



Bioenergy Policies for Sustainable Development in Africa

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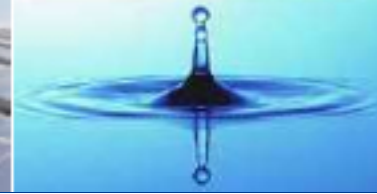
WIP – Renewable Energies, Munich, Germany

IEA Bioenergy Conference 2012



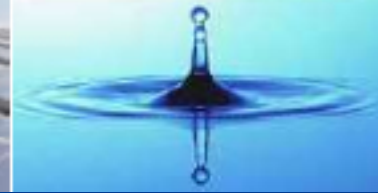
Vienna, Austria
13-15 November 2012



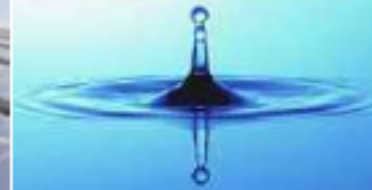


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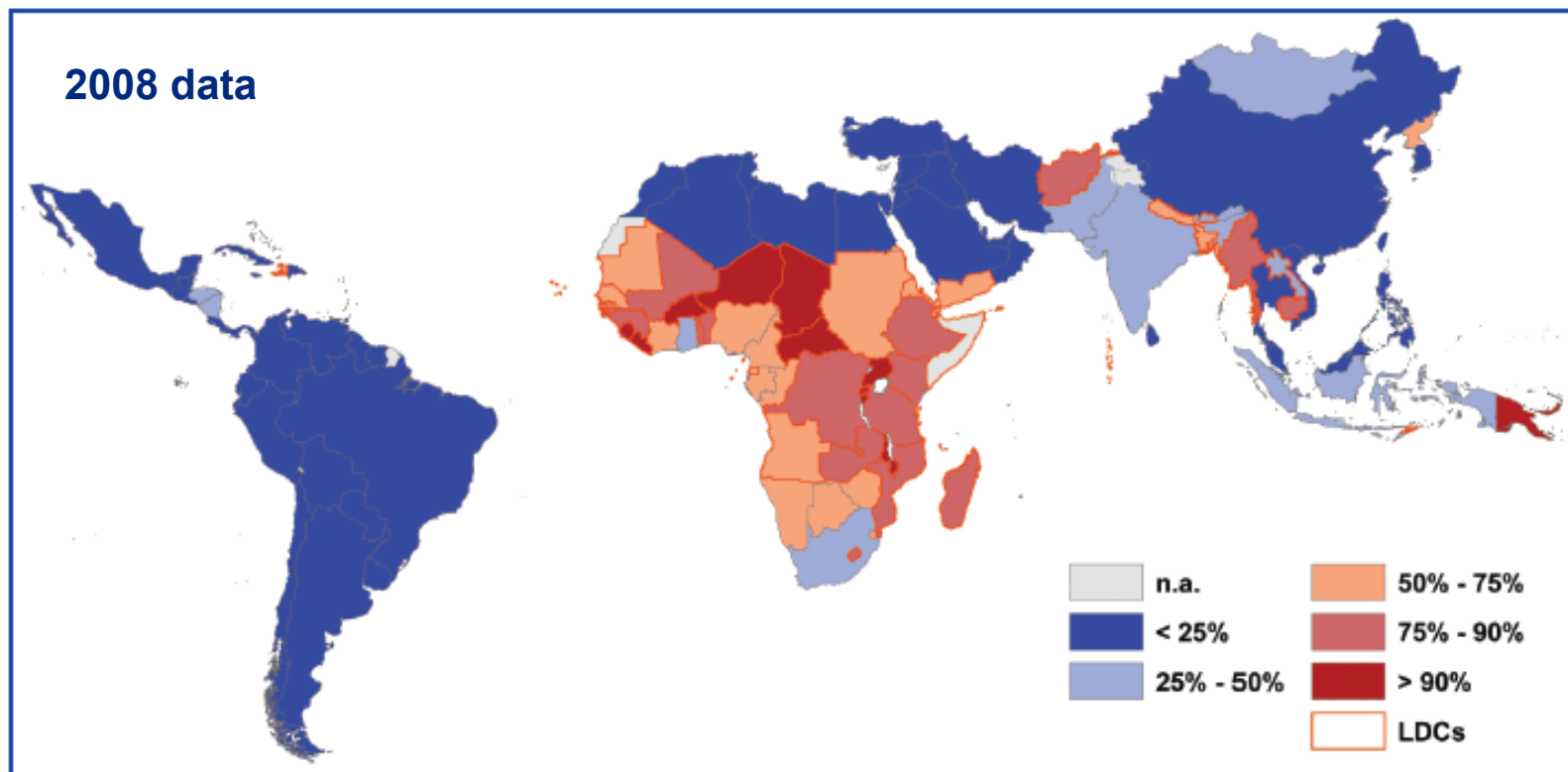
1. Introduction



