India's Energy Transition

Mapping India's Energy Policy 2022:

Aligning support and revenues with a net-zero future

Report Brief

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IISD International Institute for Sustainable Development
Global Subsidies Initiative
CEEW THE COUNCIL

Recent Publications

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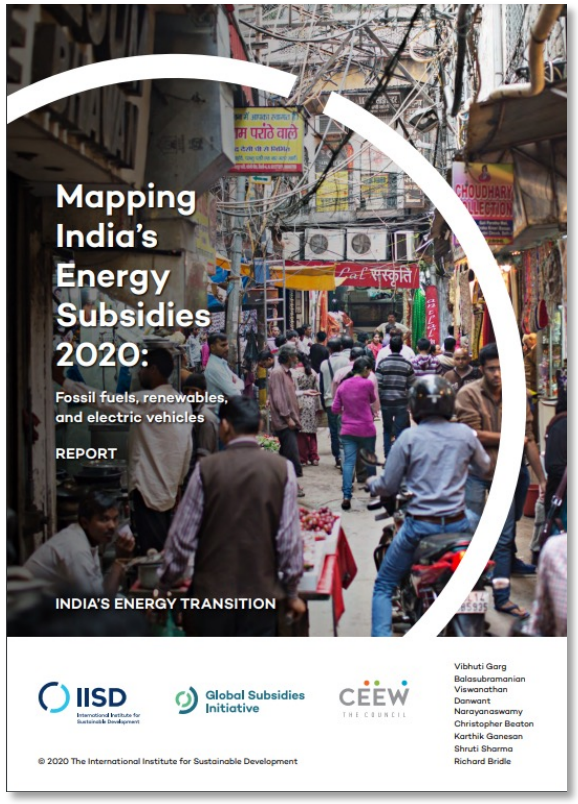

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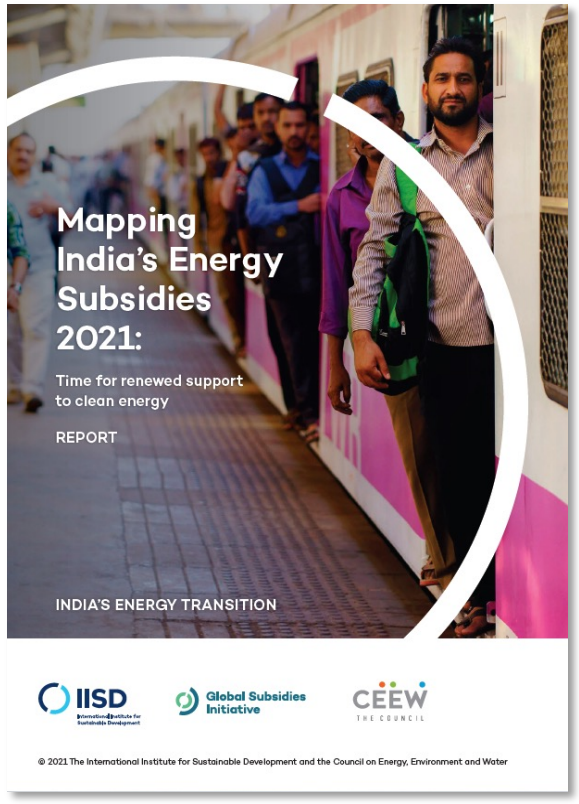

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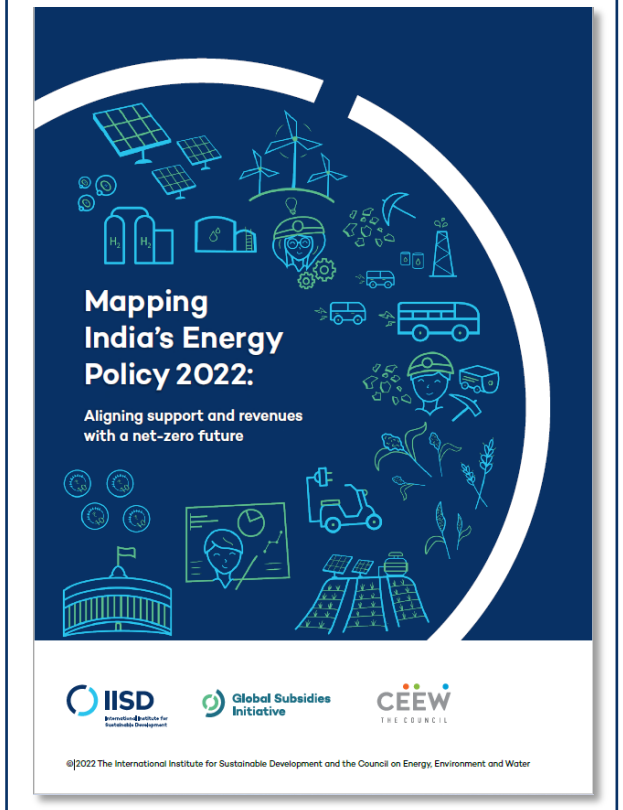


Key research questions

India's Ambition

At UNFCCC's COP26, India updated its climate commitments: establishing a new target, to reach net-zero GHG emissions by 2070. For the medium-term, India aims to install 500GW of non-fossil power capacity by 2030

1

SUPPORT

- What public support is provided to different energy sources, and is it aligned with objectives?

2

REVENUE AND EXTERNALITIES

- What public revenue is raised from different energy sources, and how does it compare with the full external costs of energy?

3

INDIA'S ENERGY MIX AND NET-ZERO PATHWAY

- What does this imply for India's energy transition?

