



Institutionalizing the Water-Energy-Food (WEF) Nexus approach: experience from the SADC Region

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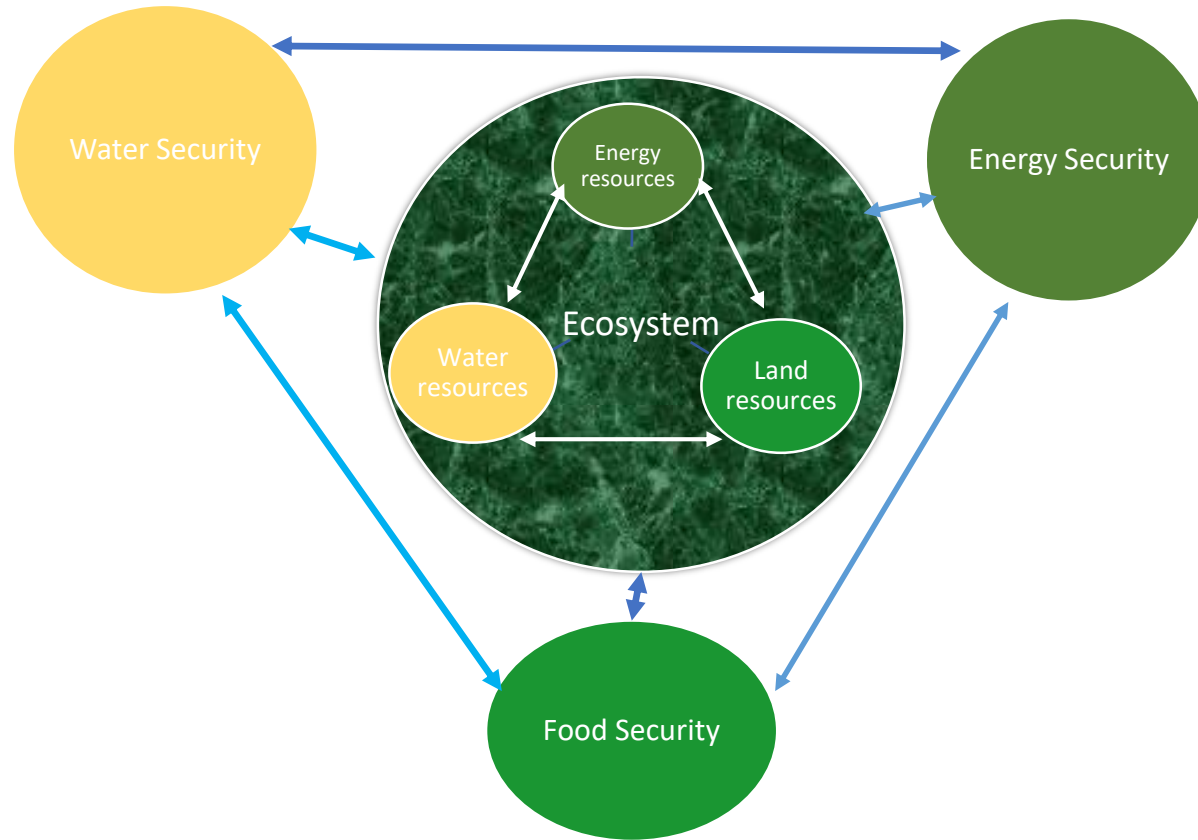
Presentation for the Water, Energy and Food for Thought: Interregional exchange on WEF Nexus Institutionalisation

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1. Understanding what is WEF Nexus approach and what does it do for the SADC Region?



The SADC WEF Nexus Conceptual Framework

The Natural System:

Water, land and energy resources are interlinked in the natural system

Natural Resource Use Efficiency

- ✓ resource use efficiency
- ✓ climate resilient and green development
- ✓ Ecosystems integrity

The Human System:

Water, energy, food security are interlinked in the system

Simultaneous WEF Security:

- ✓ coherent/aligned policies
- ✓ coordinated sectors
- ✓ joint decisions
- ✓ integrated plans, programs, projects

How to achieve both objectives?

- ✓ WEF Nexus Governance: SADC Regional WEF Nexus Framework
- ✓ Investment: SADC WEF Nexus Investment Project Screening Tool



managing trade-offs and increasing synergies

The Nexus approach for WEF security in the SADC Region

Food Security

- About 90% rain-fed agriculture--vulnerable to climate change impacts
- Only 7% irrigation potential developed.
- Water security is the main challenge as the sector is highly vulnerable to the impacts of climate change



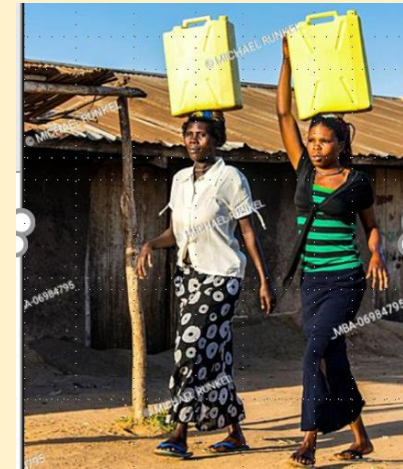
Energy Security

- Access to electricity is about 48% (75% urban and 32% rural)
- 62% of electricity is from coal, 21% from hydropower
- The region has vast energy resources (hydropower, coal, biomass and solar).
- The hydropower potential is estimated at ~ 1080 TWh/year. The current utilized capacity is ~31 TWh/year

