

AN ENERGY TRANSITION PREPAREDNESS (ETP) INDEX

LEARNING FROM THE BEST

The energy transition will require both business model reconfiguration and business model innovation in order to integrate new solutions. Some countries are more advanced than others in certain areas. We will learn from existing experiences. To develop our understanding we use multiple databases, global indicators and existing indexes to create the ETP Index and learn from the process of developing it.

ETP INDEX

An index covering data on a group of elements, each including a number of key components for the development of indicators.

Group of Elements	Components for the development of indicators
Tip of the Iceberg	Energy Efficiency progress (for various sub-sectors) Renewable energy progress (for various sub-sectors and using various indicators) Digitalization preparedness and management of digitalization trends
Energy-Economy System	Capital and investment Trade: exports (net exports of CO ₂ , but also embodied CO ₂ in exports) and indicators for imports Institutions and governance with a focus on innovative activities and programs for both industry and start-ups together
Energy-Tech/Business System	Corporate Commitment Innovative business environment supported for both business model innovation and business model reconfiguration Energy system structure including production (e.g. storage and flexibility of system for renewable energy)
Energy-Society System	Consumer participation Human capital Regulation and political commitment (including whether they address systemic issues)

HEIG-VD

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KEY RESULTS

- Indexes exist in the international arena, but do not consider or attempt to measure progress of countries or regions towards **supporting business model innovation or the underlying conditions necessary for such a transition**. We fill this gap.
- Different framework conditions and underlying system elements are needed for two types of business model change that are needed for a successful energy transition: business model reconfiguration (among incumbents) and business model innovation (among start-ups and SMEs). One is synergistic with the other therefore **policies must be designed and directed at each**.
- **Key changes** viewed by participants as important for **business model change** were identified for the two categories such as lobbies (size, power, motivation) for business model reconfiguration among incumbents, and good universities (meaning those which produce a lot of entrepreneurs) for business model innovation among start-ups and SMEs.
- **Solutions, business models and regulatory framework conditions/ legislation can be co-designed** with inputs from the private sector and other stakeholders to unlock the potential of business model change for the energy transition.

DESIGN THINKING USED TO VALIDATE THE ETP INDEX

1. First, we undertook a number of interviews with relevant players to identify what were key research questions on business models to support the energy transition. They identified regulatory framework conditions as key.
2. Then case studies were conducted on specific areas of interest to understand framework conditions for the emergence of new business models in different areas: microgrids, smart grid technology and policies, grid-scale storage, electric vehicle sales in relation to increasing policies supporting e-mobility, blockchain use cases, tools for grid investment decision-making and management, etc.
3. Third, we gathered data and built our first database using our initial framework for the index project;
4. We “validated” the framework by undertaking a design thinking workshop with local stakeholders from private and public sectors and we are now finalizing the index.

