

# Low Carbon Programs in East Africa



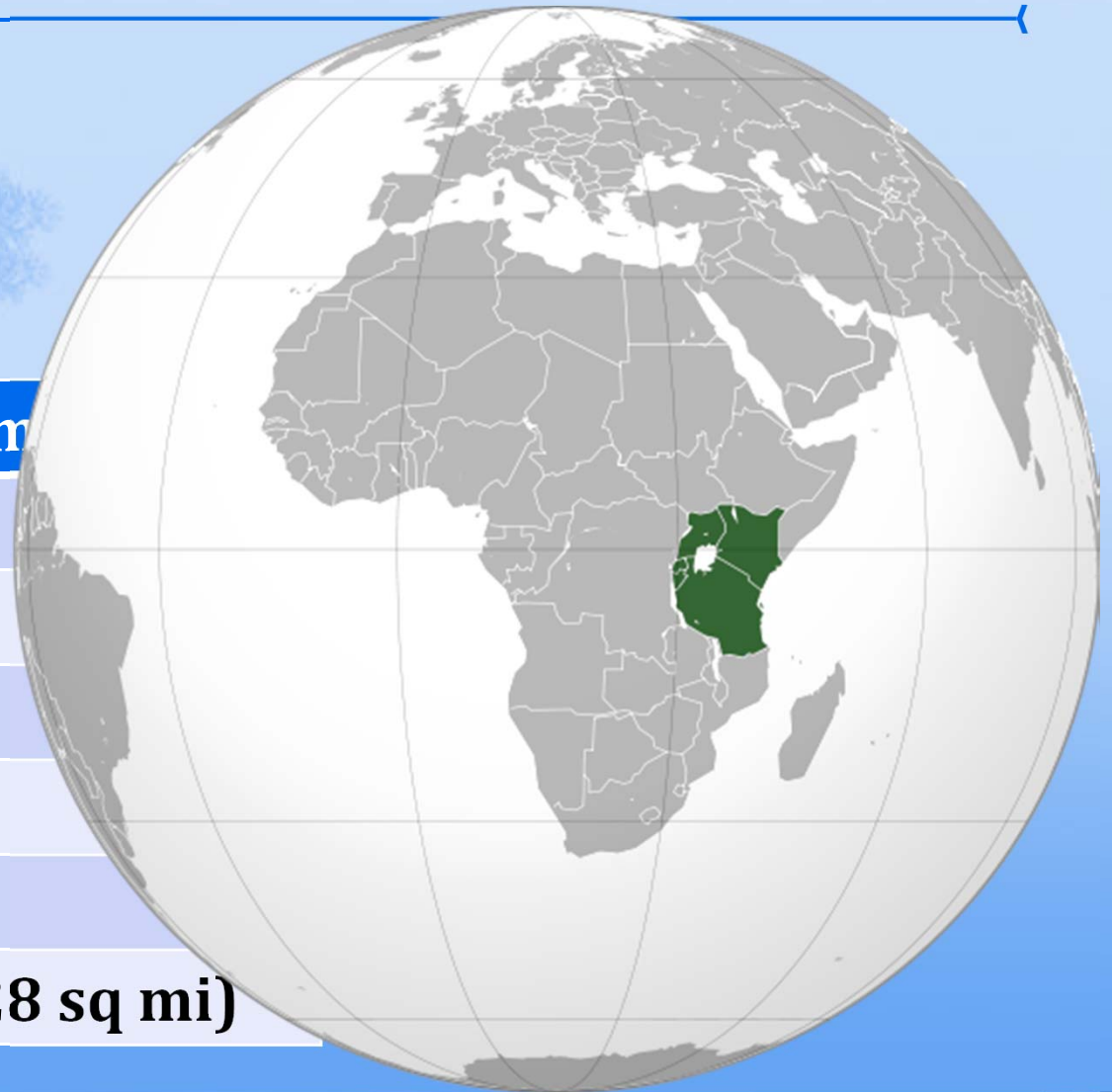
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East African Community

