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Integrating territorial contexts in the Colombian Energy Planning

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Fifth International Forum on Long-Term Energy Scenarios (LTES) for the Clean Energy Transition

Session 5: Broadening LTES to Feature Socioeconomic Aspects

LTES LONG-TERM ENERGY SCENARIOS

IRENA International Renewable Energy Agency

Energy planning process

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	Then	Now
Objectives	Ensure energy reliability and coverage, maximize royalties from coal and oil, etc...	Contribution of the energy sector to the socio-economic development of all regions, climate action and environment protection, local energy governance and Just Energy Transition ...
Approach	National, aggregate framework, focused on “the big picture”.	Territorial, intersectional framework. Capturing the “big picture” as well as the local contexts.
Stakeholders involved	National government: Energy sector. Academia: (engineering, economy, ...) Private sector: Business associations.	Government: national and local level, multisector Academia: ++ Environmental and social sciences Private sector: Business associations, small companies Civil society, workers unions, territorial representatives, and more...

Territorial framework

Sectorial planning models need to incorporate a vision of the territory

↓ integrating social dialogue for the Energy Plan updates

Strategies:

- stakeholder mapping
- multisectoral dialogue forums
- education and training
- active community involvement
- collaborative research
- focal points in key territories for the energy transition

Socio-economic and environmental indicators

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Three levels for cost/benefit analysis

Host customer impacts:

- Costs incurred to install, Costs or benefits associated with changes in energy costs
- Uncertainty including price volatility, power quality, outages, and operational risk related to failure of installed equipment and user error
- Productivity, product quality, and O&M
- Satisfaction, pride, and sustainability goals

System impacts:

- Electric utility: Generation, transmission, distribution, general impacts
- Gas utility:Gas Wholesale Market Price Effects, Transmission, Storage, and Peaking Impacts Distribution Impacts, Targeted Non-Pipe Alternatives
- The other fuel:Fuel Supply Impacts, Other Fuel Wholesale Market Price Effect,Delivery Impacts

Societal impacts:

- Greenhouse Gas Emission Impacts
- Public Health Impacts
- Macroeconomic Impacts

Fte: NSPM-NESP

Socio-economic and environmental indicators

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Dimensions:

Environment, society, gender

Categories:

Climate change,
Solid waste generation,
Water quality,
Accessibility,
Employment,
Education,
Health.

Some examples:

- GHG emissions / per capita
- Hydroelectric power generation / precipitation
- Land use / Deforestation rate attributed to energy use
- Energy recovery from methane
- Proportion of illnesses or deaths associated with cooking with firewood
- Human capital (women) employed in the energy sector

Fte: NSPM-NESP

Some challenges...

1

Lack of capabilities

Shortage of skilled human resources (longer hiring processes)

2

Lack of data

-Some information is not available or is too dispersed in different places.
-Lack of a universal data structures, increasing processing time .
-Distrust to share information

3

Tool limitations

-Interoperability between tools and data
-Scalability and spatial resolution.

4

Uncertainty management

Social, environmental, economic and technological changes in the short and long term (geopolitics, finance access, social conflicts, resources availability, etc.)

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