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Africa, sustainable development and climate change
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Catalysing investment in sustainable energy infrastructure in Africa: Lessons from Zambia and Tanzania

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Sustainable infrastructure for Africa

- Africa's infrastructure needs are considerable:
 - \$90 trillion investment needed over next 15yrs
 - Cities
 - Transport systems
 - Energy systems
 - Water and sanitation
 - Telecommunications
- How to meet these needs in a sustainable way?
 - Achieve development aspirations of African countries
 - Resilient in the face of climate change
 - Does not adversely impact environment and ecosystems
 - Green infrastructure has become a topic of global interest



Understanding the challenge of infrastructure development in Africa



- Need to balance
 - Liberalization vs. the right to regulate
 - Attractive risk-return rates vs. accessible and affordable services
 - Private investment vs. public investment
 - Global scope of SDGs vs. special effort in LDCs

Methods

- Case study approach
 - Historical analysis of infrastructure development
 - Case study 1: Electricity infrastructure in Zambia
 - Case study 2: Natural gas infrastructure in Tanzania
 - By understanding the past, we gain insights on barriers and opportunities for sustainable infrastructure development in the future
 - Data gathering and analysis
 - Semi-structured interviews with stakeholders
 - Desk-based review of reports, grey/academic literature

Key Findings from Zambia

- Country currently faces severe energy crisis:
 - Lack of diversity in electricity supply;
 - Widening gap between supply and demand;
 - Delayed implementation of pipeline projects;
 - Limited political will to address ‘structural’ issues in energy sector
- But energy crisis offers ‘window of opportunity’:
 - **Clear problem** affecting the economy
 - **Policy options available**, such as tariff reform and feed-in tariff
 - **Political will** to show problem has been solved before elections in 2017
- It is not clear that implementation will solve crisis:
 - Benefit of tariff increase may be negated by lifting life-line tariff threshold
 - Short term fix does not address need for long-term planning
 - Structural change not proposed



Key Findings from Tanzania

- Promise of indigenous natural gas to diversify energy mix still to happen
 - Large-scale investments take time
 - Chequered history of private participation in energy sector
 - Tricky to balance export and local use:
 - riots in Mtwara over lack of local benefits from local gas exploitation
- But investments are happening:
 - Upstream exploration continues
 - In 2015, new pipeline opened and downstream generation plants commissioned
 - Capacity starting to build in the sector, with training facilities opening
- Still lots to be done:
 - Need anchor projects to attract private sector investments in infrastructure
 - Need to further develop capacity
 - Need to encourage more CSR in natural gas sector



Lessons learned

- Africa's infrastructure development needs are great and immediate
- Infrastructure development in general in Africa is difficult enough – doing it sustainably is an added challenge
- History shows that infrastructure development is complex and often unique

Recommendations

- Better governance mechanisms to ensure transparency of state-business relations
- Specific support from development partners to target sustainability of infrastructure investments
- Development of local capabilities to plan and implement long-term infrastructure development

Thanks! - Asante sana! - Tack så mycket! www.sei-international.org

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SEI-Africa Centre is located at the World Agro-forestry Centre (ICRAF) in Nairobi

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