Practical recommendations on how to develop and implement an Energy Planning roadmap at a national level

Ms Gloria Aguinaldo, Senior Expert, INOGATE Technical Secretariat (ITS)

INO Gates Regional Seminar on Energy Planning
Chisinau, Moldova, 30 June – 1 July 2015

BUILDING PARTNERSHIPS FOR ENERGY SECURITY

www.inogate.org
Overview of Presentation

✓ Energy planning for sustainable national development; key elements, energy planning process
✓ Definition: roadmap, key elements, process outline, phases of development and implementation
✓ Recommendations
Energy planning shows vital role of government institutions in ensuring that energy supply & demand decisions made by all stakeholders - producers, consumers, investors, etc. – are compatible with overall goals for national sustainable development.

3 pillars of sustainable development: social, economic & environment linked by effective government institutions and policies.
The energy planning process

1. Building Stakeholder Support
2. Research current energy situation, data collection
3. Energy Modelling: Data analysis & Scenario building
4. Action Plan Development
5. Political Decision: Approval of Energy plan
6. Implementation
7. Monitoring & Review

Source: Sustainable Energy Action Plan for Greater Manchester
Key elements of effective energy planning and coordination

Effective energy planning and coordination

**Process Design**
- Focus on goals & objectives
- Establish ‘rules of the road’ e.g. *Roadmap*
- Develop & generate convincing evidence: energy statistics, balances & indicators; modelling and scenario analysis

**Stakeholder engagement**
- Strategic selection of stakeholders
- Clarify roles/ manage expectations
- Facilitate dialogue between stakeholders

**Institutionalisation**
- Energy planning led by strong government institution
- Integrate plans in well-governed institutions
- Institutionalise (make official) for sustainability

---

**OBJECTIVES AND MANDATE LEADERSHIP**
- Clear and well-articulated energy planning objectives
- Formal mandate(s) with high-level support

**LEADERSHIP**
- Identify and select a high level champion
- Link long-term national goals to energy planning
- Build winning coalitions/partnerships
What is a roadmap?

A plan that describes the steps an organisation needs to take over specified time frames (short, medium, long term) to achieve stated goals and outcomes as defined e.g. in national energy strategy and policy.
Key elements of a successful roadmap

- Goals
- Milestones
- Gaps and barriers
- Action items
- Priorities and timelines

Source: International Energy Agency
**Goals**

Clear and concise set of targets that, if achieved will result in the desired outcome.

**Milestones**

Interim performance targets for achieving the goal, pegged to specific dates.

**Gaps & barriers**

List of potential gaps in knowledge, technology limitations, market structural barriers regulatory limitations, public acceptance, other barriers to achieving the goals and milestones.

**Action items**

Actions to overcome gaps or barriers in achieving the goals.

**Priorities & timelines**

List of most important actions needed to achieve goals & time frames, taking into account inter-connections among actions & stakeholder roles and relationships.
Example: Milestones in Danish energy policy

- **2020**: 50% of electricity consumption covered by wind power
- **2030**: Coal phased out of Danish power plants/oil burners phased out
- **2035**: Electricity and heat supply covered by Renewable Energy
- **2050**: Society free from fossil fuels
Energy planning: roadmap process outline

**Phase 1: planning & preparation**
- Establish steering committee
- Determine scope & boundaries
- Select stakeholders & experts

**Phase 2: setting a vision**
- Identify long term goals & objectives

**Phase 3: Roadmap development**
- Identify gaps & barriers, prioritise needed technologies, policies & timelines

**Phase 4: implementation, monitoring & revision**
- Develop roadmap document
- Conduct review & consultation with key stakeholders
- Refine & launch roadmap
- Re-assess priorities & timelines
- Update roadmap

**Expert judgement & contents**
- Data Analysis & Modelling
  - Develop energy, environmental & economic data to conduct baseline research
  - Analyse future scenarios for energy & environment
  - Assess potential contributions of technologies to future energy, environmental & economic goals

**Timeline**
- 1-2 months
- 1-2 months
- 2-6 months
- 2-8 months
- Recurring
Expert judgement and consensus

Gathering of a cross-section of experts in technology, policy, economics, finance, social sciences & other disciplines to formulate roadmap goals and milestones, identify gaps, determine priorities and assign tasks, make choices among possible scenarios or options revealed by data analysis and modelling.

