India's Energy Data Management

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Intro

▶ Current energy data system in India

▶ Two examples of challenges and opportunities:
- Biomass
- Coal

▶ Energy Dashboard and future improvements

EDM Institutions in India

- Dozens of ministries and agencies maintain energy data today
- Data collected, but not disseminated
  - Only Ministry of Statistics and Programme Implementation (MoSPI) and Central Electricity Authority (CEA) are required to disseminate
  - Non-sensitive data not shared publicly
  - Many data sets are collected for administrative use
- Lack of coordination among data collection agencies
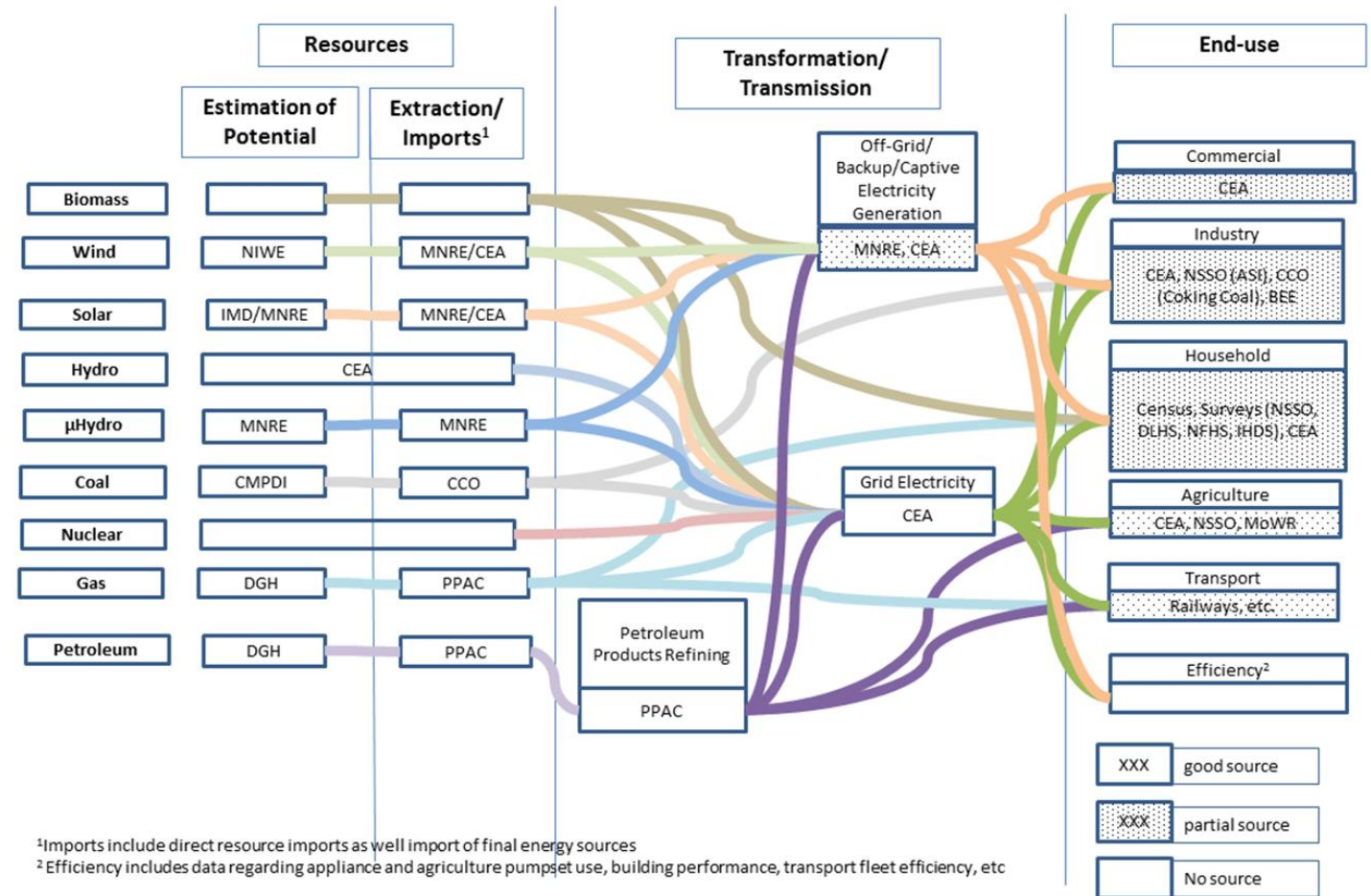
Source: Prayas, 2014. An Assessment of Energy Data Management in India

