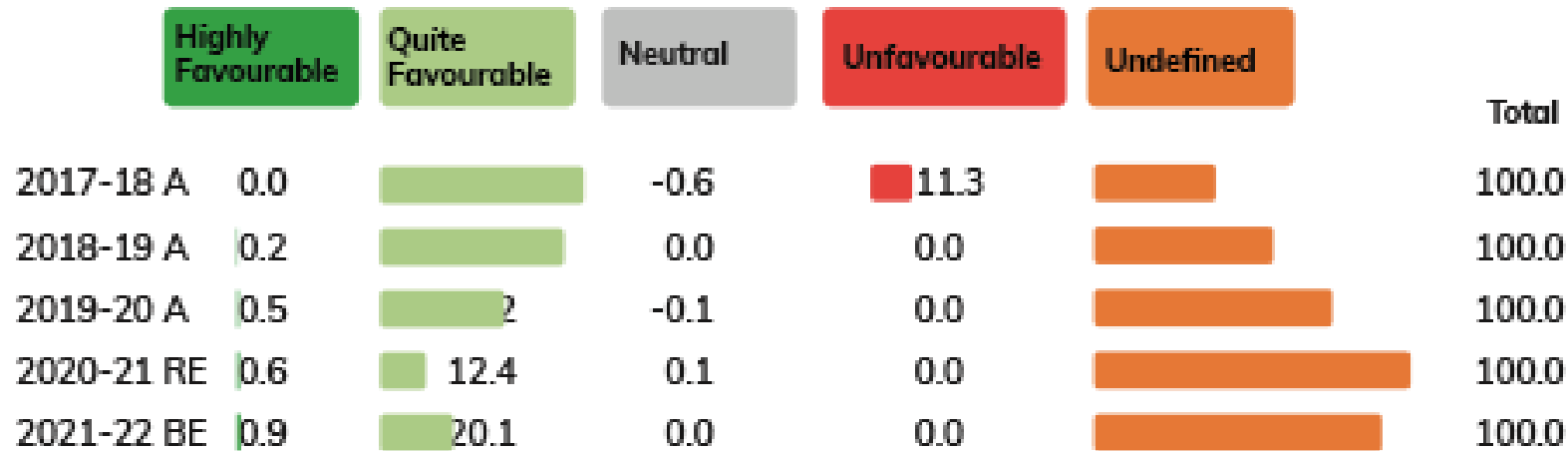


Issues: Low spending on Renewable Energy



Expenditure in quite favourable category is largely allocated for rural electrification and transmission and distribution programmes

Various categories' share in total expenditure (%)



Source: CBGA-derived methodology

Note: The General Framework for Categorization of Expenditure for climate change mitigation responsiveness can be seen in Annexure 1.

The Excel file on the application of the methodology for the categorisation of budget expenditure is available on the CBGA website. Please refer to the EXCEL file for (-) values

Bihar state spending on power sector versus total state budget expenditure

Share of energy department dropped from 6.34 percent in 2019-20 to 3.92 per cent in 2021-22.

	Budget expenditure (in Rs. Crore)			Share of Total Expenditure (per cent)	
	Bihar	Energy Sector	Renewable Energy	Energy Sector	RE
2018-19 A	1,54,655	12,118	29	7.84	0.24
2019-20 A	1,43,614	9,107	47	6.34	0.51
2020-21 A	1,65,696	8,912	27	5.38	0.31
2020-21 BE	2,11,761	8,560	79	4.04	0.93
2020-21 RE	2,25,458	8,653	79	3.84	0.92
2021-22 BE	2,18,303	8,560	79	3.92	0.93
2021-22 RE	2,55,474	10,025	79	3.92	0.79
2022-23 BE	2,37,691	11,476	70	4.83	0.61

Source: CBGA analysis of Bihar State Budget and Detailed Demand for Grants for Department of Energy, Bihar

Departments Budget as percentage of State Total Budget Expenditure



Mostly saw a dip in expenditure after Pandemic Mostly

Department	Agriculture	Urban Development and Housing	Transport	Water Resources	Minor Water Resource
2017-18 A	1.07	2.00	0.05	2.87	0.31
2018-19 A	1.01	2.38	0.85	2.07	0.44
2019-20 A	1.50	2.30	0.19	0.70	0.37
2020-21 A	0.92	4.08	0.16	2.03	0.81
2021-22 RE	2.56	8.25	0.31	4.11	0.74
2022-23 BE	2.63	5.99	0.29	3.16	0.75

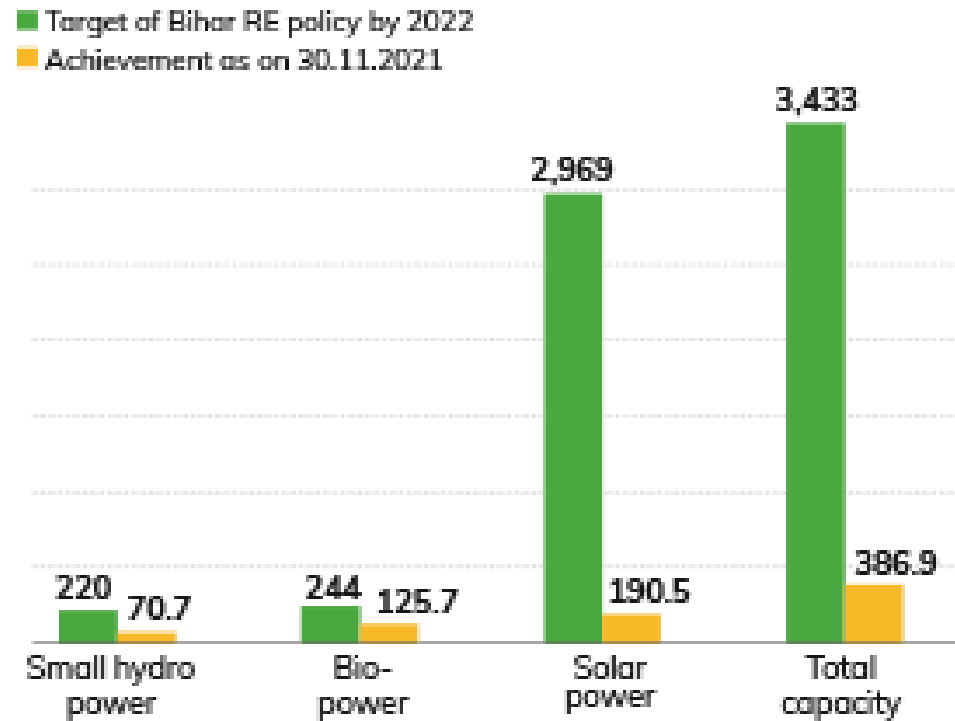
Issues: State performance on clean energy addition

