

TIPEE Tool for Decision-Makers: Overview and Insights from its Application in Africa

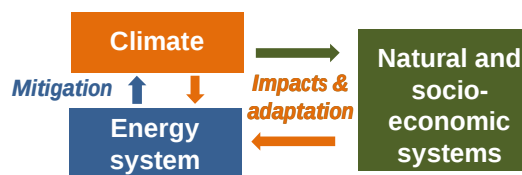
Maryse Labriet
Eneris consultants, expert HELIO-International

Side-Event "Green Energy for a Green Economy"
Rio de Janeiro, June 19th, 2012

Need for a ...

- **Clean, renewable, efficient and affordable** energy system
- **Energy services** for development, not only electricity
- Focused on the satisfaction of the needs of the persons (**demand-side oriented**)
« The best technology is the one which is used »
- Based on **participatory governance** principles
« Energy is too important to let energy engineers decide alone about it »
- **Resilient** to external changes, environmental or not, including fluctuating weather and climate change

Climate resilience of energy systems

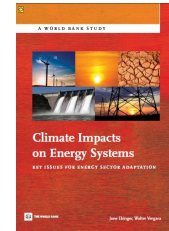


Examples:
Hydro variability, rupture of grid (reinforced in forest areas), water dependency of thermal plants (reduced efficiency), flood exposure of installations, higher electricity grid losses, increased demand for air-conditioning, etc.

Vulnerable and climate-proof energy systems



FR
http://www.helio-international.org/uploads/Global%20Report_Fr.pdf
EN
http://www.helio-international.org/uploads/Global%20Report_En.pdf



<http://go.worldbank.org/1GF5GF9RD0>

Vulnerability added to already existing vulnerabilities in poor communities

TIPEE (Traitement de l'Information pour des Politiques Énergétiques favorisant l'Écodéveloppement)

Processing Information for Energy Policies Conducive to Ecodevelopment

- **Tool for decision-makers** to assess national energy policies in order to ensure that they contribute to low-carbon strategies and ecodevelopment under fluctuating weather conditions
- **Developed by HELIO International**, inspired from the Sustainable Energy Watch (SEW) and Vulnerability Adaptation Resilience (VAR) indicators of HELIO
- Project supported by the Institute of Energy and Environment of the Francophony (**IEPF-OIF**) and by the Climate & Development Knowledge Network (**CDKN**)

TIPEE: to enhance knowledge for better action

- Technological, environmental, social, cultural and institutional **facets** of energy systems and policies
- **Resilience** of energy systems

↓
24 indicators

- **Clear and simple** to understand
- **Relevant** for energy policies
- **Easy to compute** with existing and available data
- **Transparent**
- Methodology based on a set of **targets** (reference points)
- Crucial role of the **analyst**

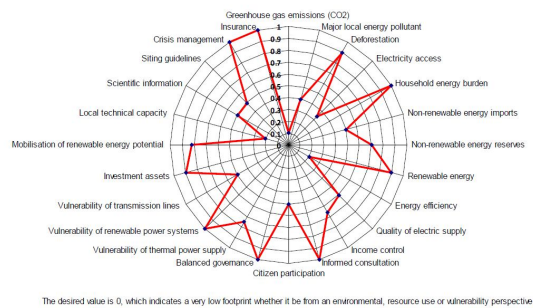
Indicators

Environment	Indicators	Parameters
Indicator 1	Greenhouse gas emissions (CO ₂)	Greenhouse gas emission (CO ₂) from the energy sector
Indicator 2	Major local energy pollutant	Concentration or emission level of a significant energy-related local pollutant (CO, NO _x , or SO ₂ , particulates) per capita
Indicator 3	Deforestation	Number of hectares of deforestation or loss of forest vegetation (biodiversity) used for energy purposes
Social		
Indicator 4	Electricity access	Number of households that are electrified and consume electricity
Indicator 5	Household energy burden	Proportion of household income spent on energy services
Economy		
Indicator 6	Non-renewable energy imports	External energy dependence
Indicator 7	Non-renewable energy reserves	Number of days of stock of non-renewable energy supplies
Technology		
Indicator 8	Renewable energy	Deployment of modern, local renewable energy
Indicator 9	Energy efficiency	Energy intensity of industry; GHG emissions per unit of production; or energy intensity of the economy
Indicator 10	Quality of electricity supply	Length and recurrence of power cuts and variations in voltage
Governance		
Indicator 11	Income control	Reduction in the share of energy revenues that escape taxation
Indicator 12	Informed consultation	Public hearings and consultations on the impact assessments of proposed energy projects
Indicator 13	Citizen participation	Active participation of civil society (particularly women) in the energy sector
Indicator 14	Balanced governance	Balanced representation of energy demand and supply stakeholders as well as transparency in the decision-making process

