



# Africa LEDS project: achievements & next steps – component 2

Presentation for **Democratic Republic of the Congo**

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# Background of modeling actions

Increase the contribution of renewable energies in the energy mix and promote the use of modern biomass in the residential sector

to improve energy efficiency through the management of biodegradable household waste and environmental sanitation Improve

- Building energy efficiency capacities in the residential energy sector;
- Promote and popularize the use of improved stoves and efficient fuels (modern biomass).

# Background of modeling actions

Four implementation scenarios has been developed that focus on:

- Improvement of the penetration of improved stoves, briquettes based on agricultural residues (fruit peel, rice, beans, maize, sugar cane, etc.) and biodegradable household waste;
- Contribution to the consolidation of REDD+ process; and
- Projection of opportunities for income-generating activities and creation of new jobs, environmental sanitation.

# Achievement

- ❖ Government intervention scenarios: the government encourages and subsidizes the use of improved stoves and clean technologies such as charcoal substitution as well as the penetration of biogas into the energy balance for domestic cooking needs.
- ❖ Further Governmental intervention scenario: high penetration of improved cook stoves, briquettes based on agricultural residues and biodegradable household waste, as well as biogas is considered to be accentuated from 2020

# Achievement



- ❖ Scenario of strong economic growth. Efforts focus on the strong penetration of improved stoves and the intensification of use of agricultural residue briquettes and biogas instead of electric cooktops, with annual growth of 5.3% to 10.2% at the end of the planning period. With consequent reduction in the use of wood energy

# Achievements (contn'd)



- The potential for success in achieving this goal is high due to the strong commitment of the government.
- The objective of the NDC includes increasing the contribution of renewable energies in the energy mix, promoting the use of modern biomass and the production and distribution of at least 1 million homes effective cooking.

# Achievements (contn'd)



- The challenge would be to:
  - i. ensure universal access to modern energy services;
  - ii. multiply energy efficiency by two; and
  - iii. produce and distribute 1 million improved cookstoves, at least 50% of them in urban and semi-urban areas.

# Achievements (contn'd)

Based on the MAED model, the study made it possible to carry out un number of cases of modelling of the cooking energy demand in the DRC for the period from 2015 to 2050



The screenshot shows the MAED website interface. At the top, it identifies the Planning and Economic Studies Section (PESS), Department of Nuclear Energy, IAEA, and MAED. A navigation menu includes an 'About' button and language options for English (En), Spanish (Es), and French (Fr). The main content area features three images: a person cooking with wood, a person using a gas stove, and a high-speed train. Below these images is the text: "...with availability of modern energy, life changes". At the bottom, there are two tabs: 'MAED - D' (A Model for Analysis of Energy Demand...) and 'MAED - EL' (A Model for Analysis of Energy Demand...). The browser's taskbar at the bottom shows various application icons and system information including the date 23/04/2019 and time 18:50.




































# Achievements (contn'd)



Manage Case Studies | Create New Case Studies | Restore Case Study | MAED - D ( A Model for Analysis of Energy Demand... ) | En | Es | Fr

### Manage Case Studies

Case Study	Copy	Backup	Delete
> Cooking demand Assesment-Scénarion intervention gouvernementale			
> Cooking Demand assessment 2015-2050			
> Cooking demand scenario 2			
> Cooking demand scenario 3			
> Cooking demand scenario 4			
> Cooking demand scenarion gouvernementale			
> Energy Demand Assessment 2010-2050			
> Energy Demand Assessment 2016-2050			
> Energy Demand Assessment in DRC			
> Manual Data Electricity only			
> Manual Data June 2016 all years			