Only 11 per cent of stipulated RE target achieved

Non-availability of land

Despite Bihar having rich biomass potential, the share of bio energy is poor

Bihar's target versus installed capacity of renewable energy, in MW



Source: MNRE progress achievement data (2021)

Issues: State performance on clean energy addition

High transmission and distribution losses of 22 per cent and 29 per cent, respectively, with two State DISCOMS, NBPDCCL and SBPDCL, respectively, are other reasons for the lack of interest from RE investors.

Poor compliance of renewable energy purchase obligations

Poor financial conditions of power sector utility

High dependence on stake of central PSU, NTPC, for power generation which is largely coal based.

T&D losses

	NBPDCCL		SBPDCL	
	Target	Actuals	Target	Actuals
FY 16	20	35	20	49
FY 17	19	31	19	39
FY 18	24	25	30	37
FY 19	20	27	22	33
FY 20	15	22	15	30

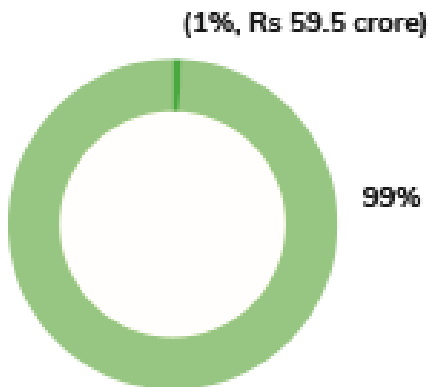
Issues: State performance on clean energy addition

Stressed Public finance situation post pandemic in Bihar and its probable implication in terms of non-prioritisation of requisite energy sector spending

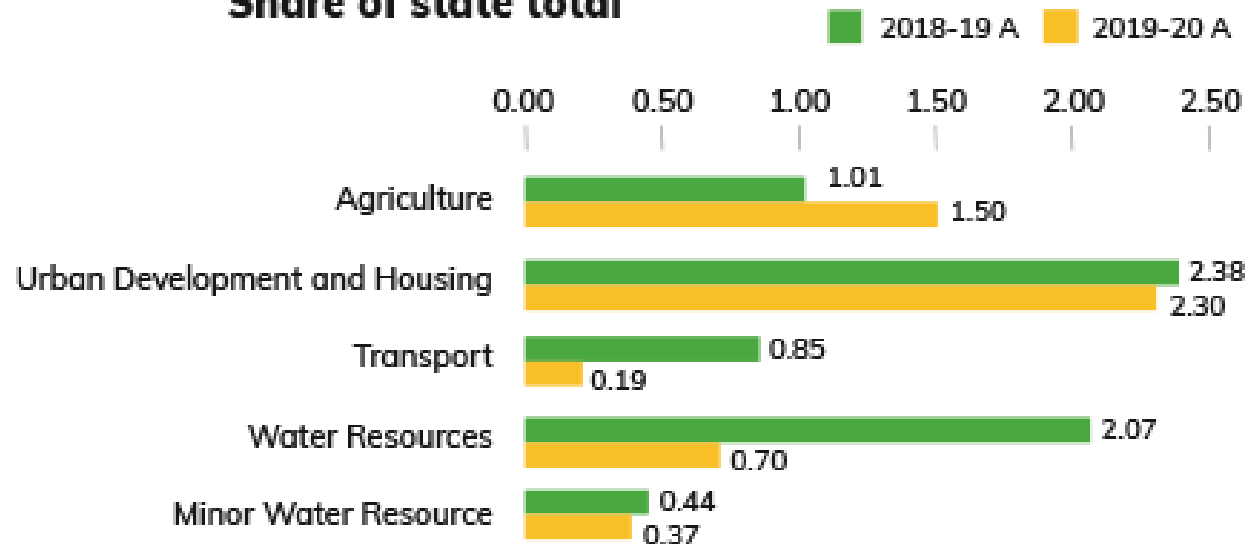
Miniscule amount that is less than 1 per cent, being spent for addition of Renewable Energy

Favourability of power sector budget for clean energy transition has been low

Share of 2810-Renewable Energy in Budget of State Power Department



Share of state total



Issues: Programme Planning



Key schemes like **clean fuel scheme** in transport sector is only promoting CNG based fuel and not battery based transport

- State is running the **Diesel Anudaan scheme for farmers** with no planning for rolling out the solar pump scheme

Key mission like **Jal Jeevan Hariyali** includes the clean energy initiatives but limited to pilot mode or decentralised technology promotion

No designed programmes for low carbon development of **Urban Development sector**

Planning for **Green Budget** of Bihar is ex-post only and not adjusted to immediate requirement for clean energy transition