Energy Mix

Coal

Oil and Gas

Electricity

Renewable Energy

Electric Vehicles

Key Findings

Key findings

Aligning support and revenues with a net-zero future for India

Scope	Support			Revenue	Externalities
	Subsidies	**PSU Investments**	**Lending by PFIs**		
What is it?	Government policies that confer a financial benefit on energy producers, consumers, or both	Capital investments in energy by majority government-owned energy sector companies	Lending to energy projects by majority government-owned financial institutions	Tax and non-tax revenue from consumption and production of energy	Costs or benefits that are imposed on others and are not reflected in the prices charged
Fossil vs. clean energy	9x	11x	3x	-	-
Total value	INR 217,737 cr. (FY21)	INR 140,000 cr. (FY21)	> INR 190,116 cr. (FY21)	INR 699,565 cr. (FY20)	INR 1,454,398 cr. – 3,560,979 cr. (FY20)

State of India's Energy Subsidies

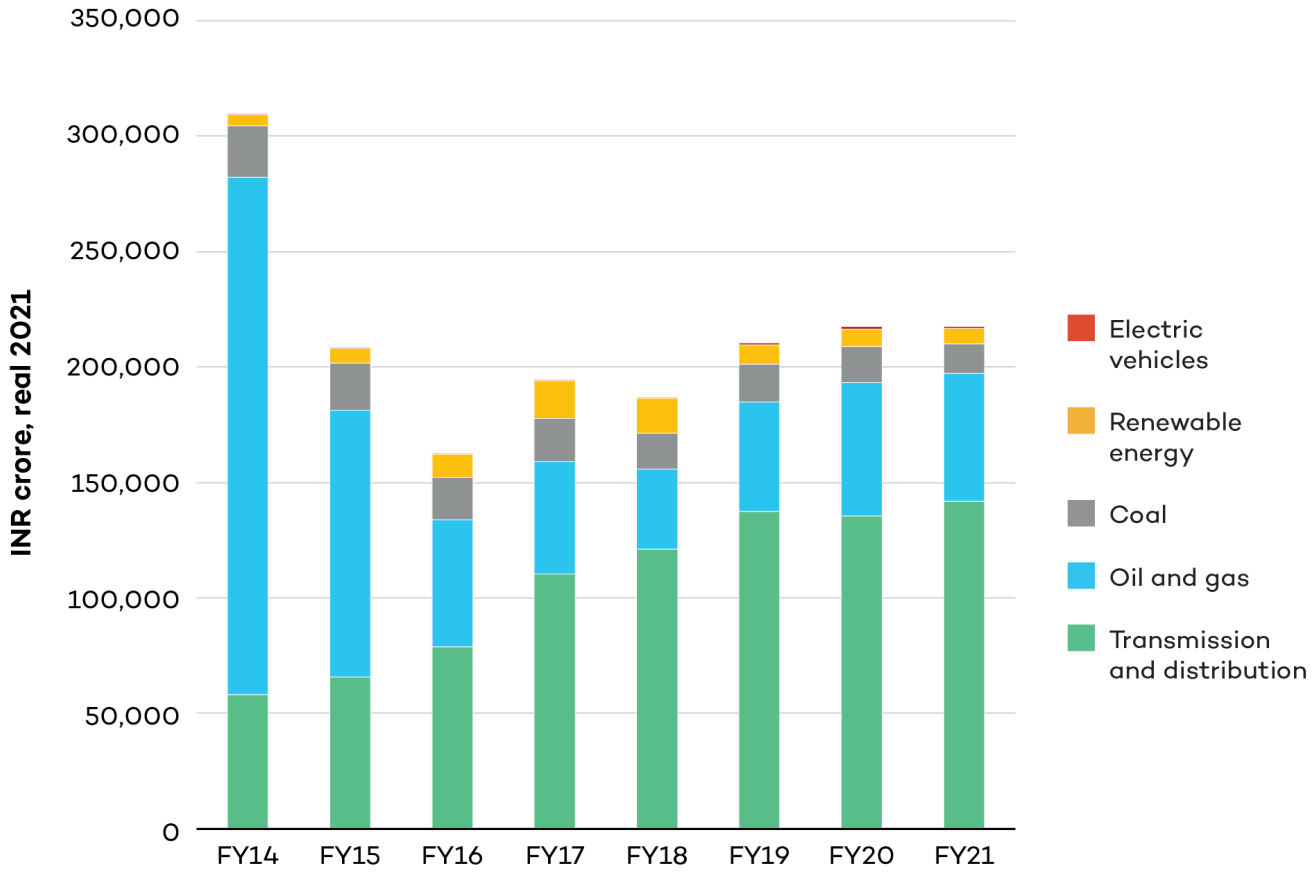
Mapping magnitude and trends of India's energy subsidies

Key Findings

- Fossil fuel subsidies have fallen greatly since 2014 but still 9 times more than clean energy
- Low-priced electricity makes up ~62% of all subsidies
- For RE, subsidies have fallen 59% since FY2017

Recent Developments

- LPG subsidies were removed in FY2021 and reintroduced in FY2022 for PMUY beneficiaries