# Overview

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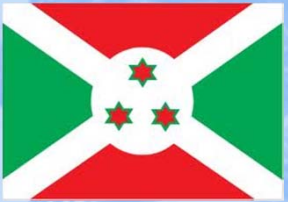
- ✿ Introduction on East African Community
- ✿ Snapshot of EAC Energy Sector
- ✿ Low Carbon Initiatives
- ✿ Achievements
- ✿ Challenges
- ✿ Conclusion

# The East African Community (EAC)



Country	Area ('000 sq. km)
Burundi	27.8
Kenya	582.7.
Rwanda	26.3
Tanzania	939.3
Uganda	241.6
<b>Total</b>	<b>1,817.7 (701,028 sq mi)</b>

# Introduction



**Members** Burundi, Kenya, Rwanda, Tanzania & Uganda. Established by Treaty signed on 30-Nov-99



**Objectives** to widen and deepen economic, political, social and cultural integration to improve the quality of life of the people of East Africa through increased competitiveness, value added production, trade and investment.



## Key Organs

- ✧ Secretariat
- ✧ Legislative Assembly
- ✧ East African Court of Justice





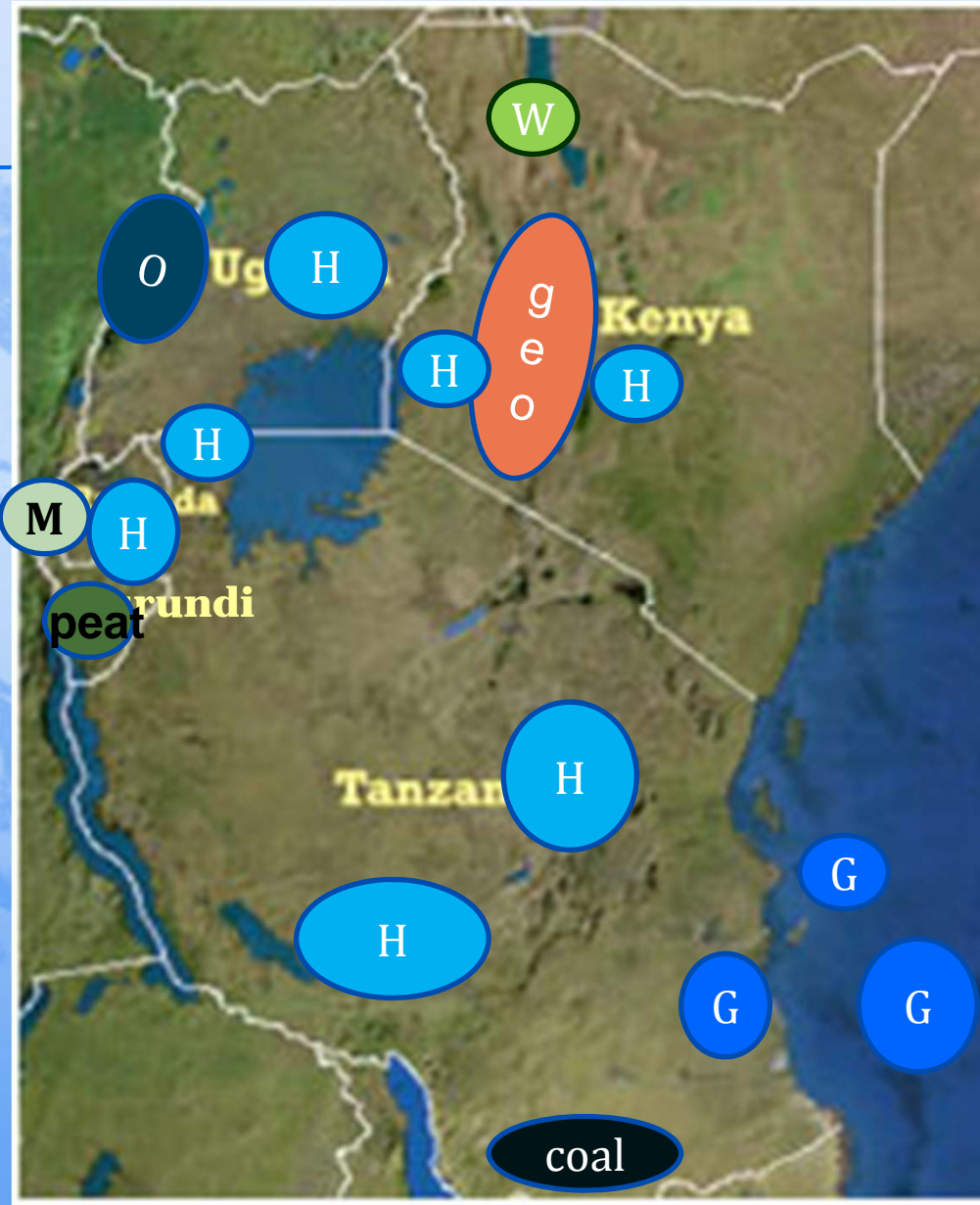
# EAC Integration Process



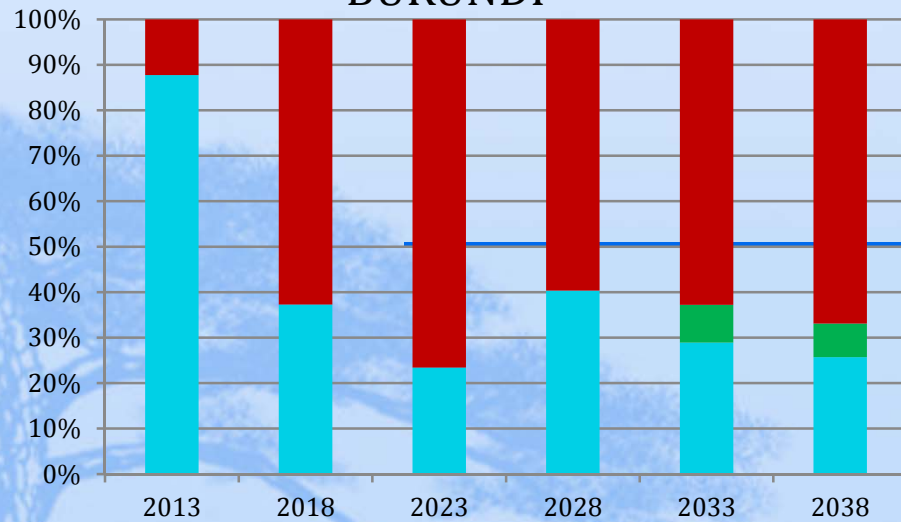
# Snapshot of EAC Energy Sector

	Burundi	Kenya	Rwanda	Tanzania	Uganda
Generation	REGIDESO	KenGen IPPs GDC	EWSA IPPs	TANESCO IPPs	UEGC IPPs
Transmission	REGIDESO	KPLC KETRACO	EWSA	TANESCO	UETCL
Distribution	REGIDESO	KPLC	EWSA	TANESCO	UMEME concessions
Rural Electrification	X	REA	X	REA	REA
Regulation	X	ERC	RURA	EWURA	ERA