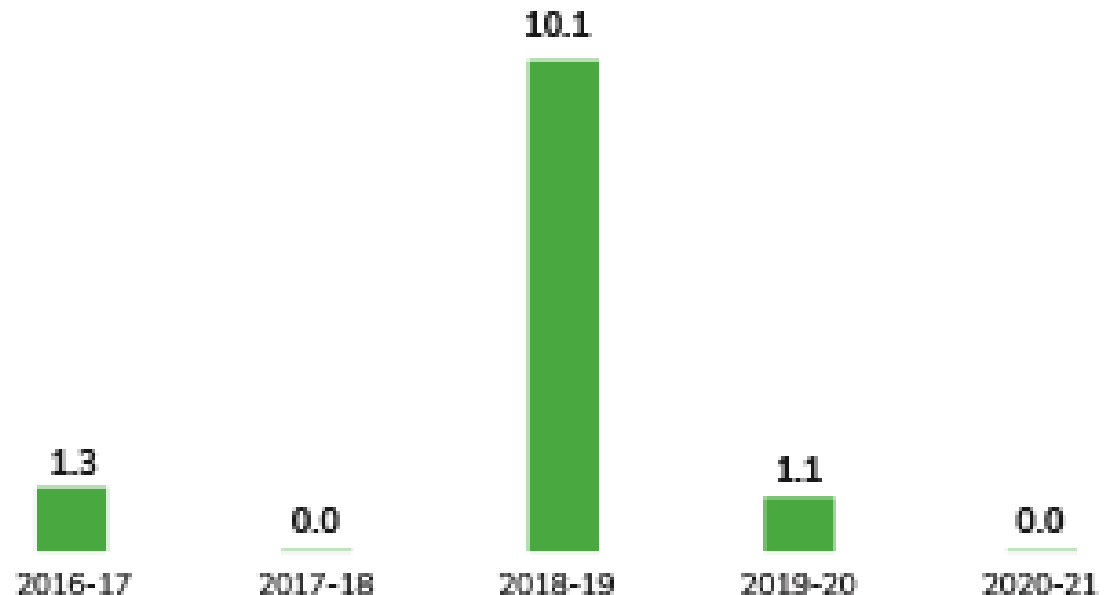
Issues: Support from other financing channels for clean energy transition

Huge dependence on loan component for building Transmission and Distribution infrastructure

Fund transfers from Central PSU- IREDA has been poor in Bihar

No grants for renewable energy sector from Finance commission recommendations to any state

Disbursement through central PSUs such as Indian Renewable Energy Development Agency (IREDA) to Bihar (Rs crore)



Source: IREDA Annual Report 2020-21

Issues: Cohesiveness on clean energy policy

Lack of **monitoring process** in the State RE policy of its performance on achievement of RE targets

While the measures are announced for improving private participation such as exemption, land clearance to project developers etc., there is **lack of single window clearance system or land pool** demarcated for RE project in Bihar

Lack of robust strategy for **reducing transmission and distribution losses** under stipulated limit

RE policy acknowledge the promotion of off grid RE technologies, but the **lack of implementation guidelines** is another fallout

Despite union government guidelines by MoHUA on Climate Smart Cities Assessment Framework (CSCAF) 2019, Bihar yet to build a road map for implementing the union level programmes in a business as usual manner without mainstreaming **climate actions in Urban development policies** or budgetary allocations.

Key Objectives under Bihar Renewable Energy Policy, 2017



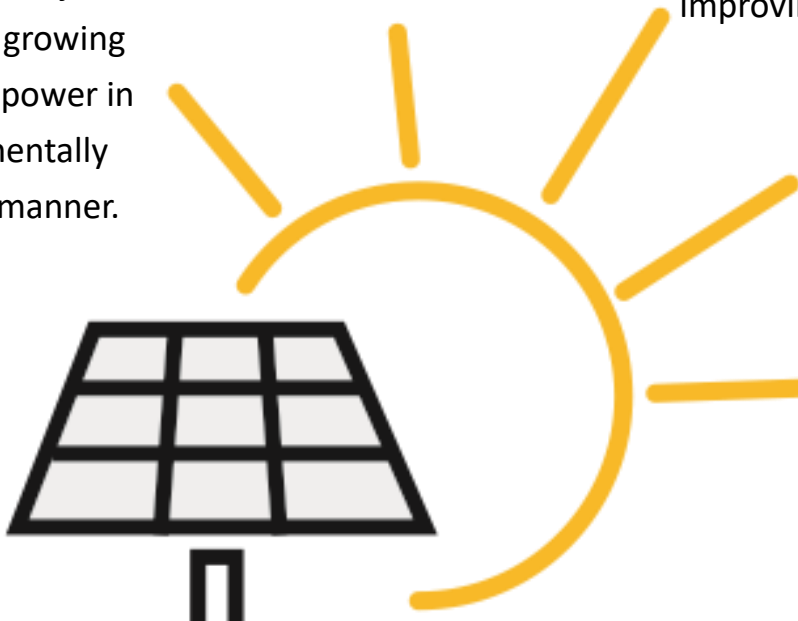
To target **installed capacity of 2969 MW solar**, 244 MW Biomass & Bagasse cogeneration and 220 MW small hydro power by 2022 in the state with an objective to meet the growing demand for power in an environmentally sustainable manner.

- To attract **private sector participation** including foreign players in solar energy sector by providing conducive environment for setting up grid connection as well as decentralized renewable energy projects.

To provide decentralized renewable energy for agriculture, industry, commercial and household sector particularly in **rural areas** thereby improving the quality of power.