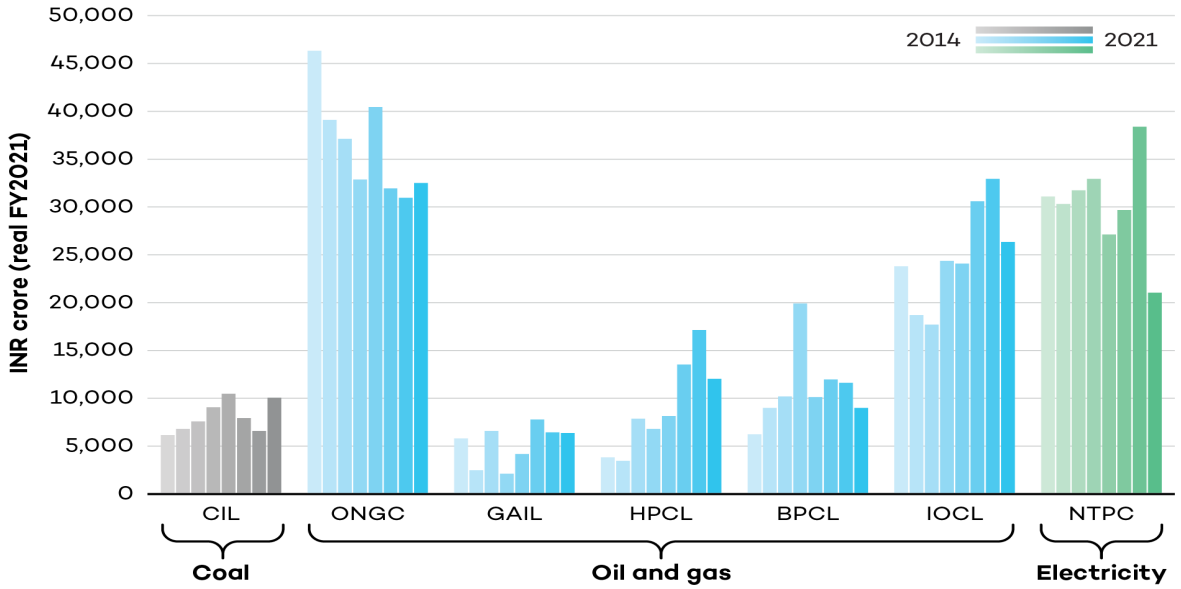
Investments by India's Public Sector Undertakings

Four key parameters were used to study an ambition matrix for PSUs

Why Study PSUs?

- Critical institutions for driving investments, energy security and just transition
- Tracking PSU ambition reveals several gaps:
  - Vision and mission statement of no PSU have been updated to reflect the national net-zero and coal phase-down targets
  - Stated clean energy targets lack clarity on the scale and mode of investment needed
  - Clean energy and just transition yet to feature in the corporate social responsibility plans of PSUs, likely due to regulatory limits

- Capex of 14 energy-PSUs stood at INR 1.4 lakh crore in FY21
- FF-linked investments are 11x higher than clean energy



Note: Chart shows the 7 Maharatnas that comprise 84% of the energy-PSU capex

The Role of Public Finance Institutions

15 PFIs including 12 Public Sector Banks and 3 NBFCs were studied

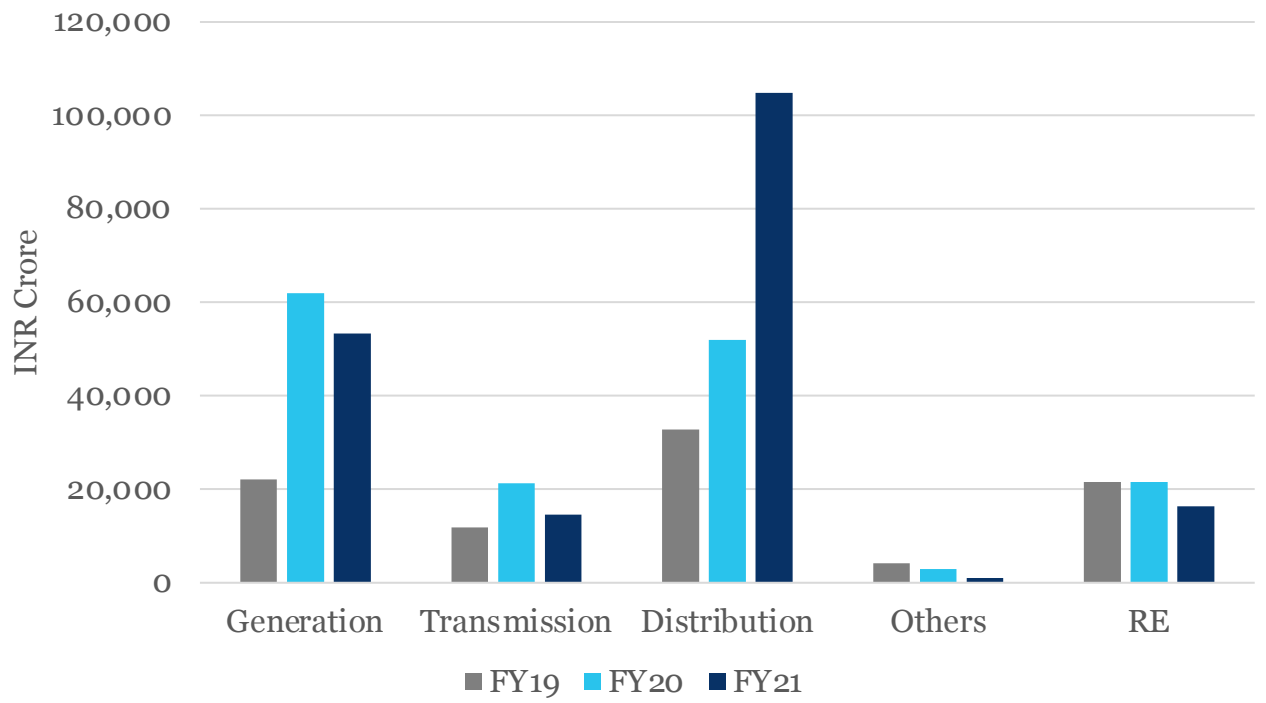
Key Findings

- For FY21, annual disbursements were 3 times higher for fossil projects than RE
- 8 out of 12 PSBs had high risk exposure (>5%) to energy infrastructure
- PSBs have the lowest asset portfolio share towards clean energy when compared with NBFCs, private banks and foreign banks
- Poor data transparency and reporting on financial flows for fossil fuels and clean energy among PSBs

Recent Developments

- GoI recently announced using Sovereign Green Bonds to mobilize resources for green energy transition in public sector projects