Problems in Current Energy Data System

▶ Insufficient consumption data
  ■ Harder to collect (biomass use, space heating/cooling, appliance use, unorganized sector)
  ■ Not primary focus of energy-related ministries / agencies
  ■ Energy consumption data collected as part of other surveys
  ■ Many gaps

▶ Supply data relatively better but this is a room for improvement
  ■ Not sufficiently compiled and cross-checked, data gaps, duplication
  ■ Various surveys ask similar questions

▶ Ease of access and timeline
  ■ No single place to find energy data
  ■ Dissemination in PDF format
  ■ Some reports released with 1.5-2 year lag (administrative delays)

Efforts to Improve Energy Data

▶ NITI Aayog and USAID convened studies on data availability, gaps, international best practices, and options for improving data

▶ Interagency Working Groups on Energy Supply and Energy Demand

▶ Capacity building: webinars, seminars, study tours and visiting scholars to learn about methodologies, institutional issues, authorities, etc.

▶ Work on specific data issues: oil and gas, coal data, biomass, buildings
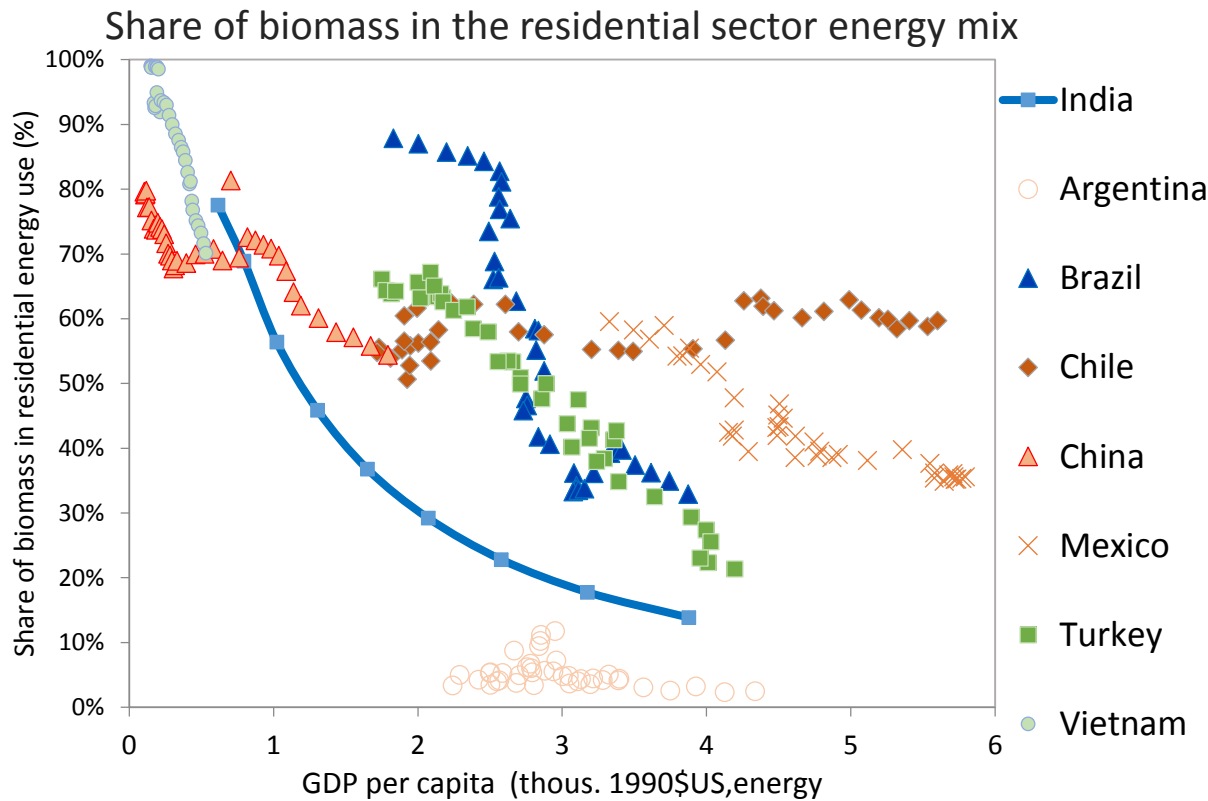
▶ New institutional approaches under consideration

