

A case study on Access to Electricity

Decentralized People-Centric Energy Model for India

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Most of the developing world still lives in darkness. In India alone, 400 million people have irregular or no access to electricity. The system is ever evolving and dependent on numerous interplaying factors varying from macro ones like government policies to micro ones like electricity theft and over-consumption due to lifestyle practices.

The India-specific research incorporated a megatrend study, outlining the contributing factors, product-service life-cycles, analysing electricity usage and interacting with stakeholders. Extensive mapping revealed underlying patterns like the complex network of flows, threats, opportunities, feedback loops and latent links that add to the delicacy of the system. 'Personas' served as instrumental nodes in understanding user-behaviour, user-needs and the demand for context-specific solutions that must work coherently within the system.

The developed Giga-map was used to analyse a case of a Decentralised Electricity System, with a vision for 2040. Respecting the variability, multiple solutions were designed for energy equity. The Giga-map served as a tool to provide a safe playing area to test new ideas and debate opportunities, creating grounds for deliberation. The reader can choose an Avatar, trace the lifecycle of electricity and fit ones-self into different contexts to foresee solutions and plan for effective execution. The proposed people-centric system could serve as a resource for communities to plan better policies with a holistic understanding of the system, empowering people and making electricity accessible.

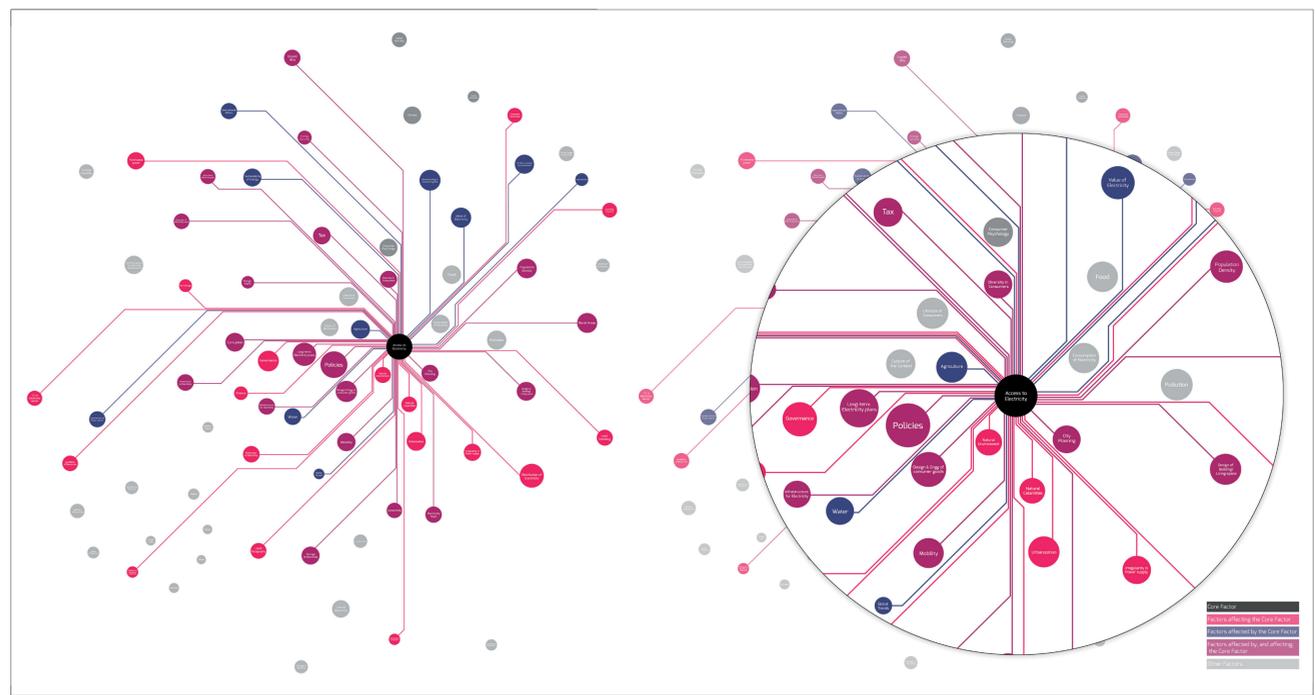


Fig. 1 Cluster mapping of the Indian's electricity system showing the interdependency amongst various factors based on their impact on each other.