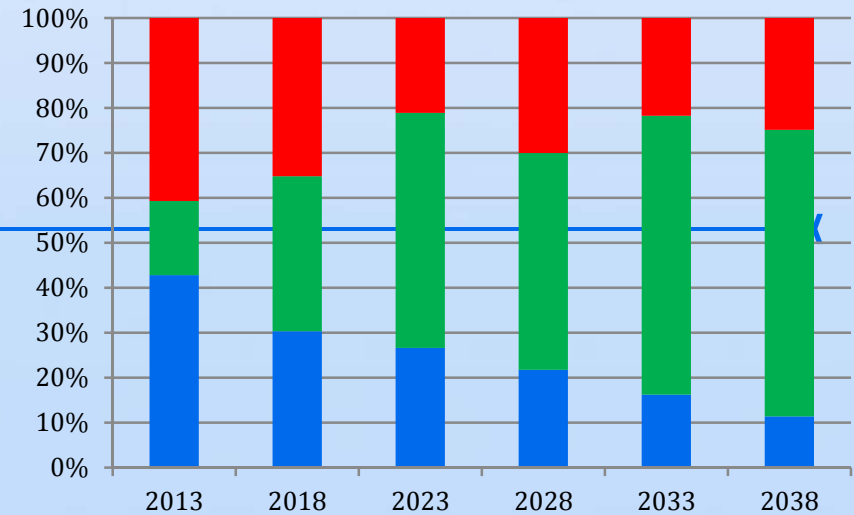
# Energy Resources in East Africa



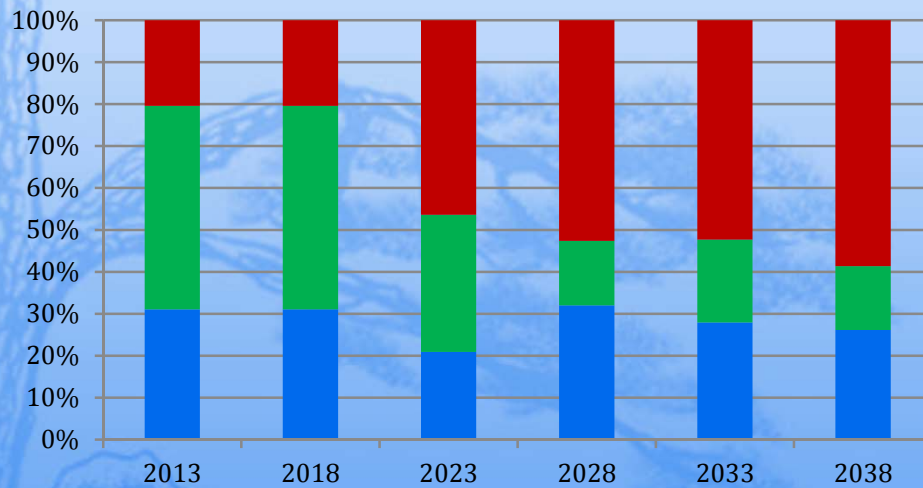
## BURUNDI



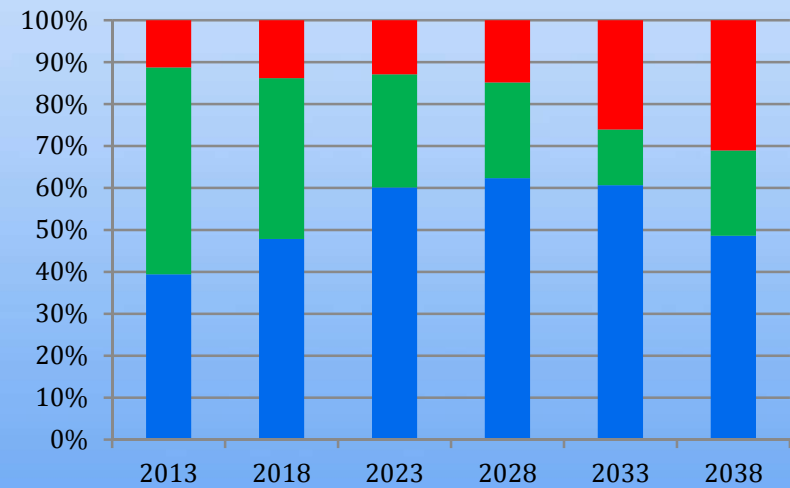
## KENYA



## RWANDA

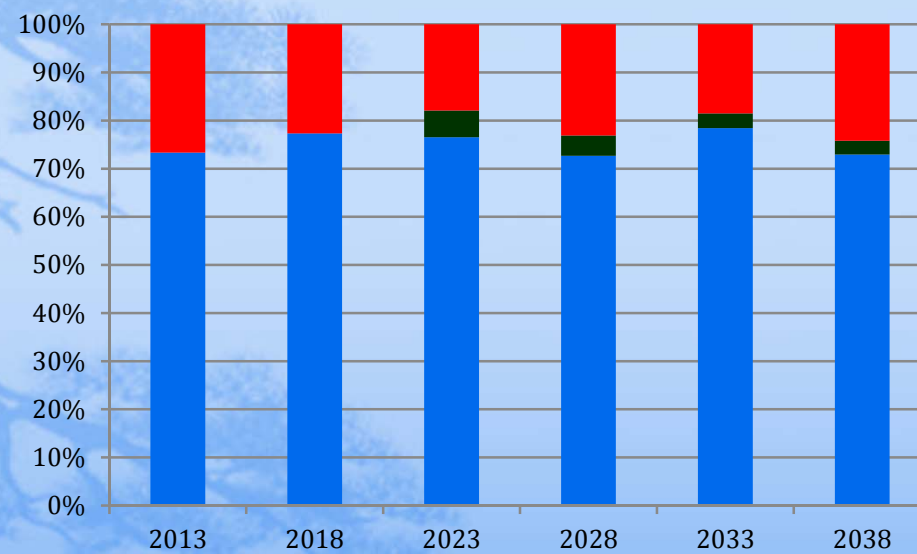


## TANZANIA





## UGANDA



# Incentives for Low Carbon Power Development

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## PLANNING STAGE

- \* Objective Function:  $\min NPV[Cost(Investment + O\&M + Fuel + Un-served\ Energy)]$ 
  - \* CO<sub>2</sub> tax (\$/ton) is loaded on O&M cost for thermal plants
- \* Other Initiatives:
  - \* Renewable Energy Programs
  - \* Energy Efficiency and Conservation Programs
  - \* Incentives and Policies
  - \* Regional Strategy on Scaling Up Access to Modern Energy Services

# Incentives for Low Carbon Power Development

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## \* Renewable Energy Programmes

- \* Feed-in-Tariffs (KE, UG, TZ) -Wind, Geothermal, Solar, Small Hydros, biomass (bagasse)
- \* No License requirement for projects below 2MW
- \* No tax for solar equipment
- \* Solar street lighting and solar traffic lights

# Initiatives for Low Carbon Power Development

- ✿ Energy Efficiency and Energy Conservation
  - ✿ Distribution of CFLs and solar panels
  - ✿ Annual Efficiency Award
  - ✿ Energy Audits and Advisory Services
  - ✿ Standards and Labels program
- ✿ Other Initiatives
  - ✿ Generation from NG and Geothermal to be enhanced
  - ✿ New NG pipelines planned
  - ✿ Nuclear Units set up in KE, UG, TZ to develop capacity for implementation of nuclear generation in future
  - ✿ GDC established in KE to carry out upstream activities
  - ✿ Regional Strategy on Scaling Up Access

# Achievements

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- ✿ Power Master Plan and Grid Code (Interconnection Code)
- ✿ Cross-Border Electrification Program (Policy and Model Power Supply Agreement)
- ✿ Regional Strategy on Scaling Up Access to Modern Energy Services
- ✿ Feed-in Tariffs for renewable generation projects
- ✿ Tax incentives for renewable energy equipment





# Challenges

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- ✿ Inability to mobilise resources fast enough to match growing demand
  - ✧ Leads to rental of diesel generation on emergency basis
- ✿ Low levels of access
  - ✧ Hence use of traditional and inefficient fuels
- ✿ Insufficient capacity in existing institutions in the energy sector
- ✿ Inadequate capacity of communities and private sector to develop small hydro projects
- ✿ Counterfeit and sub-standard equipment finding its way into the region



# Conclusion

- ✿ Region has potential for low carbon power sector development
- ✿ Various initiatives have been taken at national and regional level that can be further scaled up
- ✿ There is need to enhance capacity in the region to increase low carbon power sector development

# The End

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