Indicators

Vulnerability		
Indicator 15	Vulnerability of thermal power supply	Vulnerability of power plants (and refineries if applicable) to flooding
Indicator 16	Vulnerability of renewable power systems	Vulnerability of renewable energy systems to climatic variations
Indicator 17	Vulnerability of transmission lines	Length of transmission lines/distribution networks threatened by extreme weather events
Resilience		
Indicator 18	Investment assets	Rate of domestic savings/GDP
Indicator 19	Mobilisation of renewable energy potential	Proportion of national investment earmarked for renewable energy and energy efficiency
Indicator 20	Local technical capacity	Annual number of science and engineering graduates per total population
Indicator 21	Scientific information	Availability of risk maps (flooding, desertification, contamination)
Indicator 22	Siting guidelines	Climate-proofing guidelines for power plant siting and building
Indicator 23	Crisis management	Emergency plans for power plants
Indicator 24	Insurance	Availability of domestic insurance policies that account for climate change-related damages

Synthesis



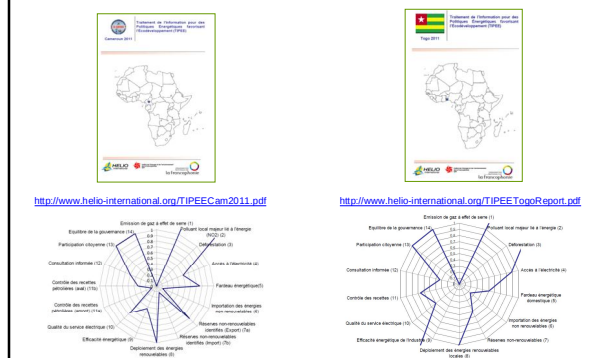
Application in Togo and Cameroon

- Existing of a **SIE (Energy Information System)** => existing data and capacities in data collect and analysis
- Challenge: **enlarge** the analysis to more than only energy statistics and only energy experts



Core national teams with energy and environment experts, from ministries and NGOs
+ National workshops with larger audience (consultation and validation)
 From 2010 to 2012

Final reports



Illustrative insights (not exhaustive)

- Climate vulnerability** of the power plants and refineries, hydro (Cameroon), electricity grids
- Lack of knowledge on the **traditional biomass** uses and **renewable penetration** (projects implemented by NGOs, remote areas)
- High impact of fossil price volatility on the **household welfare**
- Social and economic impacts of **electricity cuts**/shortages
- Energy efficiency and renewable energy as a **window of opportunity** to improve the country resilience
- Need to enhance the existing mechanisms for a **broader involvement of civil society** in energy decisions

Other important outputs of TIPEE

- Creation of a multi-actors **Implementation Committee** (*Comite de suivi*) in Togo
- Opportunity for stakeholders from **different disciplines and institutions** to meet and exchange
- **Local availability** of data and expertise
- To **think « out-of-the-box »** (also recognized as the initial difficulty)

Acknowledged
by the local
partners

TIPEE is not an end. It is the beginning of a roadmap to energy policies compatible with ecodevelopment

Relevance of the TIPEE Tool

- Based on **existing and available data**
 - « No data is not a reason for no action »
 - « Better to be approximately right than precisely wrong »
- **Monitor progress year after year**
 - « Evolution is what counts »
 - Relevant metrics
- **Participatory process** in the work and the validation
- Tool « **to make think** »
- Beginning of a **Soft Energy Path**

Next

- **Annual updates** of the analyses in Togo and Cameroon => to monitor the progress
- **Replication in other countries** (Mali, Benin; others?) => regional pool
- Follow-up in Togo to define a **Soft Energy Path** starting from TIPEE analysis

Also available: Methodology and Handbook for Decision-Makers



<http://www.helio-international.org/ManualFinal.pdf>

http://www.helio-international.org/Guide_decision%20makers.pdf

Links

TIPEE

<http://www.helio-international.org/projects/TIPEE.cfm>

HELIO International

<http://www.helio-international.org/>

Eneris Environment Energy Consultants

<http://www.enerisconsultants.com/>

More