Africa – The Dark Continent



Access to Electricity

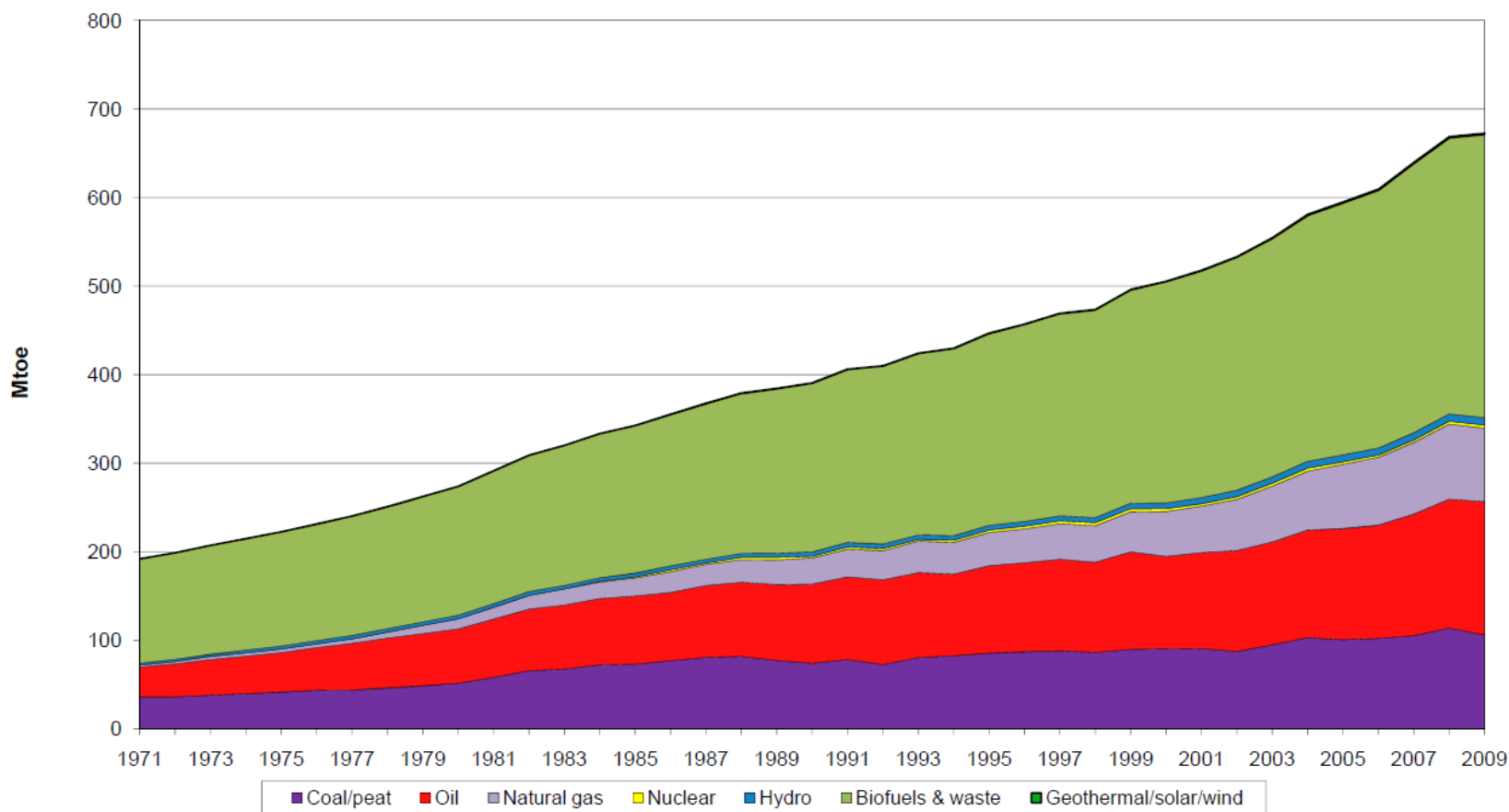


UNDP-WHO, Nov. 2009

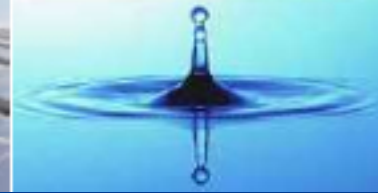
Sub-Sahara Africa: 75% without access; in rural areas > 90%



Total Primary Energy Supply - Africa



OECD/IEA, 2011 (<http://www.iea.org/stats/index.asp>)

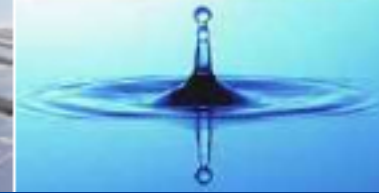


2. Policies on Pan-African Level

AUC – UNECA Initiative