Lending by PFIs for FF generation is 3x higher than clean energy



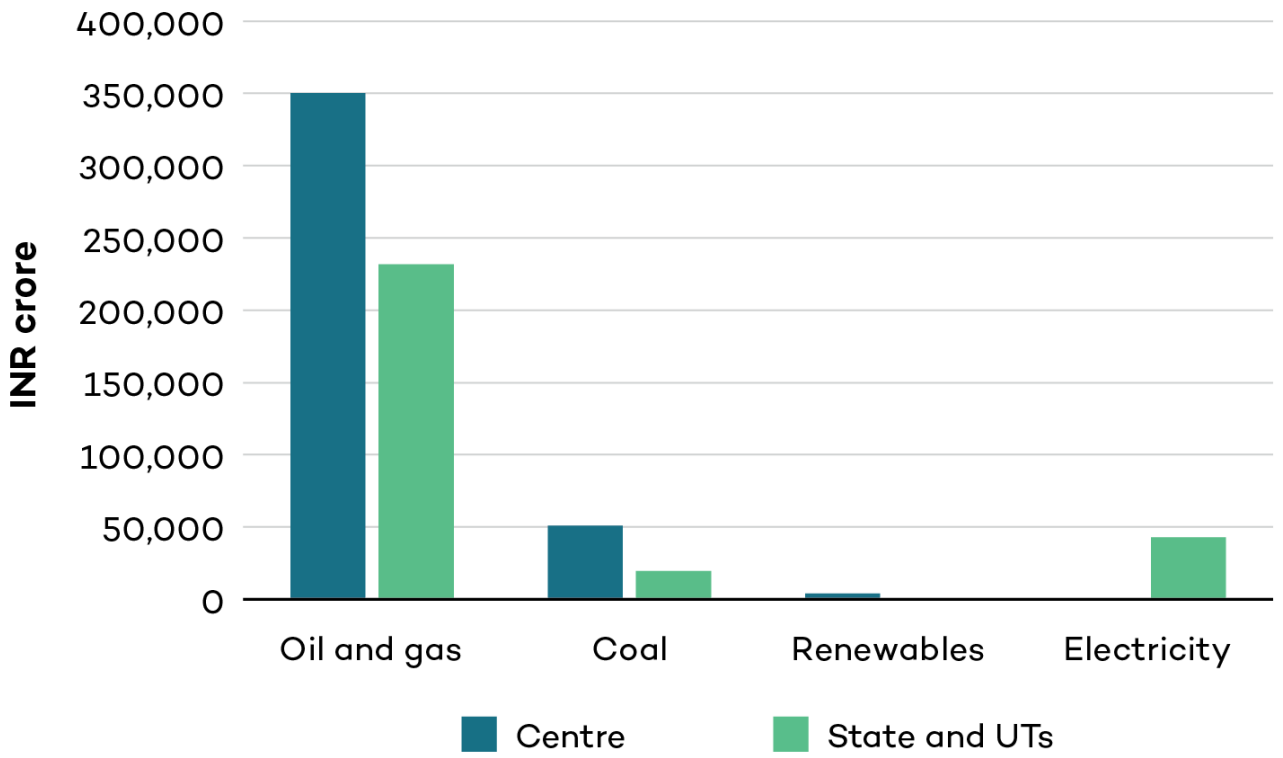
Note: Based on data from 3 biggest PFIs – PFC, REC Limited and IREDA
The same data was not available for the 12 PSBs covered in the report

Energy Revenues

Oil and gas taxes constitute a major portion of centre and state revenues

Key Findings

- In FY20, energy revenue from Centre, States and UTs was INR 699,565 cr., 17% of all government revenue
- 83% of this is from oil and gas; with two taxes - central excise duty and state VAT accounting for 3/4th of revenue from O&G
- Large growth in oil revenue to 2030 but very volatile depending on energy pathways, INR 30,000 to INR 340,000 crore (USD 4 to 48 billion)

