

# **MINISTRY OF POWER**

# **CENTRAL ELECTRICITY AUTHORITY**

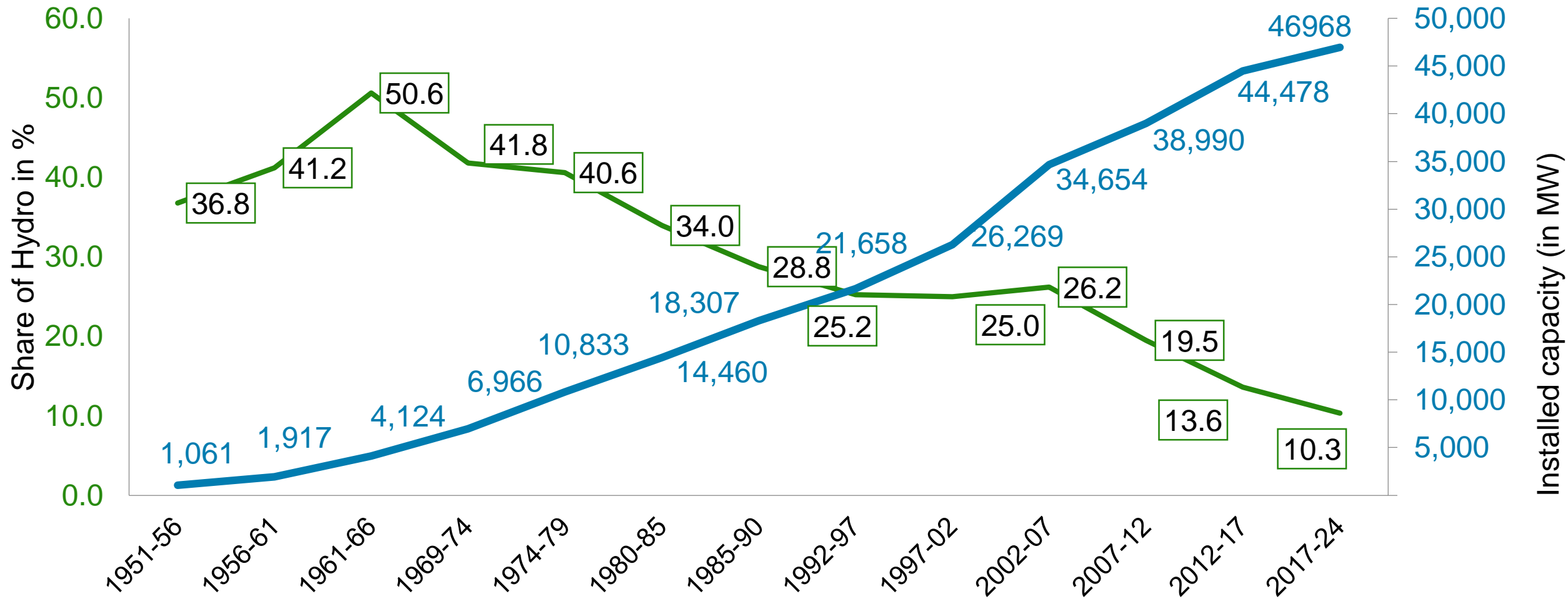
## **Development of Hydro**

### **An Overview and Policy & Statutory clearances**

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# Journey of Hydropower Development

Increasing Capacity (MW) but Declining Share (%)



Share of Hydro on 31.10.2024 is 10.34%

# Status of Hydropower Development

(Nov, 2024)

	Conventional	
	Nos.	I.C. (MW)
<b>Exploitable Capacity</b>	<b>539</b>	<b>133410</b>
<b>I. In operation</b>	<b>206</b>	<b>42222</b>
<b>II. Under construction</b>	<b>28</b>	<b>13997</b>
<b>III. Under development</b>	<b>71</b>	<b>48458</b>
(a) Concurred by CEA and yet to be taken up for construction	<b>28</b>	<b>19460</b>
(b) Under Examination/scrutiny in CEA	<b>1</b>	<b>1720</b>
(c) DPRs examined and returned for revision	<b>26</b>	<b>6427</b>
(d) Under S&I	<b>16*</b>	<b>20851</b>
<b>Total (I+II+III)</b>	<b>305</b>	<b>104678</b>