Traditional Biomass Data

▶ Large share of total energy use, especially in buildings

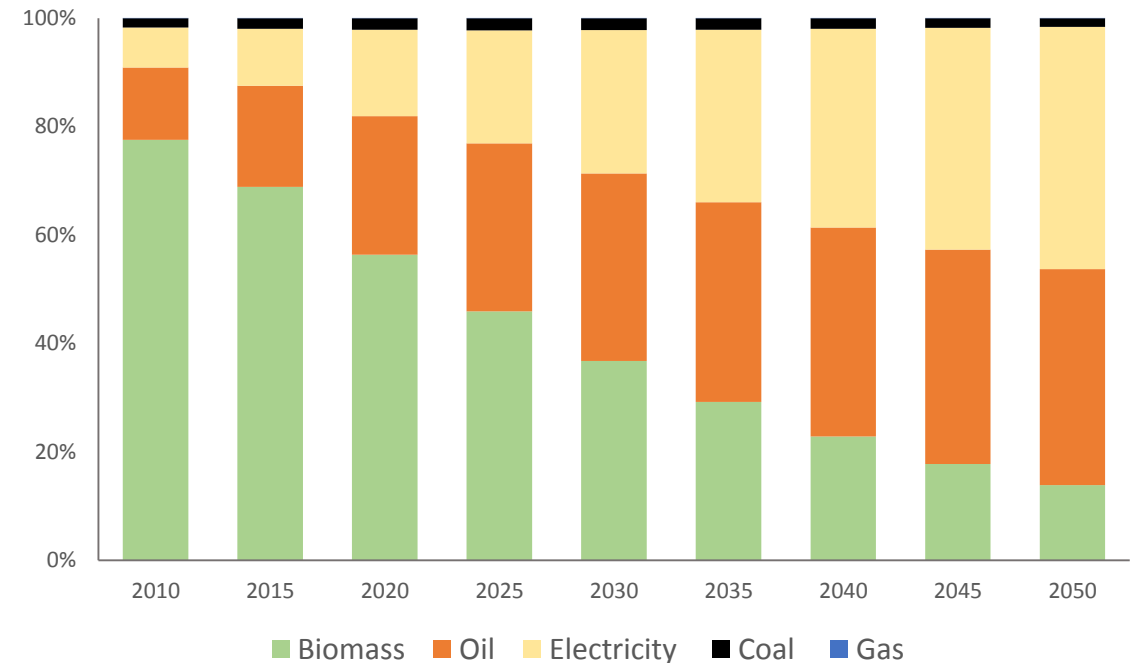▶ No actual surveys on traditional biomass use