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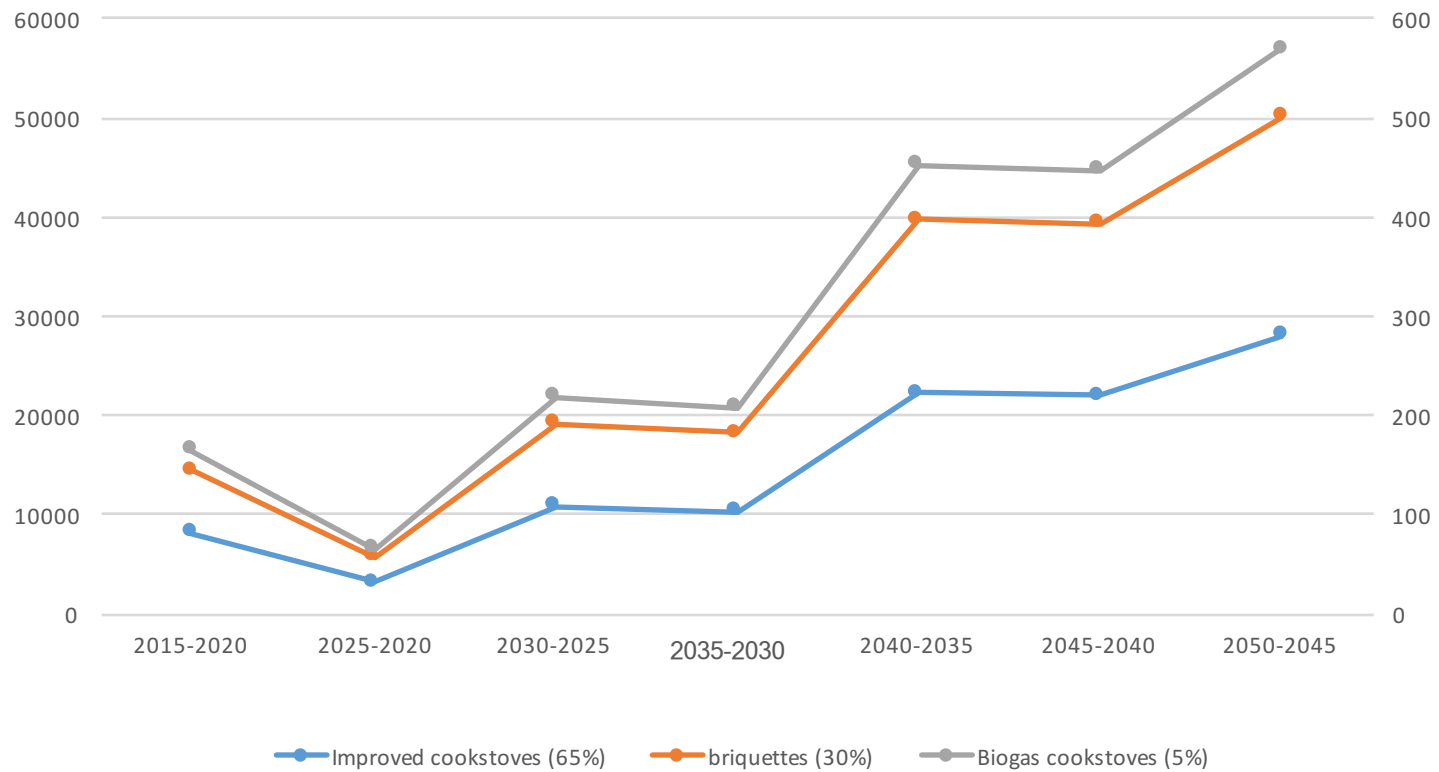
Firefox automatically sends some data to Mozilla so that we can improve your experience. Choose What I Share

Windows Taskbar: e, a, Chrome, Word, S, 18:50, 23/04/2019

# Achievements (contn'd)

## Jobs created per year in the Governmental intervention scenario

Labor needed to produce stoves by Type/year



# Achievements (contn'd)



on the basis of the energy demand for each type of fuel or stove taken into account, the simulation shows that the job creation trend remains the same in all cases. New jobs will be created in terms of thousands for the production of improved stoves and by the hundreds for the use of modern biomass (briquettes and biogas stoves).

It is noted that for biogas technology, a phased introduction of the technology increasing its contribution to the energy balance in the residential sector from 0 to 11% for the "Governmental Intervention" scenario, from 0 to 25.5% for the "Further Governmental Intervention" scenario and 0 to 6.9% for the "High Economic Growth" scenario.

# Feedback to policy



This initiative is a real contribution to the implementation of the NDC. It is linked to the objective of improving access to clean energy for domestic or residential needs by:

- Reducing dependence on woodfuels and its derivatives;
- The substitution of energy from fossil sources by renewable energy sources and the integration of clean technology use policies in the transport sector.
- Promoting the use of Biogas technology
- Promoting the rational use of energy.

# Feedback to policy



- ❖ The energy transition in the domestic sector in the DRC, based on the policy of promoting new renewable energies, faces challenges and opportunities intrinsically linked to the national development process. While the issue of access to electricity and security of supply remains a central objective, a new dimension of policies lies in taking into account the climate challenge and CO<sub>2</sub> emissions.
- ❖ The dynamic notion of sustainability implies the search for a balance between these objectives, which can thus be both complementary and contradictory.

# Conclusion

The engagement of all state and non-state actors is critical to the success of the transition to energy efficiency and implementation of the NDC. This will include:

- promote investment in low-carbon infrastructure;
- promote passive and active energy transition to reduce final energy consumption at national level; and
- Operationalize renewable energy development plans (hydropower, solar, wind, biomass, etc.) based on the implementation of the NDC in a participatory and inclusive approach.

# Conclusion

Sustainability at the energy level implies taking into account a series of objectives in their environmental, social and economic dimensions:

- security of supply: this implies ensuring a steady (uninterrupted) supply flow of final energy;
- accessibility and economic efficiency: this includes guaranteed access (physical and economic) to a modern minimum energy service for the entire population; and
- cleanliness: this implies the minimization of the environmental impacts (mainly GHG emissions, water or soil contamination, etc.).

It is also important to consider the positive effects of the energy transition sector on community development and employment.

# Next steps



- To ensure the models become the norm to inform the political processes in a harmonious way, in order to maximize the climatic and socio-economic benefits of the implementation of the NDC, the line Ministries, including Agriculture, Energy, Land, Forests, Environment, Transport, Finance and Planning, should be better informed on the implementation process, including the availability of good databases and technical capabilities for development of models and their follow-up;
- it is necessary that other socio-economic parameters and studies on the number of direct and indirect jobs created be taken into account to complete this study.





# Thank You!

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