*\*The above list includes 5 nos. Multipurpose Projects (MPP) of total I.C. of 12815 MW*

## Basin wise indication of Stalled HE Projects in Arunachal Pradesh

- MoP vide letter dated 22.12.2021 indicated 29 HE Projects in Arunachal Pradesh to be developed by CPSUs with details as under:

CPSU	Nos.	IC (MW)
NEEPCO (Kameng, Subansiri, Tawang, Siang tributaries)	17	4988
NHPC (incl. Dibang HEP)	4	9380
JV of NHPC & NEEPCO (Upper Siang HEP)	1	10000
SJVN (Dibang basin except Dibang HEP)	5	5097
THDCIL (Lohit)	2	2950
<b>Total</b>	<b>29</b>	<b>32415</b>

# Tentative Hydro Capacity Addition From Year 2024-25 To 2031-32

Year	Under Active Construction	Concurred	S&I	Total
2024-25	1710	0	0	1710
2025-26	1066	0	0	1066
2026-27	4724	0	0	4724
2027-28	2295.5	0	0	2295.5
2028-29	1322	759	0	2081
2029-30	0	462	350	812
2030-31	0	1380	0	1380
2031-32	2880	7277	0	10157
<b>Total</b>	<b>13997.5</b>	<b>9878</b>	<b>350</b>	<b>24225.5</b>

# Tentative Hydro Capacity Addition From Year 2024-25 To 2031-32- State Wise

State	No of Projects	IC (MW)
Andhra Pradesh	2	1190
Arunachal Pradesh	10	12533
Assam	1	120
Himachal Pradesh	11	3137
Jammu Kashmir	9	4574.5
Kerala	2	100
Meghalaya	1	85
Nagaland	1	186
Punjab	1	206
Sikkim	2	620
Uttarakhand	3	1264
West Bengal	2	210
<b>Total</b>	<b>45</b>	<b>24225.5</b>

## **Initiatives taken by GoI to promote hydro power sector**

- Policy Measures to promote Hydro Power Sector- March 2019
  - Declared Large Hydro Projects (> 25 MW) as Renewable Energy
  - Hydro Purchase Obligation (HPO) as a separate entity within RPO
  - Tariff Rationalization measures
    - Loan period increased from 12 to 18 years
    - Useful life of the project increased to 40 years from 35 years
    - Provision of escalating tariff to decrease initial tariff
  - Budgetary Support for Flood Moderation Component

## Initiatives taken by GoI to promote hydro power sector

- Budgetary Support for Cost of Enabling Infrastructure
  - Govt. of India on 11.09.2024 has approved the modified scheme of budgetary support towards enabling infrastructure of hydroelectric projects wherein the ambit of enabling infrastructure has been widened to include the following apart from Roads/ Bridges
  - Railway Sidings
  - Transmission System upto pooling point including upgradation of pooling station
  - Communication infrastructure
  - Ropeways
- Further, the limits for the scheme were revised as follows;
  - (a) Rs. 1.0 crore per MW for projects upto 200 MW;
  - (b) Rs. 200 crores + Rs. 0.75 crore per MW for projects above 200 MW.