Framework and Guidelines for Sustainable Bioenergy Development in Africa

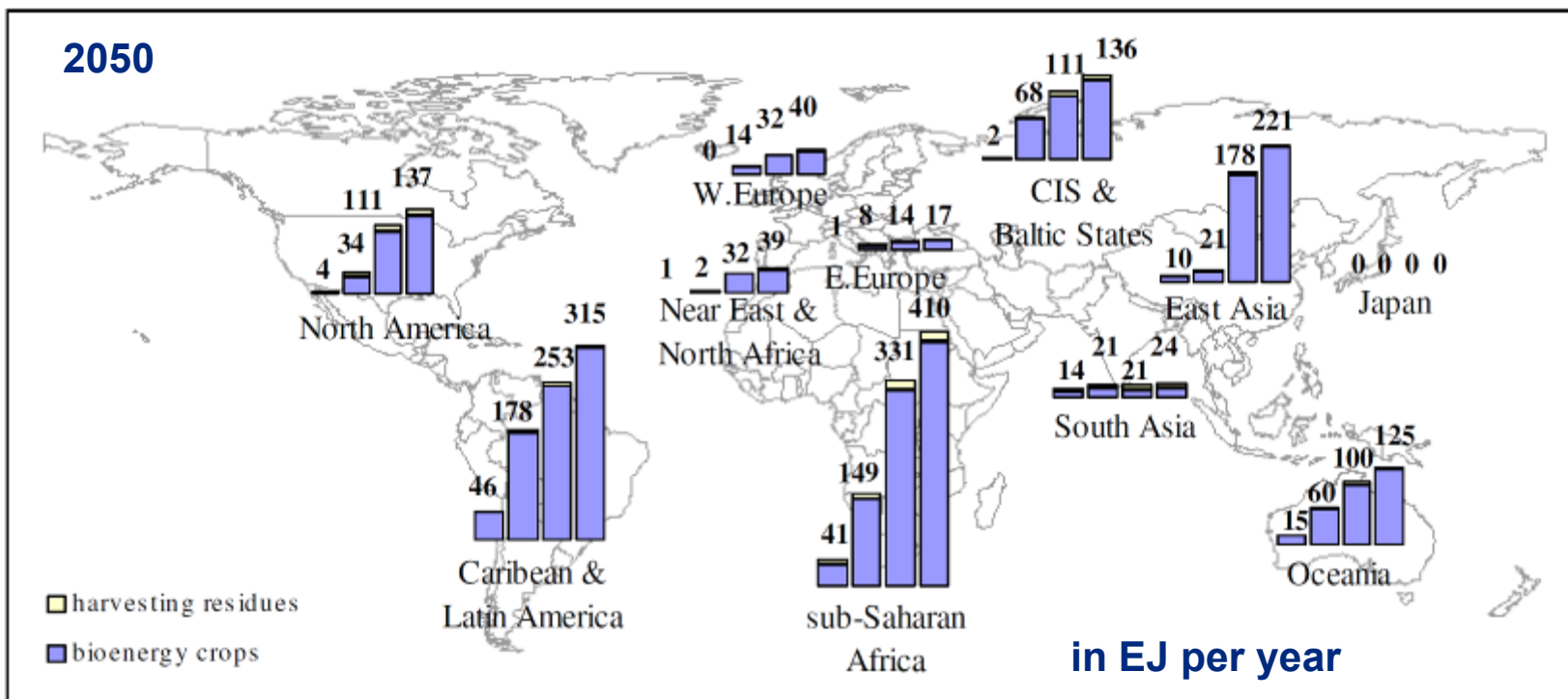
- Draft policy framework development (by African Union Commission and United Nations Economic Commission for Africa)
- Validation process** – expert group meeting, October 2012, Addis Ababa
- Adoption by CEMA** (AU Conference of Energy Ministers of Africa), November 2012
- Preparation for **endorsement by AU Summit**, January 2013