- To support R&D, demonstration and commercialization of **new and emerging technologies/applications**

- To facilitate imparting necessary skills and capacity building in establishing, operating and managing RE projects to generate indirect **employment opportunities** for local population



Incentives offered to build cohesiveness for private investors under RE policy

All units engaged in the generation of solar and/ or renewable energy for commercial purpose will be given **tax benefits** for an additional 30% of the approved project cost

For **power plants of up to 15 MW**, which are based on non-hazardous municipal waste and use auxiliary fuels such as coal/ lignite/ petroleum products, up to 15% is exempted

All new micro and small units will be given tax benefits for an additional 30% of the approved project cost

Manufacturing units shall also be offered **exemption from electricity duty** for five years

The **capital cost** of the transmission system to evacuate renewable energy power to the nearest sub-station, including all metering and protective instruments, shall be borne by the state government

Projects with an individual capacity of more than 1 MW shall contribute a one-time payment as facilitation fee of Rs 1,00,000/MW, payable at the time of application, towards the Bihar State Renewable Energy Development Fund. This fund will be utilised to build cohesive **infrastructure for project developers**.

Incentives offered to build cohesiveness for private investors under RE policy



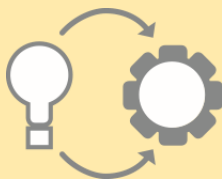
Objectives and targets

The mission of the state policy is to support the Centre in its proposal to bring in 100 per cent e-mobility by 2030, end manual paddling in the state, set up fast-charging stations every 50 km on state highways, attract on-ground investments of Rs 2,500 crore and create empowerment opportunities for 10,000 persons. Priority is given to the removal of paddle rickshaws and up-gradation to 100 per cent electric mobility by 2022. Bihar State Road Transport Corporation (BSRTC) and Transport Department are the implementing agencies for the EV policy.



Incentive provisions under the policy

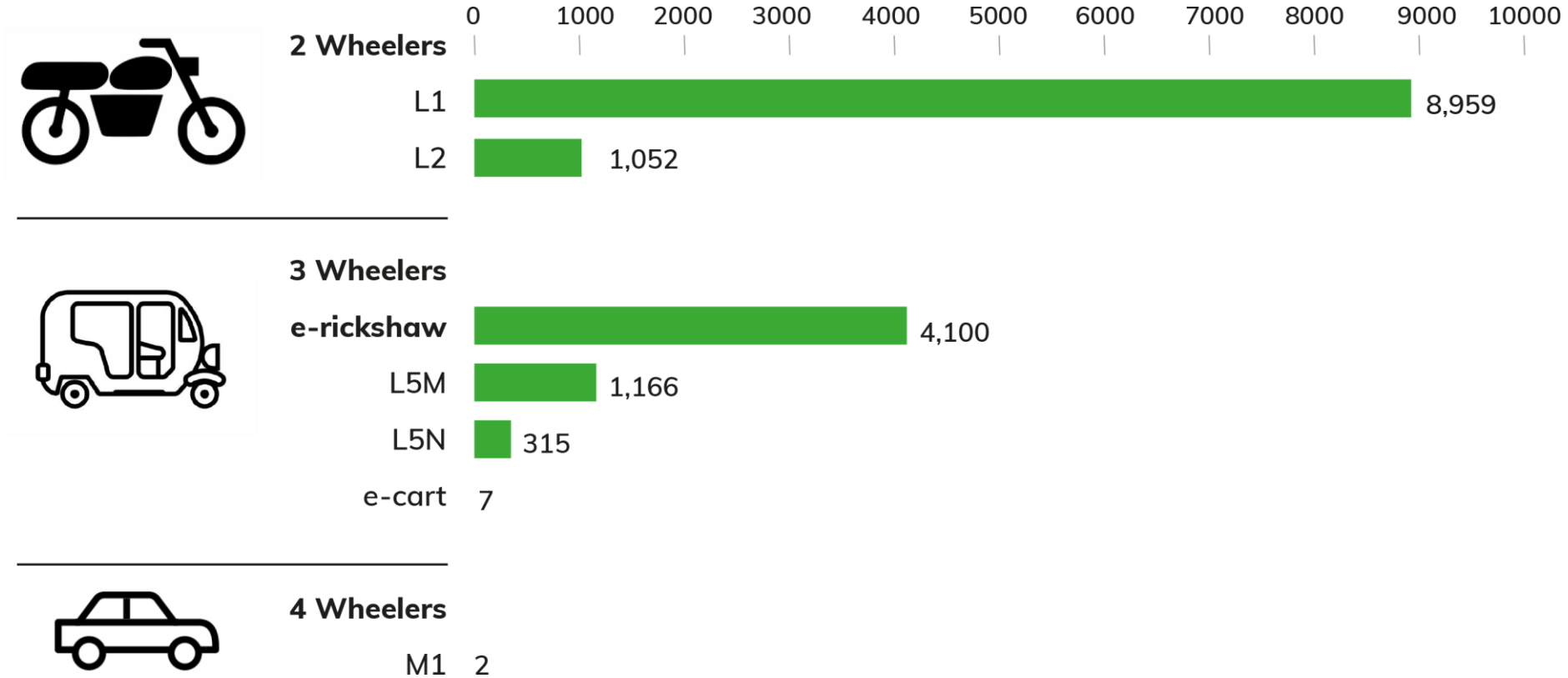
- The first 10,000 EVs in different segments to get end-user subsidy of 15 per cent on the base price with caps in each segment
- Special incentive of Rs 10,000 shall be given to electric rickshaws on using lithium-ion battery as a replacement for lead acid battery
- Exemption from road tax and registration fees for electric vehicles
- Top-up subsidy of Rs 8,000 if the end-user is below the poverty line or belongs to the SC/ST community
- The first 250 commercial public EV charging stations will be eligible for 25 per cent capital subsidy on equipment/ machinery (limited at Rs 10 lakh per station)
- Other incentives offered under Industrial Investment Promotion Policy, 2016