## **Initiatives taken by GoI to promote hydro power sector (contd.)**

- Cabinet approves Central Financial Assistance towards Equity Participation by the State Governments of the North Eastern Region for development of Hydro Electric Projects in the North Eastern Region.
  - This scheme has an outlay of Rs. 4136 crore to be implemented from FY 2024-25 to FY 2031-32.
  - The grant towards equity capped at 24% of the total project equity subject to a maximum of Rs.750 crore per project.
  - Central Financial Assistance would be limited to only viable Hydro Electric Projects. States would be required to waive / stagger free power and / or reimburse SGST to make the project viable.
- Rationalization of clearances for HEPs
- Waiver of ISTS charges for Hydro Power Projects including PSPs

## **Initiatives taken by GoI to promote hydro power sector (contd.)**

- Takeover of stalled projects by CPSUs
  - 58 Projects of 44.7 GW (32.4 +12.3) have been indicated to various CPSUs for development
  - MoUs for 13 projects (12.7 GW) have already been signed
- Dispute Avoidance Mechanism – Empanelment of Independent Engineers
- Dispute Resolution Mechanism – Conciliation Committee of Independent Experts

## **Some prominent barriers in the development of HEPs**

- Lack of cooperation in facilitation of approvals related to EC&FC pending with state governments (Sikkim : Teesta-IV, Nagaland: Dikhu)
- Forest proposal delayed due to delay in identification of Non-forest land / degraded forest land for Compensatory Afforestation.
- Considerable delay in conduct of public hearing due to local issues that delays the accord of Environment Clearance
  - Public Hearing of Dibang Project was postponed 13 times and the project got delayed by about 5 years.

## Way forward

### **Expectation from States**

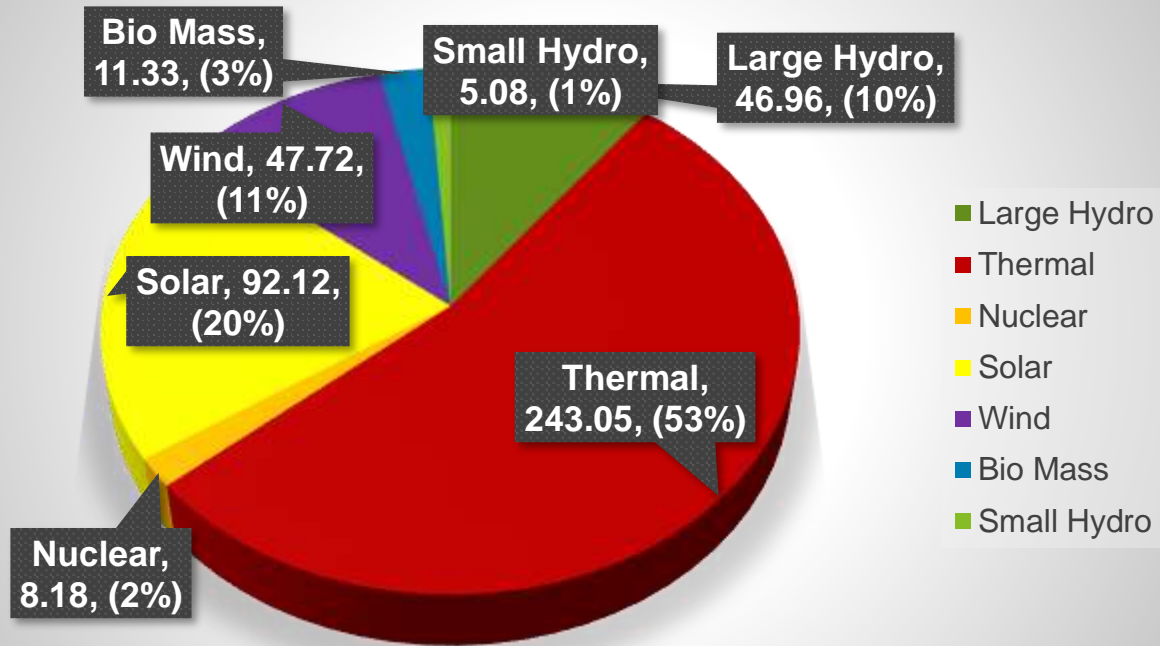
- Priority for
  - Land acquisition,
  - R&R issues
  - Local law & order
- Measures to improve viability of HEPs may be undertaken
  - Staggering of free power
  - Reimbursement of SGST
- Avoid any levies and cess on hydropower projects
- Not to change the original terms & conditions for allotment of projects
- Wider publicity of benefits of hydropower
  - Social benefits
  - Economic benefits