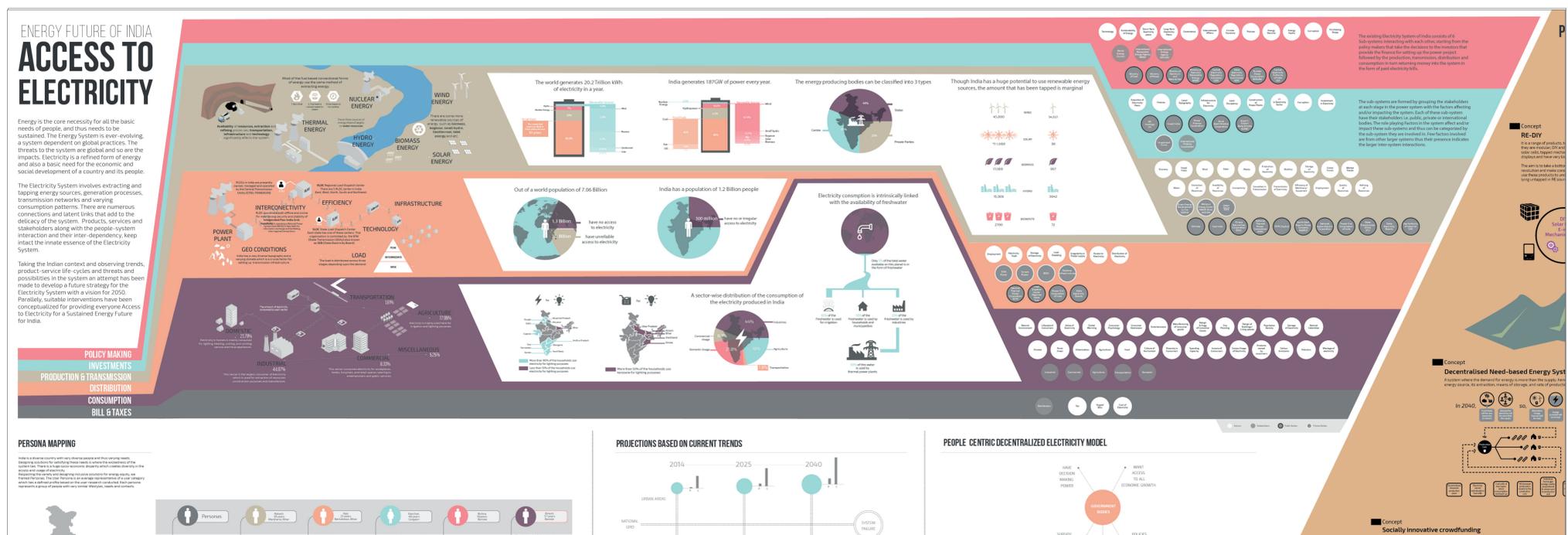


Fig. 2 The sub-systems of the Electricity system i.e. Production, Distribution and Consumption and associated factors, stakeholders and data.

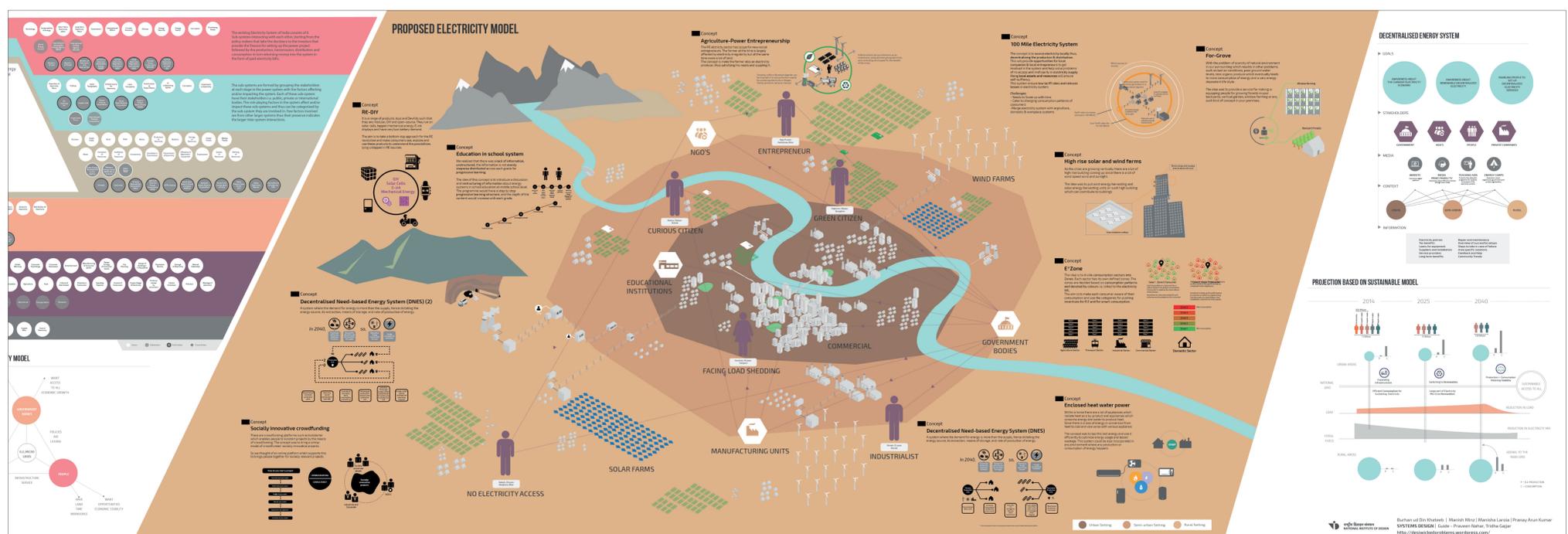


Fig. 3 The proposed Decentralized People-centric energy model proposed for India with a vision of 2040 showing diverse personas, varying solutions and different deployments contexts.