▶ Estimates today vary

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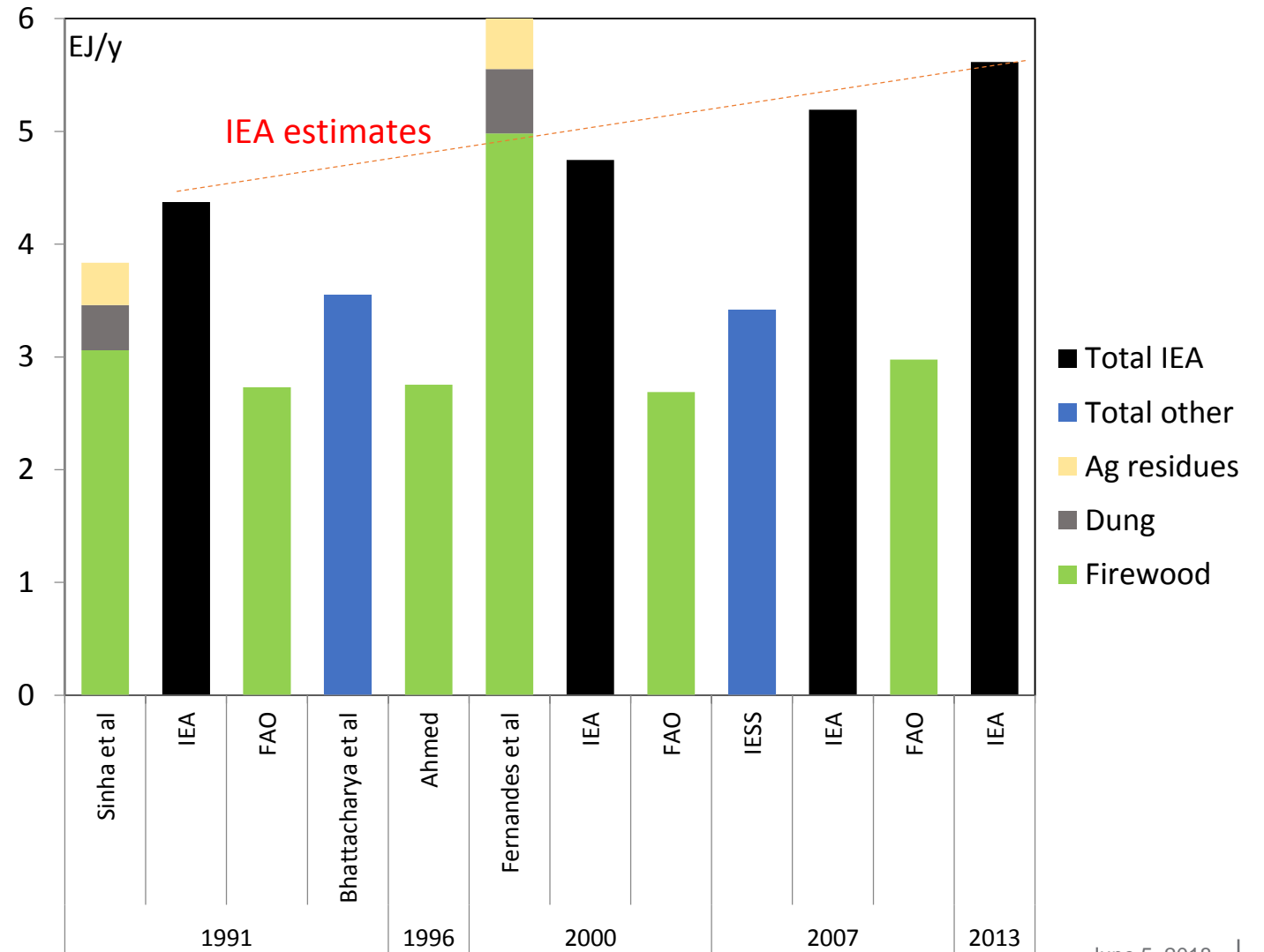
Traditional Biomass Data

▶ But traditional biomass is important to understand future trends (and to pollution today)

Share of biomass in the residential sector energy mix

Legend:
- India (line with squares)
- Argentina (open circle)
- Brazil (filled triangle)
- Chile (filled diamond)
- China (open triangle)
- Mexico (×)
- Turkey (filled square)
- Vietnam (light circle)

Y-axis: Share of biomass in residential energy use (%)
X-axis: GDP per capita (thous. 1990$US,energy)

Biomass use in the residential sector will remain substantial by mid-century

Legend: Biomass, Oil, Electricity, Coal, Gas
X-axis years: 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050