Implementing agencies

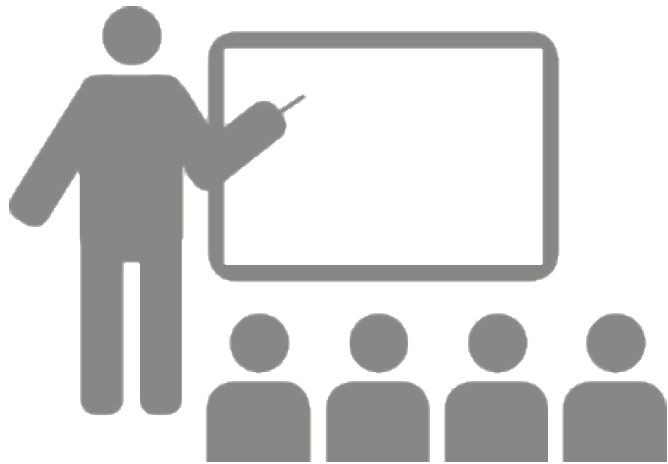
- Bihar State Road Transport Corporation (BSRTC)
- Transport Department

Number of Electric Vehicles registered in Bihar



Source- FAME-II Ministry of Heavy Industries portal accessed in November 2022

Issues: Social concern inclusion



- **Lack of clear targets on job creation and skilling** in Renewable Energy Policy despite policy acknowledges the socio economic development as key co-benefit
- Existing **skilling programmes** have not yet included clean energy industry related skilling objectives
- State rural livelihood missions (SRLMs) and various departments already operating several skilling schemes mandated for welfare of vulnerable segment of population- Women, farmers, SC- ST , rural youth etc. Currently, there is **lack of disaggregated information** on interfacing between the on-going programmes and departments with job opportunities in DRE application
- There is no specific target for training is stipulated and **enrolment has been poor** even though some courses are operational in solar industry related skilling

Provisions for Skill Development for Green Jobs under Bihar RE Policy: Lack of clear targets on job creation and skilling in Bihar's Renewable Energy policy, 2017



- BREDA will design various skill development programs in association with NISE and subsequently certification training program will be imparted across the state to have required number of solar professionals
- BREDA shall coordinate with regional ITIs to include solar in the curriculum.
- BREDA shall support local entrepreneurs to set up commercial shops for solar rooftop and decentralized applications.
- BREDA shall also explore govt. programmes to reach out to local youth using DRE, especially
 - women
 - support entrepreneurship at the grass root level and,
 - improve socio-economic conditions of financially underprivileged
- BREDA constitute of registration and facilitation fees charged to RE developers, will be used for skilling and Research and Development purpose

Issues Related to Social concern inclusion – On-going skilling programmes in Bihar lacks integration of green jobs related skilling courses



Department	Scheme
Bihar Skill Development Mission	Kushal Yuva Programme (state scheme) under Mukhya Mantri Seven Nishchayee Yuva programme
Rural Development Department through Bihar Rural Livelihood Promotion Society	Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) (Central scheme)
	Rural Self Employment Training Institutes (RSETIs) and Skill development programme funded by World Bank.
SC/ST Welfare	Dashrath Manjhi Kaushal Vikas Yojna (DMKVY)
Minority Welfare	Mukhya Mantri Shram Shakti Yojna
Science & Technology	Skill development scheme
Social Welfare (Social Welfare Directorate)	Mukhyamantri Nari Shakti Yojana (MNSY) - Service Sector Training
Social Welfare (Women Development Corporation)	Mukhyamantri Nari Shakti Yojana (MNSY) - Service Sector Training
Social Welfare (State Society for Ultra Poor and Social Welfare-SAKSHAM)	Mukhyamantri Bichhabritti Nivaran Yojna
Village and Small Industry Division under Industry Development Department	Skill development programme
Industry (Directorate of Technical development)	Skill development short-term training programme
Industry (Directorate of Technical development)	Employment-oriented training programme



Policy Suggestions for Green Economic Recovery of Bihar

Policy suggestions

1. State need to priorities the renewable energy sector spending as highly favourable for GER transition and need for phasing down unfavourable expenditure

Categories	Bihar
Highly Favourable	Grant- in- aid to Bihar Renewable Energy Development Agency
	Loan to Bihar State Hydroelectric Corporation
Quite Favourable	Transmission and Distribution
	Backward Area Grant Fund for Electrification
	Farmers connection(Mukhyamantri Krishi Vidyut Rishta Nishchay Yojana)
	Electrification for Irrigation purpose (Har khet tak Sinchae ka Paani - Saat Nishchay-2)
Neutral/Undefined	Repayment of loans, Salaries, Grant in aid to Bihar State Power (holding) Company Ltd.
Unfavourable	Thermal Power Generation