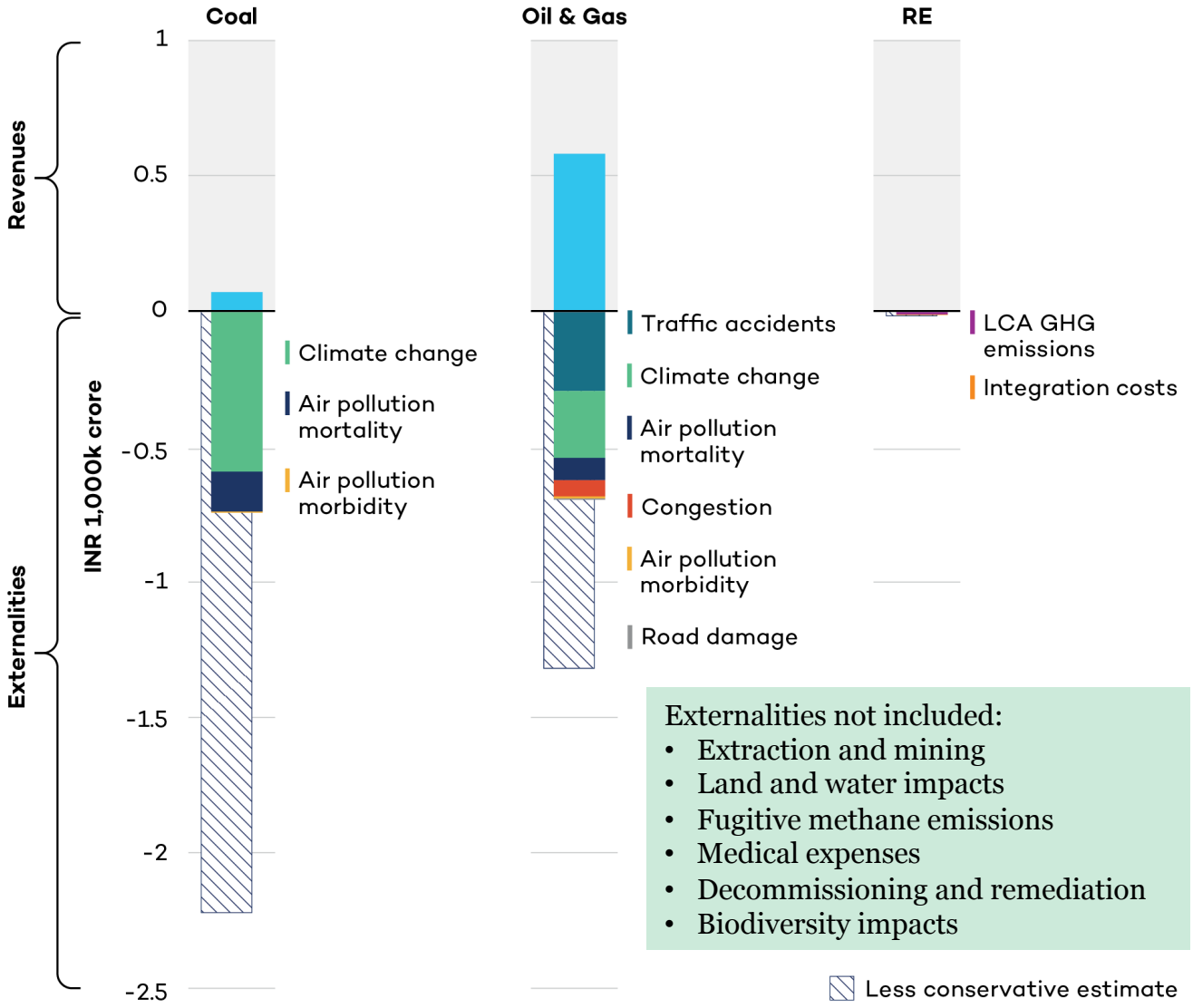


Externalities

But energy also has big costs

Why estimate externalities?

- Only identifying revenues can risk implying that fossil energy is a net benefit to society
- Even a high-level estimate, using conservative values, show externalities far exceed revenues
- For fossil fuels: INR 1,441,464 crore (USD 203 billion) to INR 3,543,108 crore (USD 500 billion), ~2x to ~5x revenues



Recommendations

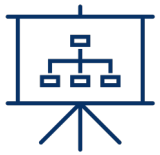
Policy Recommendations

1. Institutionalize center-state coordination on energy

a) Establish a body to coordinate support measures across center and state with relevant Ministries, departments and expert agencies

b) Enhance reporting across Ministries, departments, PSUs, PFIs to improve data transparency

2. Align support, taxation and energy pricing with 2030 targets and a net-zero future



a) Ensure that FF-linked subsidies needed in the short-term are well-targeted and combined with investments in clean energy

b) Mandate PSUs and PFIs to establish net-zero roadmaps to enable just transition

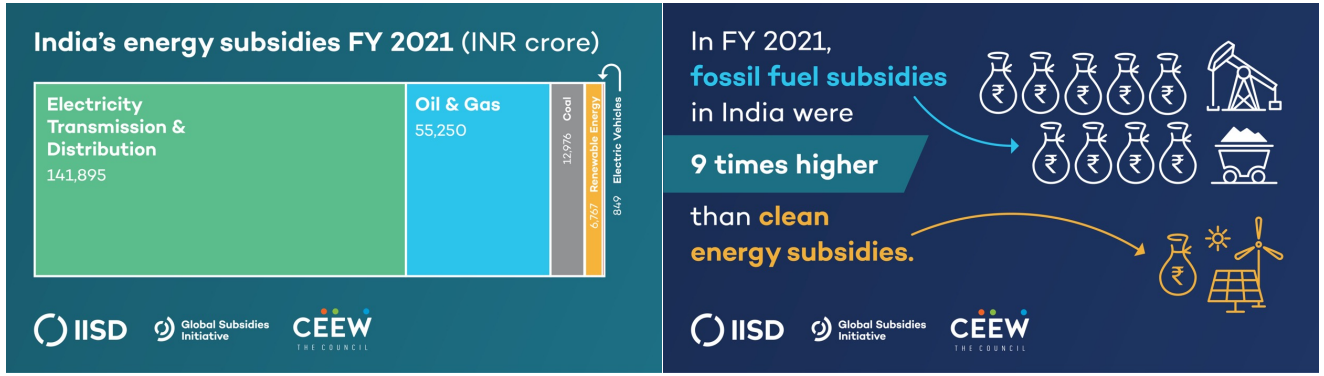
3. Use taxation strategically

a) Fossil revenues are expected to be volatile and should be set aside for improved social protection and public support for clean energy

b) Government should explicitly articulate the role of carbon taxation and ensure consistent carbon prices across different energy types as a part of net-zero roadmap

Follow the discussion and engage with us on:

- www.iisd.org/publications/mapping_india_energy_policy_2022
- Explore the subsidies dataset at: https://www.iisd.org/gsi/mapping-india-energy-subsidies-data/
- Follow us on Twitter for more conversations: @IISD_Energy @CEEWIndia
- Explore infographics and video:



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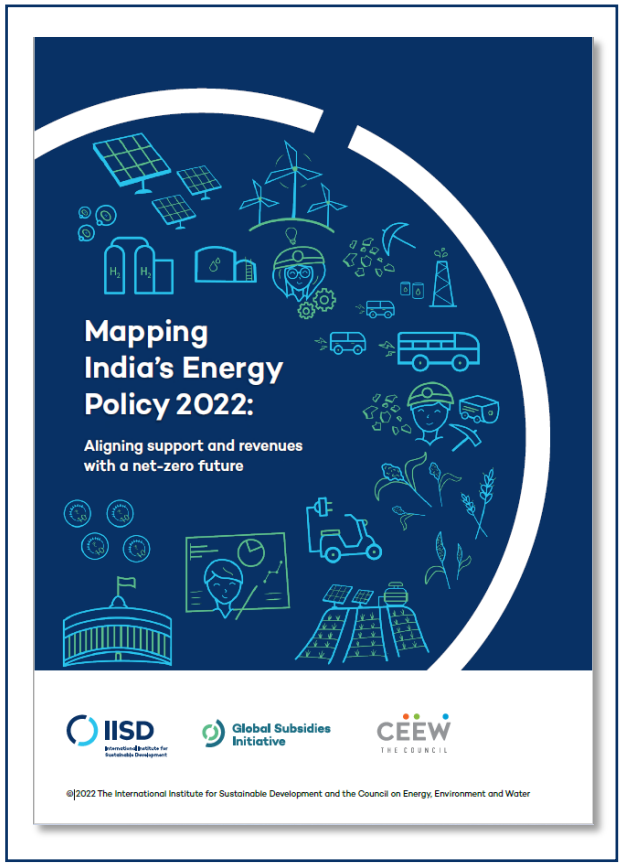

Thank You!

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Annexures

Definitions

- Partnership with ICF, ODI (2017) and CEEW (2018, 2019, 2020, 2021)
- Based on WTO-ASCM which is comprised of four mechanisms
- Comprehensive comparable quantitative estimates of subsidies FY14-FY21

Coal:

Coal mining (across life cycle). Coal imports. Coal-fired electricity & other consumption.

Oil & Gas:

O&G production (across life cycle). O&G imports. Consumption by households, power generation, industry & transport.

Electricity Transmission & Distribution:

Utilities and grids for electricity transmission and distribution.

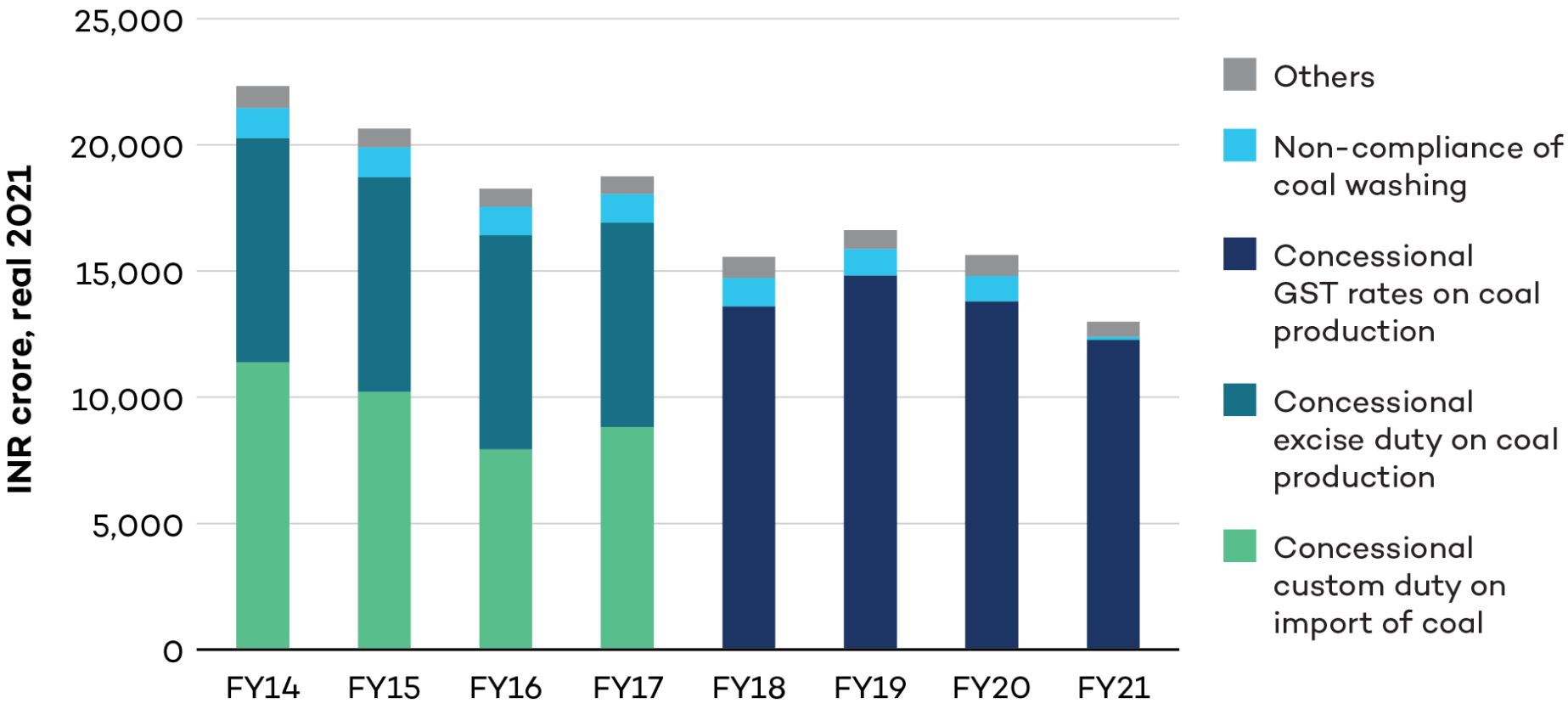
Renewable Energy:

Production and consumption of solar, wind, small hydro, biogas, geothermal energy on- and off-grid.