India – projection, all other countries – historical data
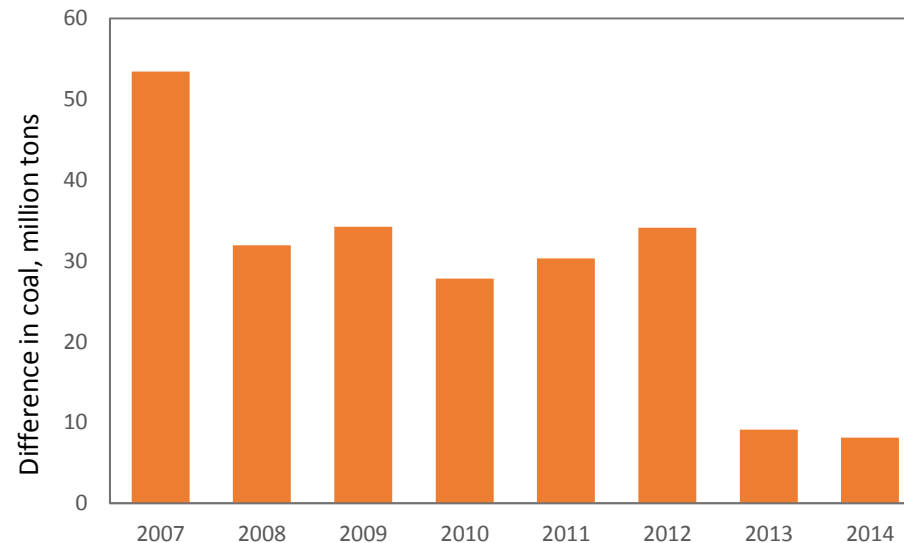
Results from GCAM 4.4. reference scenario