Importance of Bioenergy for Africa

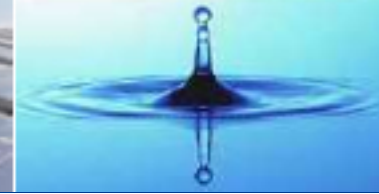
- Enhancing **energy security** by reducing oil imports
- Empowering **rural development**
- Transition towards the **green economy**
- **Reduction of traditional biomass consumption** (environmental, health and gender impacts)
- **Positive welfare** impacts (esp. for women)
- Increased **energy access** in rural areas

Opportunities for Bioenergy in Africa



- 2050 Scenario: high-tech agricultural sector, Irrigation (Potential in Sub-Sahara Africa: ~ 410 EJ/a)
- Global Primary Energy Consumption 2010: ~ 530 EJ

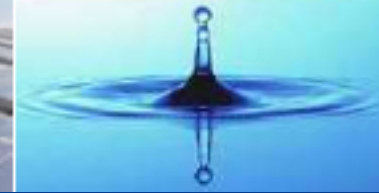
Smeets et al., 2007



Risks of Bioenergy for Africa

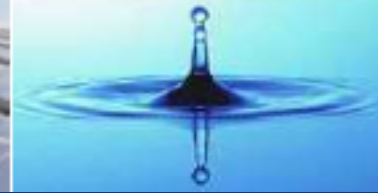
- Food insecurity
- Environmental degradation
- Rainforest clearance





African Sustainable Bioenergy Policy Framework – Goals and Objectives

- Continental vision and guidance for **promoting sustainable bioenergy**
- Integrated toolkit for developing **national and regional bioenergy policies and programmes**
- Improve Africa's **management of bioenergy and biofuels investment**
- Enhance **cross-sectoral understanding and awareness** of bioenergy (benefits, costs, opportunities, risks)



3. Africa-EU Energy Partnership



Africa-EU Renewable Energy Cooperation Programme (RECP)

- RECP launched in 2010 as integral part of AEEP (one of the 8 pillars of Joint Africa-EU Strategy) – Timeframe: 2011-2020

- AEEP
2020 Targets

Energy Access

- Access to **modern and sustainable energy** services to at least an additional **100 million Africans**