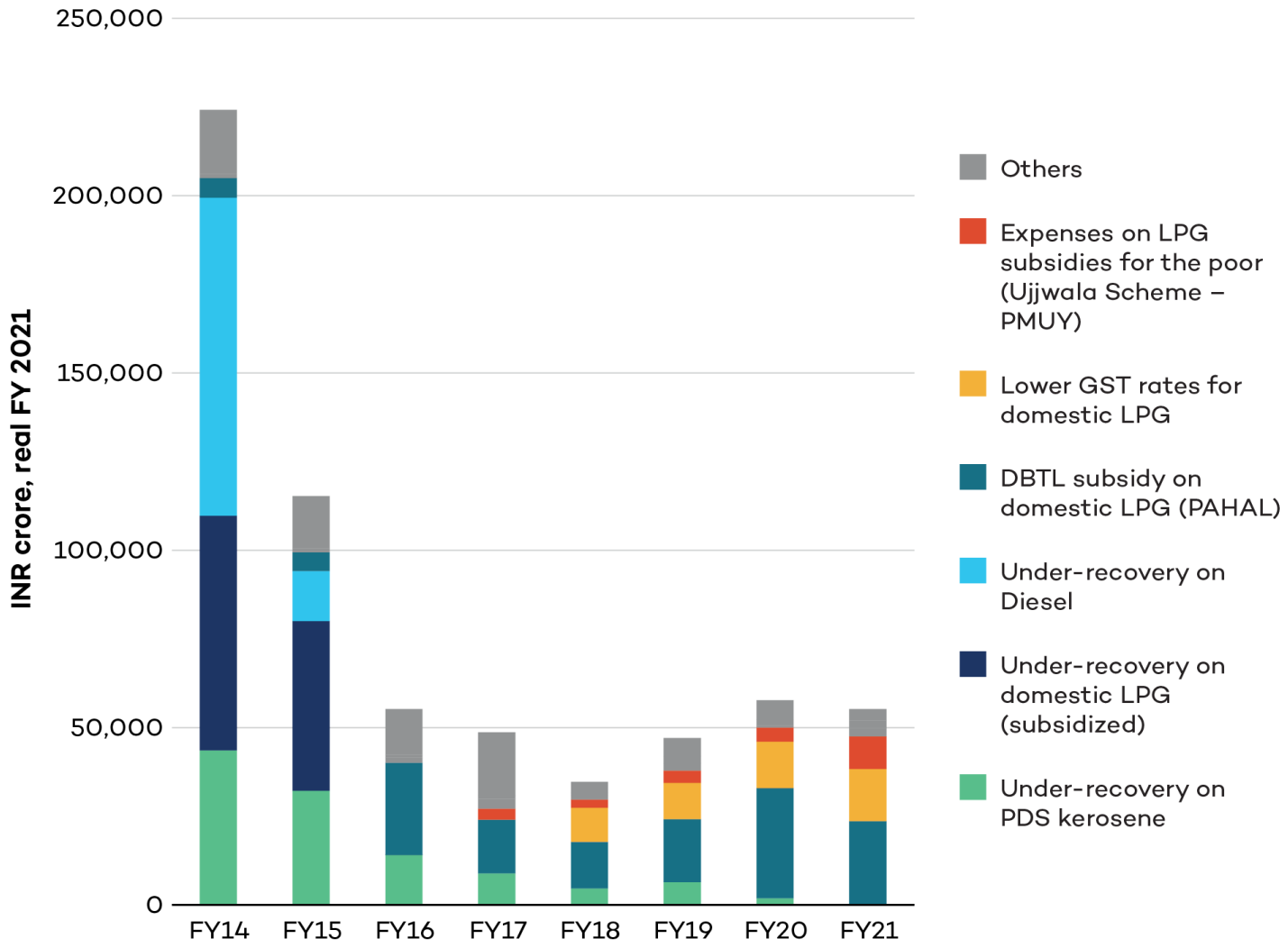
Electric Vehicles:

Manufacturing and use of electric vehicles as well as infrastructure for them.