# Thank You

# Power Scenario in the country

(as on 31.10.2024)

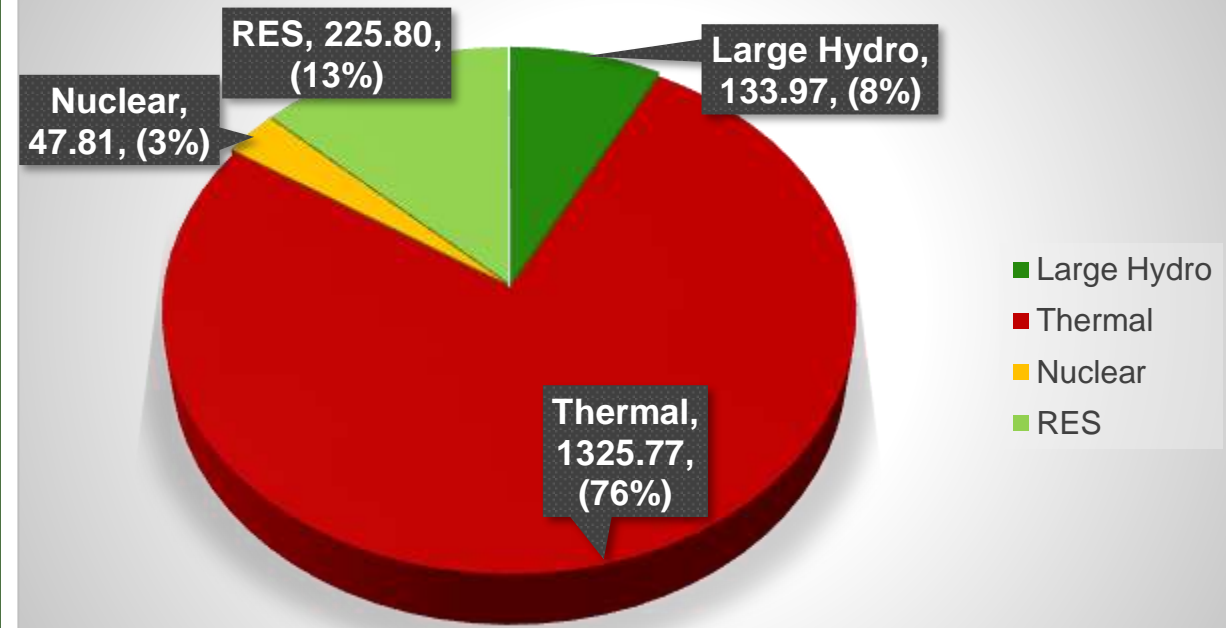
## Installed Capacity (GW)



Total : **454 GW**

FY 2023-24

## ENERGY GENERATION (BU)



Total : **1733 BU**

# Hydro Capacity Addition Since 2014-15

Year	Central Sector (MW)	State Sector (MW)	Private Sector (MW)	Total (MW)
2014-15	736	0	0	736
2015-16	480	610	426	1516
2016-17	80	1555	24	1659
2017-18	390	200	205	795
2018-19	110	30	-	140
2019-20	300	-	-	300
2020-21	300	111	99	510
2021-22	-	-	393	393
2022-23	-	120	-	120
2023-24	60	-	-	60
Total	2456	2626	1147	6229

## **Some recent prominent barriers in the development of HEPs**

- Imposition of Water Cess by UT of Jammu and Kashmir and UT of Ladakh (erstwhile State of Jammu and Kashmir), Uttarakhand, Sikkim and Himachal Pradesh
- Abrupt withdrawal of concessions given to HEPs for their prompt development by state governments (Himachal Pradesh)
- Departure from Hydro Policy 2008, states demanding free power more than normative (12%) (Himachal Pradesh)