Energy Security

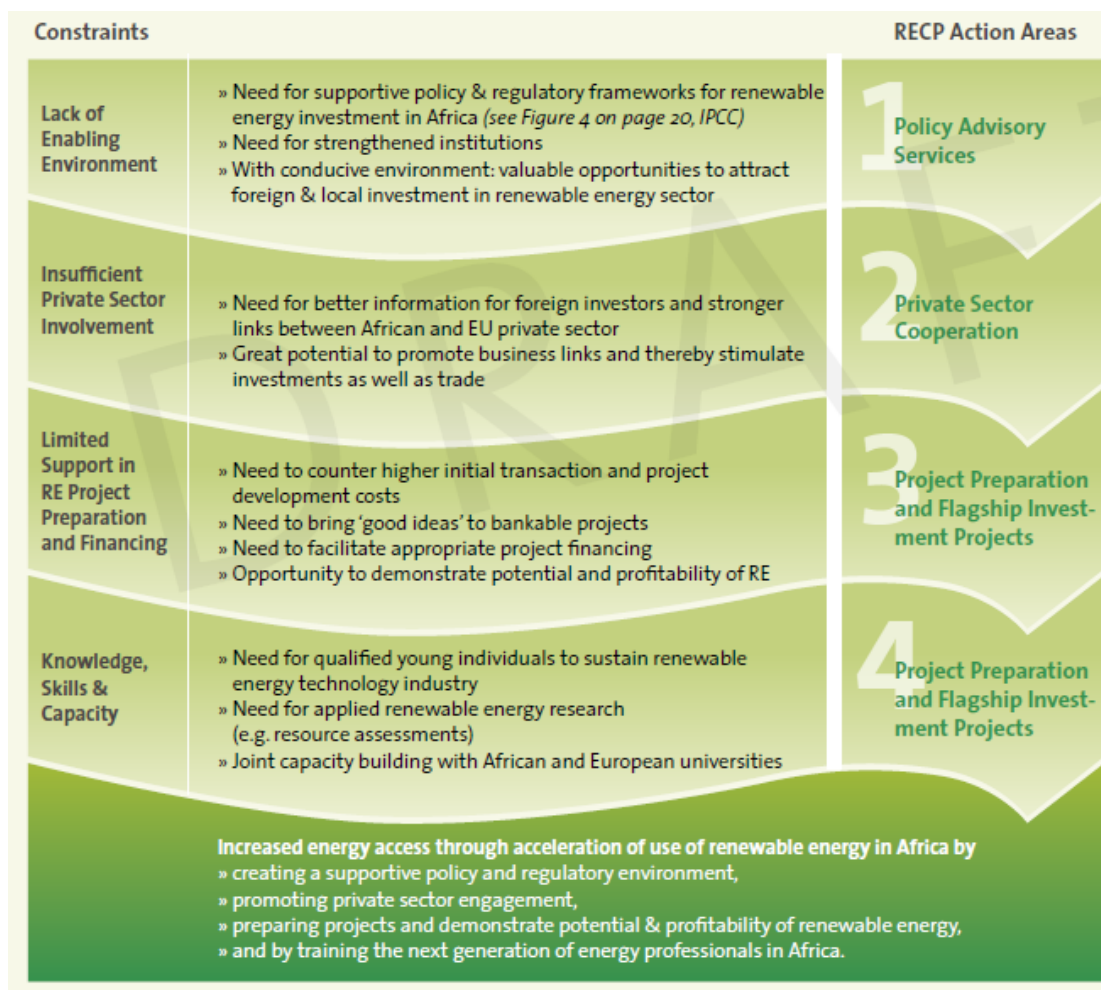
- Doubling the capacity of **cross-boarder electricity interconnections**
- Doubling the use of **natural gas**
- Doubling African **gas exports** to Europe

Renewable Energy & Energy Efficiency

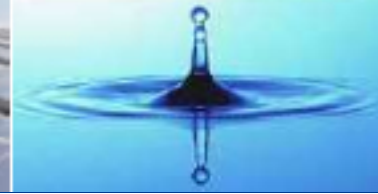
- Construction of:
 - **10,000 MW** of new **hydropower facilities**
 - At least **5,000 MW** of **wind power**
 - **500 MW** of all forms of **solar energy**
- Tripling the capacity of other **renewables**
- Increasing **energy efficiency** in Africa in all sectors

Source: <http://www.africa-eu-partnership.org/articles/aEEP-2020-targets>

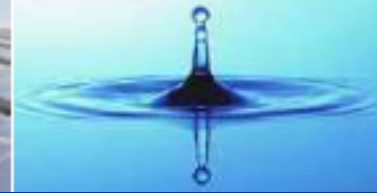
RECP – Action Areas



Source: RECP Strategy 2020 (Draft)

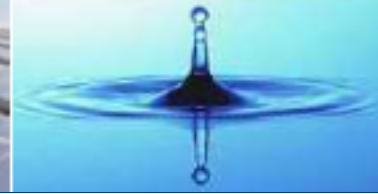


4. Policies on Regional Level



ECOWAS – Regional Renewable Energy Policy Guidelines (RREP)