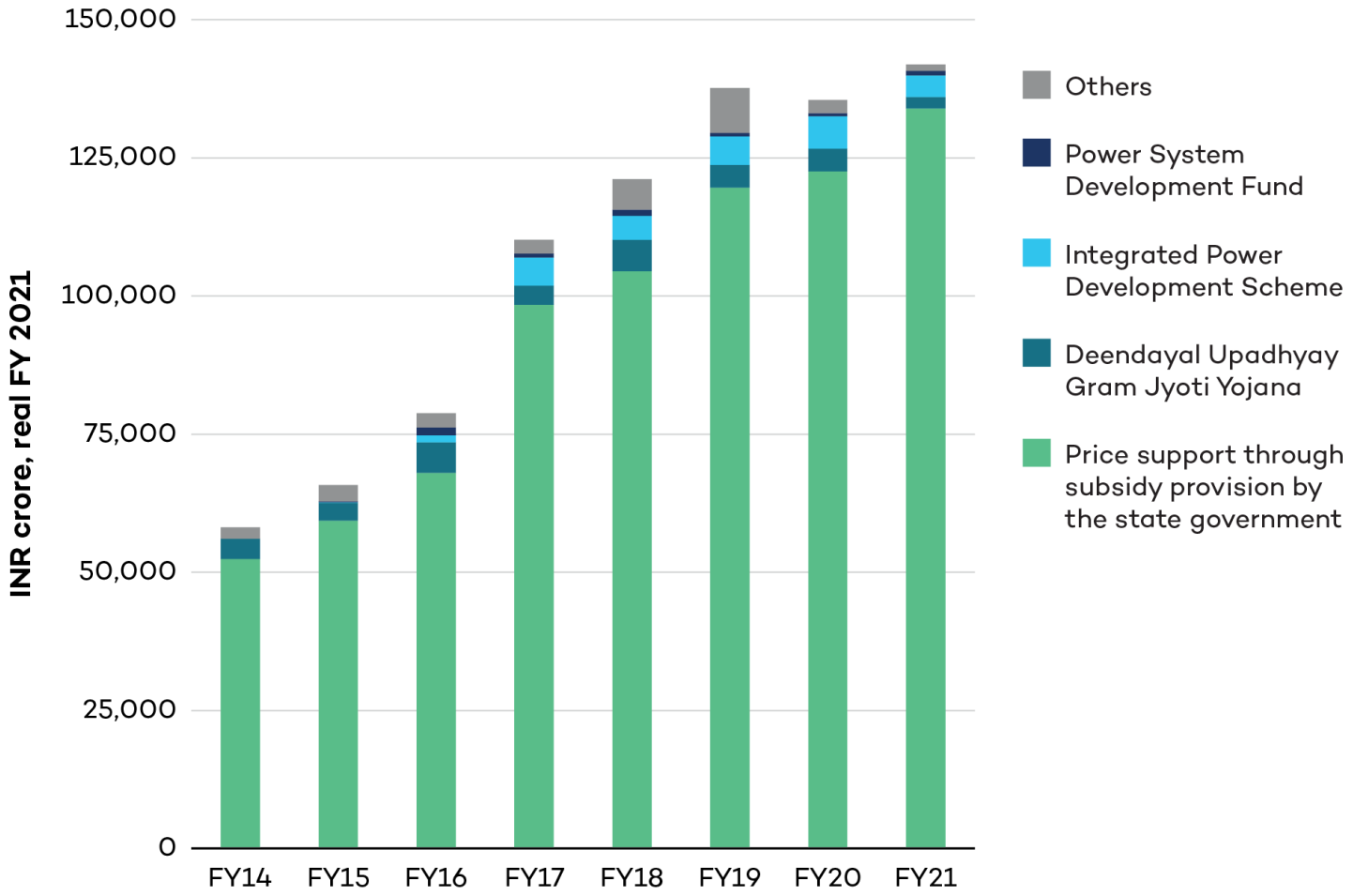
Coal Subsidies



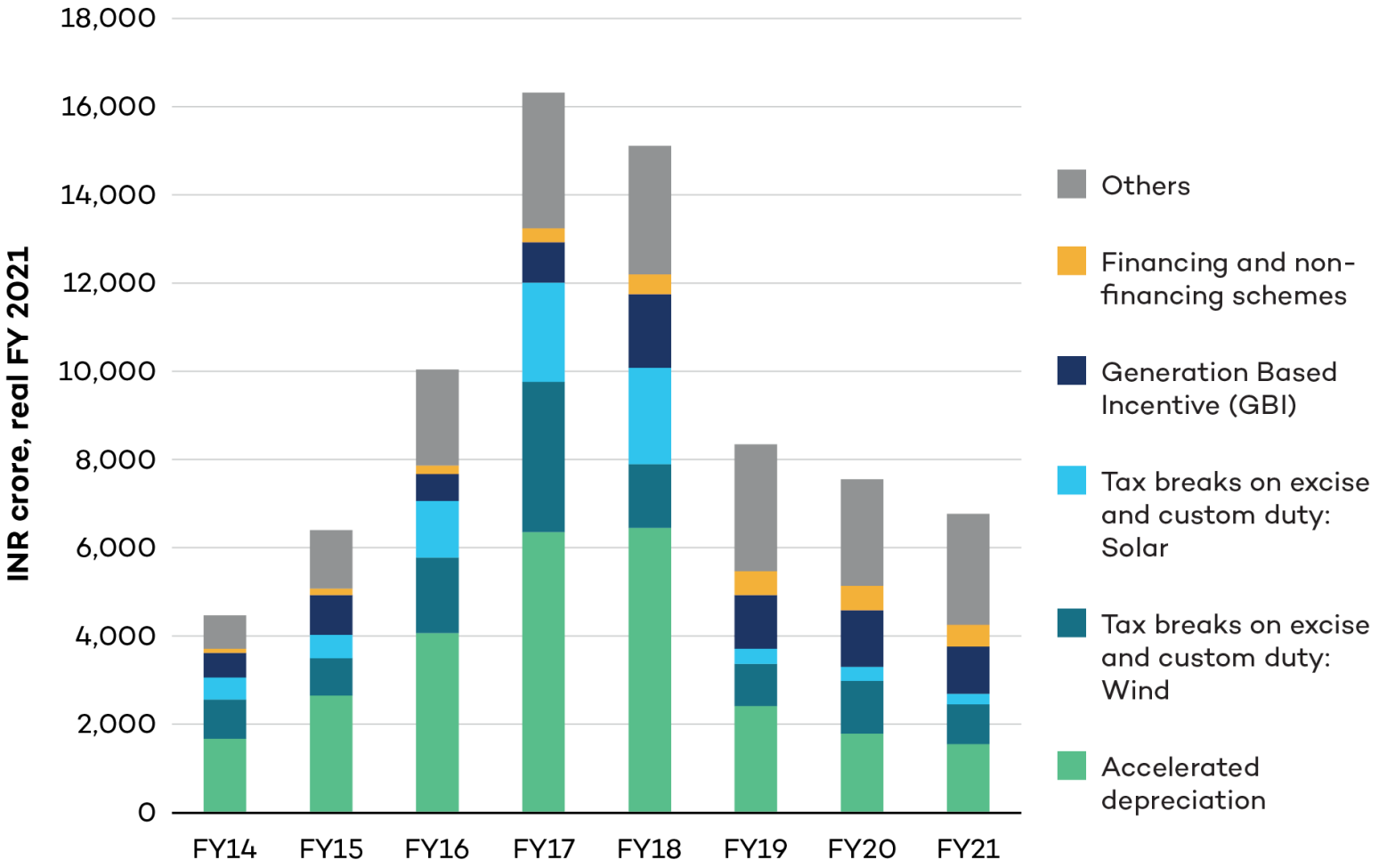
Oil and Gas Subsidies



Electricity T&D Subsidies



Renewable Energy Subsidies



Electric Vehicles & Alternative Motor Fuel Subsidies