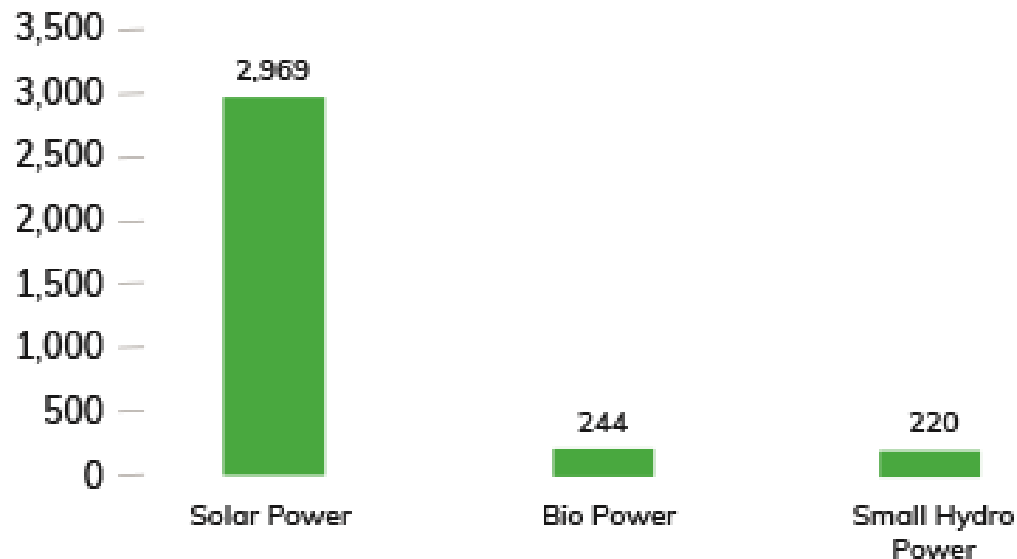
For example, there is need to reduce the public finance outlays for environmentally harmful practices such as diesel subsidy (Diesel Anudaan Scheme)and substitute these with investments in clean technologies like solar based irrigation pumps.

Policy suggestions

2. State can develop a framework for creation of livelihood from Decentralised Renewable Energy (DRE) technologies and capacity building of local population for livelihood in clean technologies

Decentralised / off-grid Renewable Energy (DRE) powered livelihood solutions have the potential to reduce and eventually eliminate the reliance of livelihood on diesel, particularly in rural settings, and can supplement the grid supply. Apart from creating jobs, these applications would help in achieving self-reliant which is important for inclusive and green economic recovery of Bihar

Target of Bihar's RE policy by 2022 (MW)



Source: States' RE policy

Note: Potential for Job creation in Small Hydro and Bio-power is calculated by multiplying respective target with 13.84 and 16.24 persons per MW

Policy suggestions

2. State can develop a framework for creation of livelihood from Decentralised Renewable Energy (DRE) technologies and capacity building of local population for livelihood in clean technologies

Instead of reinventing the skilling policy, some of the **existing schemes being operated by social welfare department** for example Mukhyamantri Nari Shakti Yojana (MNSY) for service sector training of women can have inclusion of certain domain specific trainings for service sector related job opportunities in DRE sector or other climate mitigation interventions. SRLMs should be instructed to coordinate and train Self Help Group (SHG) women for providing after-sales and repair service at the local level, and thereby facilitate in creating green jobs.

In addition to this, existing **community-level institutional platforms** should be mobilized with the support of technology providers to build the capacity of potential users and buyers on basic troubleshooting of the equipment to boost adoption of DRE technologies.

Training needs can be based on **local resources and requirements**. For example, Bihar has the highest demand for e-Rikshaws, and so training programmes can be devised for manufacturing, operation, and maintenance services in this segment. Being an agriculture-based economy, the state also has rich biomass potential for energy production. Training programmes on maintenance of biomass-based energy technologies should also be included in the Bihar Skill Development Programme.

Designing a skilling programme for interstate replenishment of the requirement of the workforce in the RE industry and ensuring quality standards while **skilling for climate change** mitigation should be a priority for the government. Specialised Up-killing courses for jobs in industries related to climate mitigation technologies should be encouraged and can be launched through Rural Self Employment Training Institutes (RSETIs).

Policy suggestions

3. Bihar State need to explore new climate finance mechanisms like green bonds for investing in transmission and distribution network

Bihar is heavily dependent on external loans for transmission and distribution network. Often this increase the burden on state finances due to the requirement of co- financing by the grantee state. Currently, high Transmission and Distribution (T&D) losses are proving debacle for private investment in RE sector. Bihar should explore new climate finance mechanisms like Green Bonds for leveraging investment in transmission and distribution infrastructure in association with technical assistance from IREDA and MNRE.

Object Head: 01- Loans and advances

Sub-Minor Head	2017-18 A	2018-19 A	2019-20 A	2020-21 A	2021-22 RE	2022-23 BE
0015- South Bihar Power Distribution Company Ltd. (Repayment of loan taken from Rural E. Co.)	658.3	1382.4	1488.8	1404	1500	1528
0016- North Bihar Power Distribution Company Ltd. (Repayment of loan taken from Rural E. Co.)	792.2	2730.1	2500	2635	2500	2683
0017- South Bihar Power Distribution Company Ltd. (Repayment of loan taken from Rural E. Co./ principal)	0	0	0	1198.9	1300	1387
0018- North Bihar Power Distribution Company Ltd. (Repayment of loan taken from Rural E. Co./ principal)	0	0	0	1976.6	1000	2053
0101- Loan to Bihar State Hydroelectric Corporation	0	1525.9	1168.4	579	2000	1000
0105- Loan to Bihar State Hydroelectric Corporation (NABARD)	0	0	0	0	0	1000
0508- Transmission of Bihar State Power (holding) Company Ltd. and Distribution Project	20985	10000	0	16506.6	0	0

