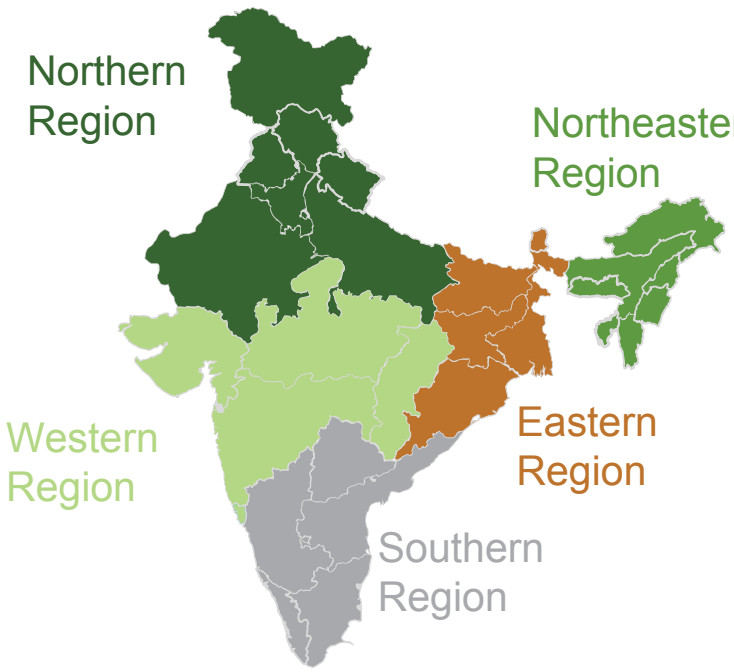
Electricity grid interconnections affect India's fuel sources for electricity generation choices

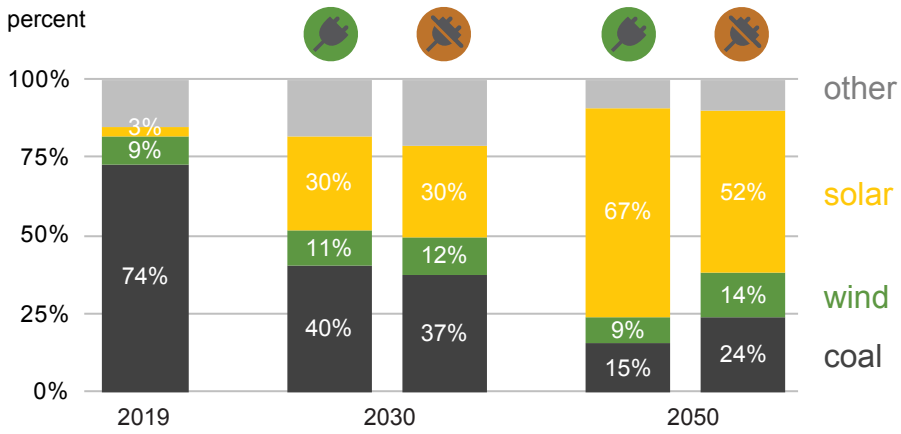
When power regions trade electricity, the most cost-competitive generating capacity fulfills incremental demand because of the different consumption patterns between the grid regions.

EIA projects that solar and wind resources will cost less than fossil fuels in India by the end of the projection period.



In IEO2020, EIA looks at India as five separate but connected regions rather than a single region. The five regions differ in use patterns, which leads to varying electricity demand load shapes.

Time of demand can create opportunities to transfer electricity between regions. For example, Northern Region and Eastern Region demands peak during early evening hours, but Western Region demand peaks during mid-morning hours as well as early-evening hours.



Interconnected case: assumes sufficient cost-effective connectivity across the five power regions

Limited Interconnection case: assumes completely independent and unconnected power regions

The Interconnected case allows regions with excess electricity to sell to regions with higher demand and results in increases in solar and wind generation.

In the Limited Interconnection case, regions with excess electricity generation cannot sell to other regions. This favors meeting incremental demand with in-region fossil fuel-fired generation. However, the share of coal-fired generation still declines as it is displaced by more cost competitive in-region solar and wind generation.

Source: U.S. Energy Information Administration, *International Energy Outlook 2020* (IEO2020)
Note: *other* includes liquid fuels, nuclear, hydro, and all other fuels not specified.