Building consensus across a broad cross-section of experts helps to generate strong support for the roadmap and reduces the chance that a major technology or policy issue is missed. This approach can also provide cost and time savings during implementation because key stakeholders are already familiar with the roadmap.
**Data analysis and modelling**

Establishment of current baseline conditions, to set milestones and performance targets defined to achieve roadmap goals by team of analysts and technology experts with access to reliable data sources, analytical and modelling tools.

The extent of will vary depending on the amount and quality of available data analysis and modelling activities e.g. data, and the time, resources and analytical capabilities available to the roadmapping team.
Phase 1: Planning and preparation

Identification and finding answers to issues:
- Ensure leadership commitment
- Appoint a steering committee
- Develop a statement of scope and purpose

✓ Conduct baseline research - current situation analysis e.g. energy supply & demand, economic growth, available technologies, infrastructure development and needs, institutional capacities, energy and environmental policies and regulations
Phase 2: Setting a vision

• Process of defining the desired path for development which includes modelling and scenario analysis:
  ✓ Assessment of fundamental data on national population growth, shifting projections on natural resources and economic growth
  ✓ Projection of different energy scenarios (as well as their environmental consequences) using an energy systems model
Phase 3: Roadmap development

Once a vision is established, the roadmap development phase begins, drawing on analysis and expert judgement to define the activities, priorities and timelines required to reach the desired vision:

- Prepare draft roadmap document
- Conduct a roadmap review
- Finalise roadmap

Road to Success
Phase 4: Roadmap implementation and adjustment

• Launching, implementation, monitoring and adjustment/revision of roadmap:
  ✓ Launch roadmap
  ✓ Begin implementation
  ✓ Monitor progress and adjust/revise if and when necessary
  ✓ Manage expectations
Practical recommendations on development and implementation of energy planning roadmap (1)

- Institutional framework for energy planning is a priority in development and implementation of roadmap: organisation, legal basis and financing should be established.

- In the development of energy planning roadmap, assessment of existing and potential human and technical resources, as well as organisational, policy and financing framework which shall support energy planning activities, should be made.
Practical recommendations on development and implementation of energy planning roadmap (2)

 ✓ Capacity building should accompany development and implementation of roadmap:
   • During development stage to understand interests and goals of different stakeholders and build them into analysis and recommendations in the roadmap
   • During implementation stage to enhance stakeholder engagement, increase local stakeholders’ ability in carrying out roadmap’s recommendations
Promote stakeholder engagement through consensus building: energy planning is most successful when carried out by local experts representing essential stakeholders.

Their in-depth knowledge and understanding of national energy systems are necessary to structure the analysis correctly, judge the credibility of results, interpret the analysis and findings, and compare the validity of various scenarios.
A roadmap is a living document. It translates an adopted national energy strategy and policy into action, defines steps, manner and timelines for their implementation and should be adjusted/updated as progress is made, external factors change and more information becomes available. The frequency with which a roadmap is updated depends largely on the time frame under consideration. Typically, roadmaps are updated periodically (e.g. every two to five years). In some cases roadmaps are updated more frequently to reflect progress, changes in available resources or scheduling considerations.
References


Спасибо!
Thank you!

Gloria Aguinaldo
Senior Expert on Energy Statistics
INOJATE Technical Secretariat
g.aguinaldo@inogate.org

INOJATE Technical Secretariat and Integrated Programme in support of the Baku Initiative and the Eastern Partnership energy objectives