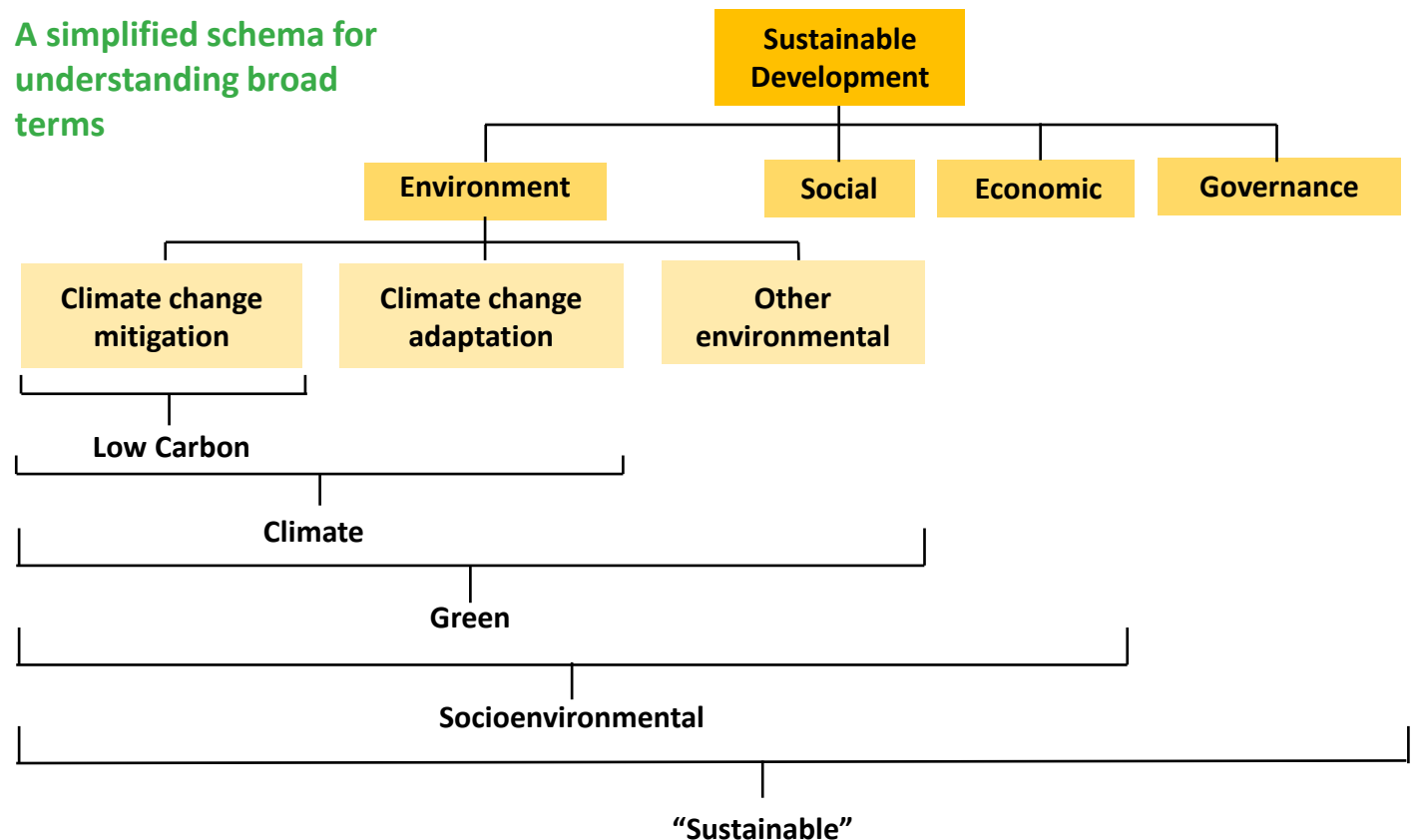
Policy suggestions

4. Bihar Green budgets needs to be made more adjusted to learning from actual implementation of executed public climate finance, through following a pre- planning (or ex-ante) process

There is need for developing climate responsive budgeting tools which links the budgetary allocation with expected outcome indicators and there is need of annual appraisal of performance of climate budget or green budget being implemented by the state. The planning for CRB should be ex-ante and not ex-post as been practiced in Bihar, so that proper planning is laid for GER.

The current approach being followed by Bihar state government while formulating climate or green budget should adopt UN definition of sustainable financing and relevance indicators on social, environmental, economic and governance, objectives. It should be part and parcel of Climate Responsive Budgeting to have inclusivity concern adhered.

A simplified schema for understanding broad terms



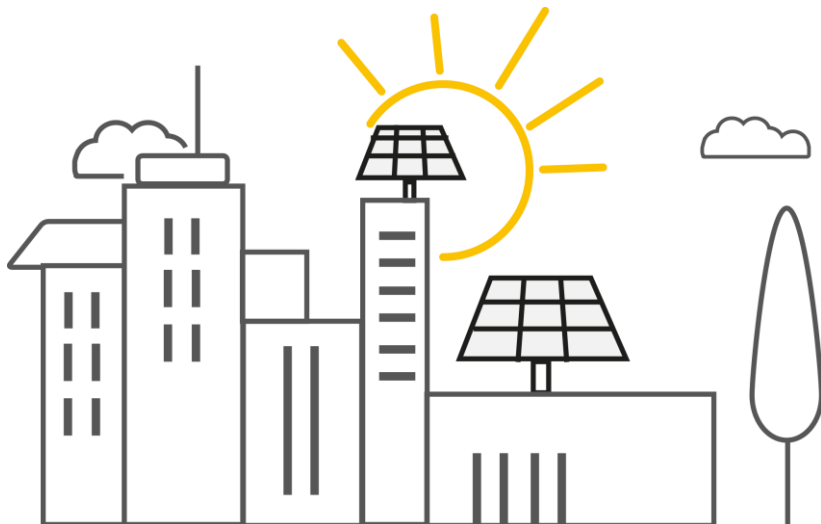
Policy suggestions

5. Bihar Government should step up the policy guidelines for implementation of Union government guidance on Climate Smart Cities for low carbon development of cities

Union government is promoting and supporting the development of renewable energy, build climate resilient infrastructures, and adoption of energy efficient technologies in cities.

For example, the Climate Smart Cities Assessment Framework (CSCAF) of MoHUA is an initiative which was launched in February, 2019 for 100 Smart Cities as a guiding framework for cities towards climate actions.