Coal Data

▶ Coal for power
- 44% of the primary energy mix
- 77% of power generation

▶ Coal Controller's Organisation (CCO): coal dispatches to power plants

▶ Coal Electricity Authority (CEA): actual coal receipts by power plants
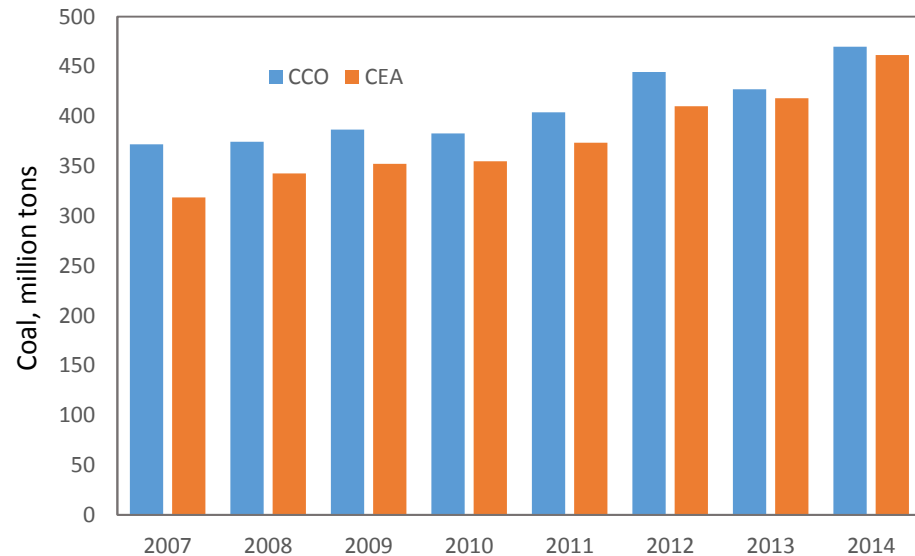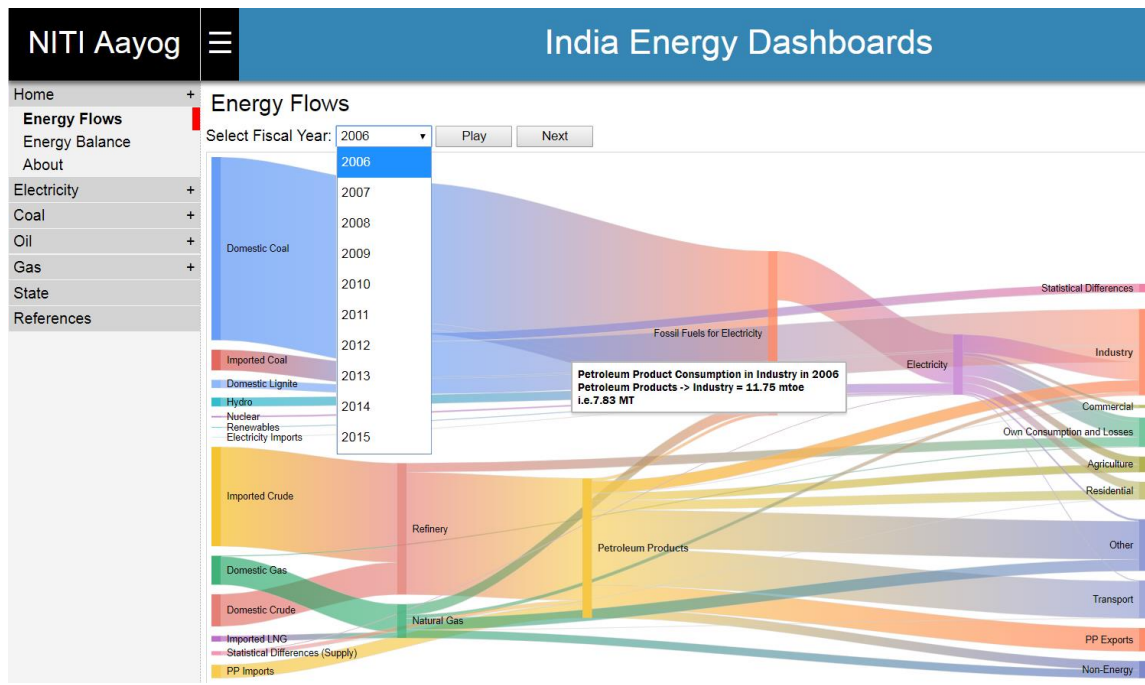
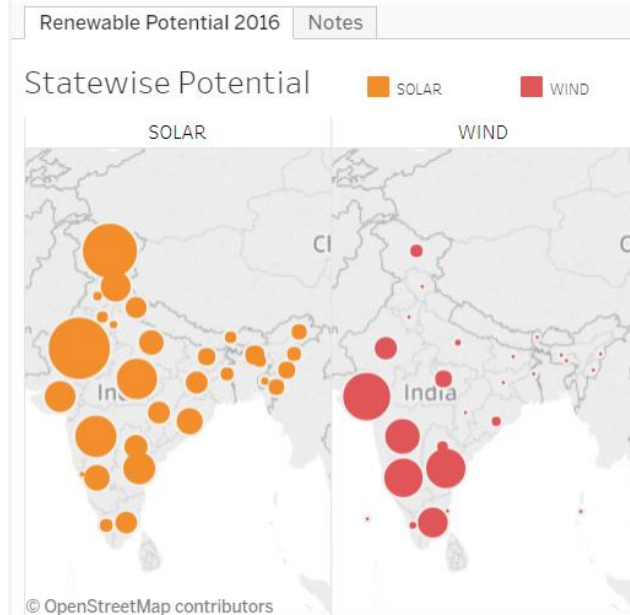Better coordination has helped in reducing discrepancies in coal data
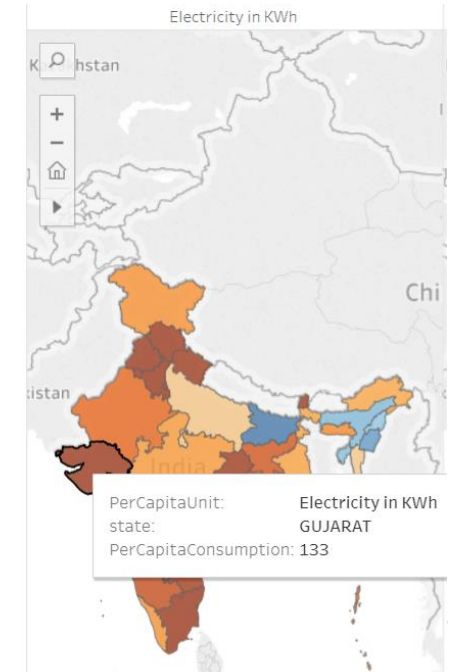
Energy Data Dashboard

- ▶ Developed for NITI Aayog by Prayas Energy Group
- ▶ Simplifies access to energy data
- ▶ Enables easy downloading of data into convenient spread-sheet formats
- ▶ Available at http://www.indiaenergy.gov.in/edm

Conclusions

▶ Improving energy data is critically important for India

▶ India has made significant progress but many challenges remain

▶ Benefits of continued improvements:
  ◼ Better understanding of trends, given India's large growth potential
  ◼ Clearer information for decisionmaking
  ◼ Improved action on sustainability and energy security