- Upon request of ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) – Draft RREP in June 2012 (RECP support)
- To be adopted by ECOWAS Council of Ministers in Nov. 2012
- **Objective: stimulate renewable energy investment** in ECOWAS on regional and national level in order to **increase access** to energy
 - **Align** policy, legislative and regulatory frameworks
 - Set **indicative RE targets** at regional level harmonised with national targets
 - Propose portfolio of **policy measures** (laws, regulations, incentives)

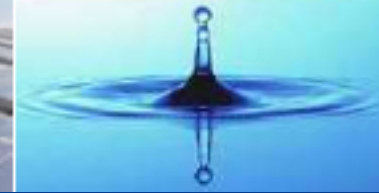


5. Policies on National Level



Bioenergy Policy Initiatives on National Level

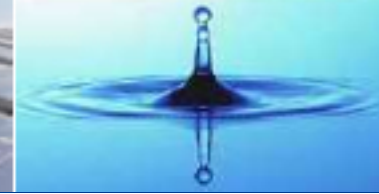
- **Biomass Energy Strategy (BEST)** development supported by the EU Energy Initiative Partnership Dialogue Facility (EUEI PDF)
 - Completed: Malawi, Rwanda
 - On-going: Ethiopia, Mozambique, Tanzania
- **Biofuel policies** under development (limited recent progress)
 - Benin, Nigeria, Mali, Senegal, South Africa, Tanzania, Zambia
- **Renewable Energy policies** under development
 - The Gambia (Electricity Strategy and RE Law)
 - Ghana (Renewable Energy Bill, November 2009)



Biofuel Policies in Mozambique

Vision: Biofuels for economic growth while preserving the environment and promoting social development – Transparent framework for investment

- Favourable climatic conditions and **7 million ha of available arable land**
- Approval of **Biofuel Policy and Strategy** on 21 May 2009
- Creation of Inter-ministerial Biofuel Commission (CIB) with 5 Subgroups – Subgroup Sustainability Criteria
- Approval of **Biofuel Blending Regulation** on 11 November 2011
 - Biodiesel: 3% from 2012, 7.5% from 2016, 10% from 2021
 - Bioethanol: 10% from 2012, 15% from 2016, 20% from 2021
- **Biofuel Sustainability Framework** (under finalisation 2012, since 2008)
 - Development of Principles, Criteria, Indicators, and Verifiers
 - Integration in (Investment) Project Application and Land Acquisition Process



Bioenergy Policies in Mozambique

- Mozambique is **first African country** with Biofuel Sustainability Framework
- Creation of **transparent investment climate**
- **Export (to Europe)** after fulfilment of blending mandates
- **7 sustainability principles**
 1. **Biofuel operations shall** respect all **applicable laws**, regulations and legal procedures
 2. ... contribute to **local development**, minimising health risks
 3. ... contribute to **energy security**
 4. ... be **economically and financially viable**
 5. ... not compromise **local food security**
 6. ... contribute to improved **agricultural and industrial productivity**
 7. ... reduce the risk of **environmental degradation**