CSCAF serves as a tool for states and cities to assess their current climate situation and provides a roadmap for cities to adopt and implement relevant climate actions. In compliance with these union government guidelines, Bihar should set guidelines on implementing the union level programmes for climate smart cities. There is a need to make climate change mitigation concerns an integral part of Urban Development programmes and schemes in Bihar, as it brings in local co-benefits by reducing air pollution, improving the longevity of created capital assets



Policy suggestions



6. Bihar should roll out a dedicated strategy for holistic planning for climate financing instead of restricting only on pilot projects approach and moving in sporadic manner

There are numerous pilot programmes being implemented or successful done but never been up-scaled to a level. For example, numbers of programmes in DRE technology promotions . Some examples of pilot programmes which now needs holistic planning and need up-scaling are;

- One of the components of the *Jal Jeevan Hariyali* Mission- focussing on the universal solarisation of all government-owned setups such as hospitals, panchayat institutions, jails and schools in pilot manner
- Pilot Initiative - *Neeche Matsya Upar Bijli* ('fish below and energy above'), the state government piloting to install floating solar projects, roping in the fishing community to ensure benefits for them as well while facilitating the smooth installation of clean energy projects.
- **Pilot Initiative on Energy efficient towns**, in Rajgir and Bodh Gaya, which will be supplied with Renewable Energy by 2023 . This pilot holds significant potential to dovetail the objectives of developing climate-resilient and low-carbon cities and towns with low-carbon urban infrastructure., however there is no plan for rolling out full fledged programme yet by the government

Policy suggestions

7. State can put forth demand for direct grant for renewable energy sector by the subsequent Finance Commission

Considering the centrality of the financial strength of DISCOMs to the soundness of State finances, the fifteenth Finance commission recommended an **additional borrowing space of 0.5 per cent of GSDP** for States, during the four-year period 2021-22 to 2024-25..

However, the performance matrix recommended by 15th Finance Commission for monitoring the performance improvement of the states in power sector due to extra borrowing space, does not include renewable energy addition or other climate mitigation oriented actions as the performance criteria



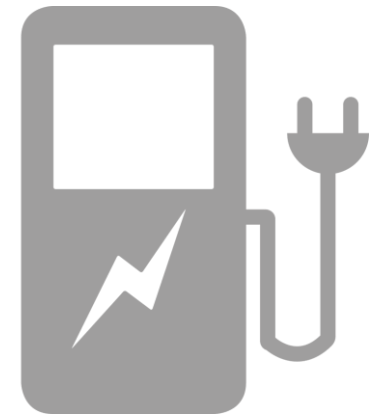
A grant for Renewable energy sector should be demanded by the state with forthcoming finance commission.

Policy suggestions

8. Bihar government can design and invest in interventions for building cohesive environment for electric mobility than focussing only on CNG based transport system



Bihar government continuing investment in a CNG based bus public transport system. However, it presents a risk of lock-in investment in long term which may not be sufficient for reduction in GHG emissions for a carbon neutrality trajectory and greening the economic recovery. In futuristic scenario, Bihar government can design and invest in interventions for building cohesive environment for electric mobility.

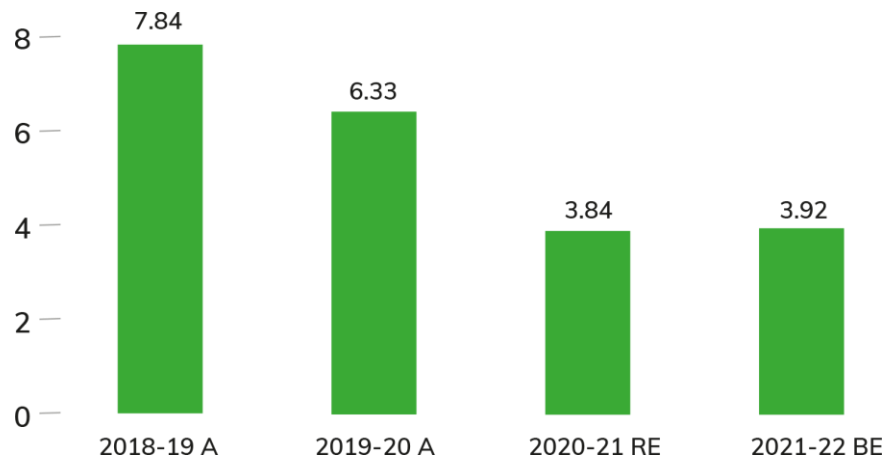


Policy suggestions

9. Need to leverage external funds to augment with public finance resources – Can be achieved through cohesive environment to investors

In case of Bihar, the percentage share of power sector spending in the State's Total Budget expenditure (TBE) has considerably reduced to 3.92 per cent in the year 2021-22 (BE) from 7.84 per cent in the actual estimates of 2018-19, while, the spending trend on power sector has been the same over the years. Thus, State ability to tap into independent sources of finances would be crucial and would obviously require different measures for increasing public financing for climate actions while state government are setting priorities for economic recovery.

States' Energy Expenditure Versus Total State Budget Expenditure (in per cent)



Some of the major issues with attracting investments need clarity by the investors.

- Non-availability of power transmission and evacuation
- Non-availability of land and single window clearance system
- Unclear tax exemptions etc.



Thank You

Work presented is from Factsheet:

Bihar's Policy and Budgetary Priorities for Transitioning towards Green Economic Recovery*

Authors: Jyotsna Goel and Subrata S. Rath

About Project:

Building Knowledge and Capacity for Green Economic Recovery of the States in India

The project is meant to build knowledge and capacity for facilitating the green recovery of the State economies in India, following the sharp economic downturn due to the COVID-19 pandemic. The research will help in developing knowledge resources and recommendations that State Government actors could refer to for incorporating climate mitigation actions under their economic revival measures.

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* Provides detailed methodological note as Annexures