6. Outlook

Land Availability Modelling - Mozambique

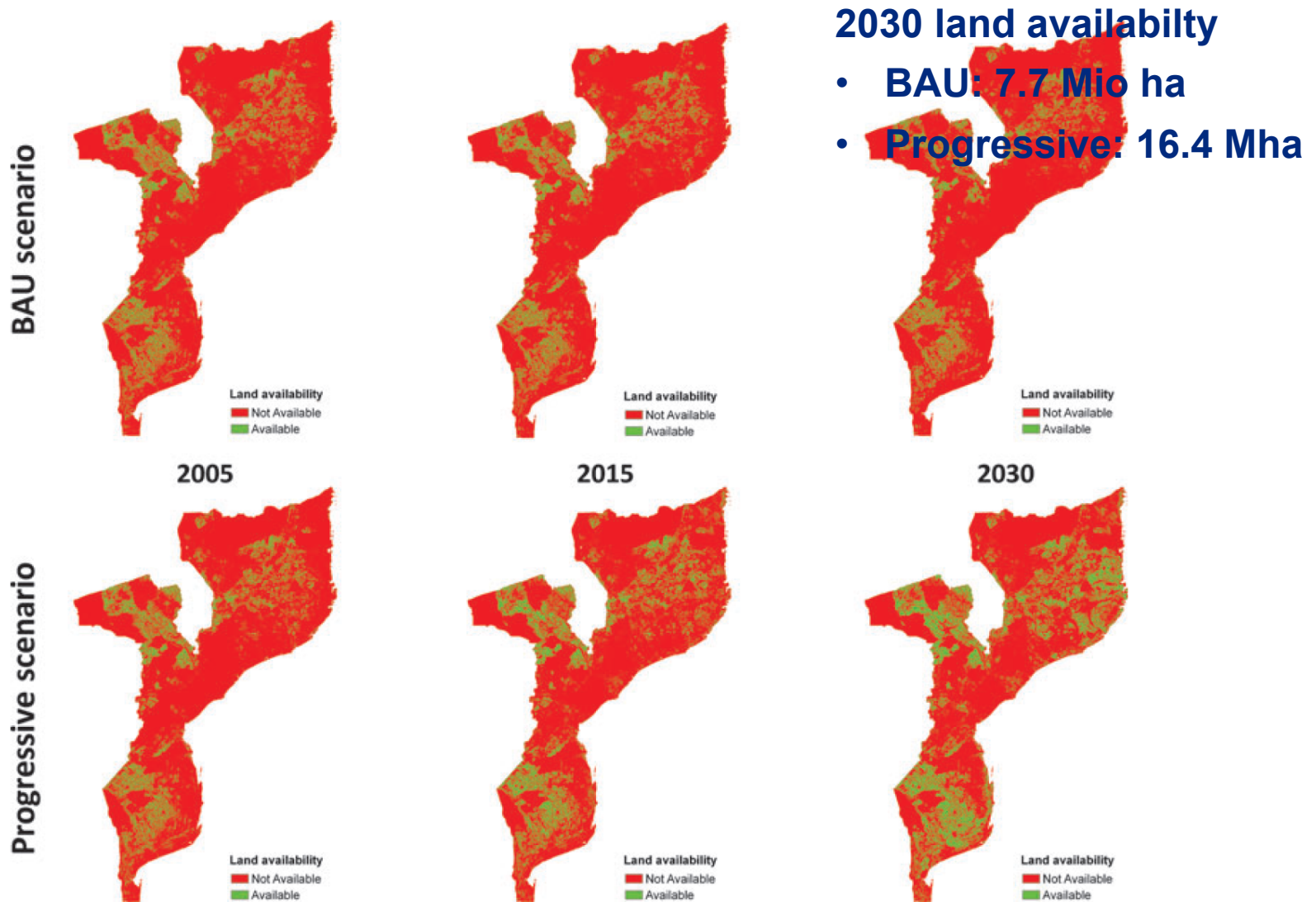
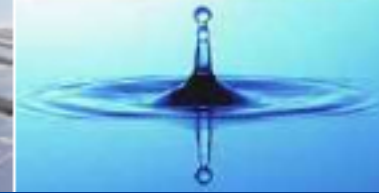


Fig. 6 Land availability for bioenergy crops in 2005, 2015 and 2030 for BAU and progressive scenarios (based on deterministic runs). Red areas indicate the areas that are not available, whereas the green areas are the areas available for bioenergy crop production.



Outlook

- **Policies and strategies are currently under development in Africa on**
 - Pan-African Level (AUC-UNECA, AEEP)
 - Regional Level (ECOWAS)
 - National Level (variety of African countries)
- Majority of policy initiatives address bioenergy in the wider framework of renewable energies
- Focus is placed on **Sustainable Bioenergy Development**
- Limited progress achieved in the field of (liquid) biofuels –
Exception: **Good Practice Biofuel Policies in Mozambique**
- **Recommendation:** address (sustainable) land availability issues through detailed **land use modelling and planning**



Recent Publication, Nov. 2011

Bioenergy for Sustainable Development in Africa

- Produced as result of the EU FP6 Project COMPETE
- Edited volume with contributions from COMPETE partners in Europe, Africa and LA
- Further information:
www.compete-bioafrica.net



<http://www.springer.com/environment/sustainable+development/book/978-94-007-2180-7>

WIP



**THANK YOU VERY MUCH FOR YOUR
ATTENTION!!**

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