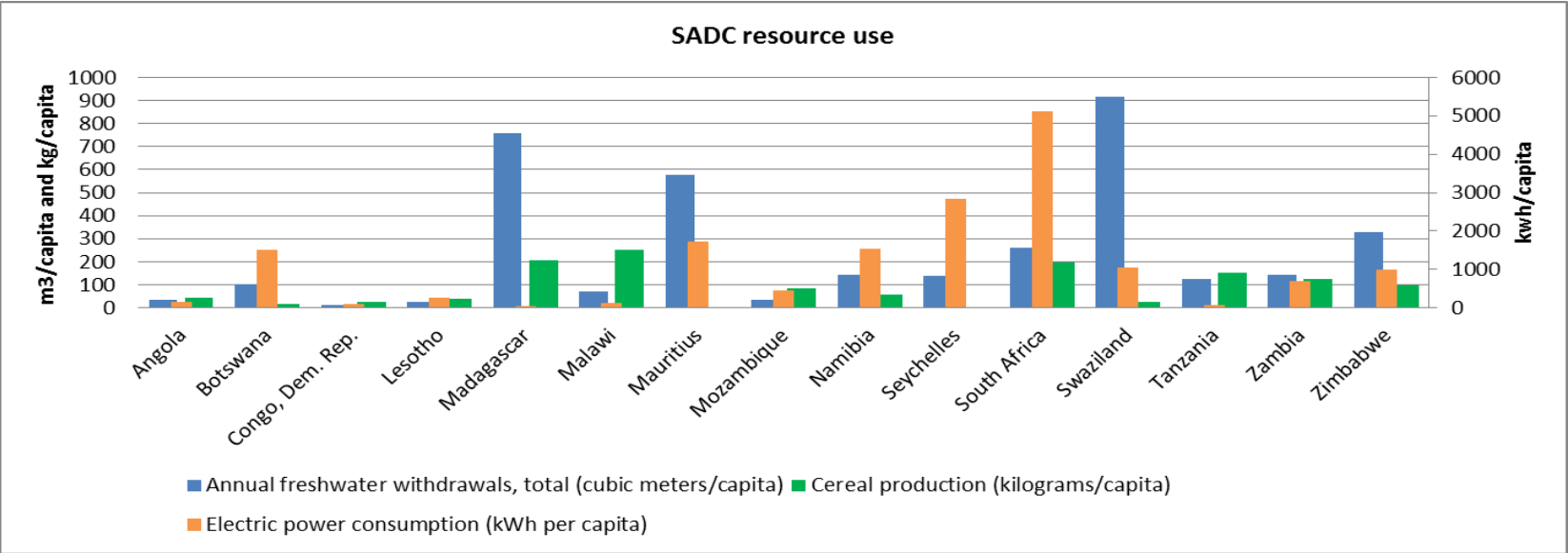
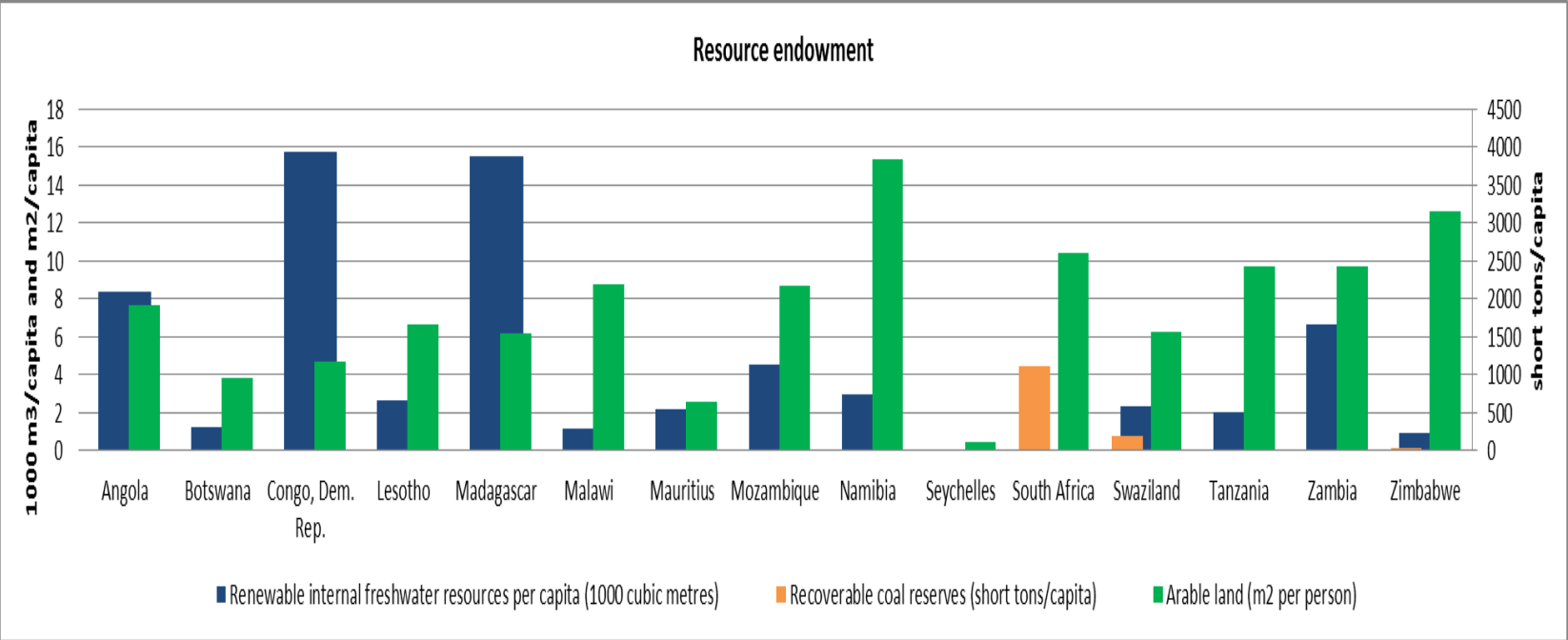
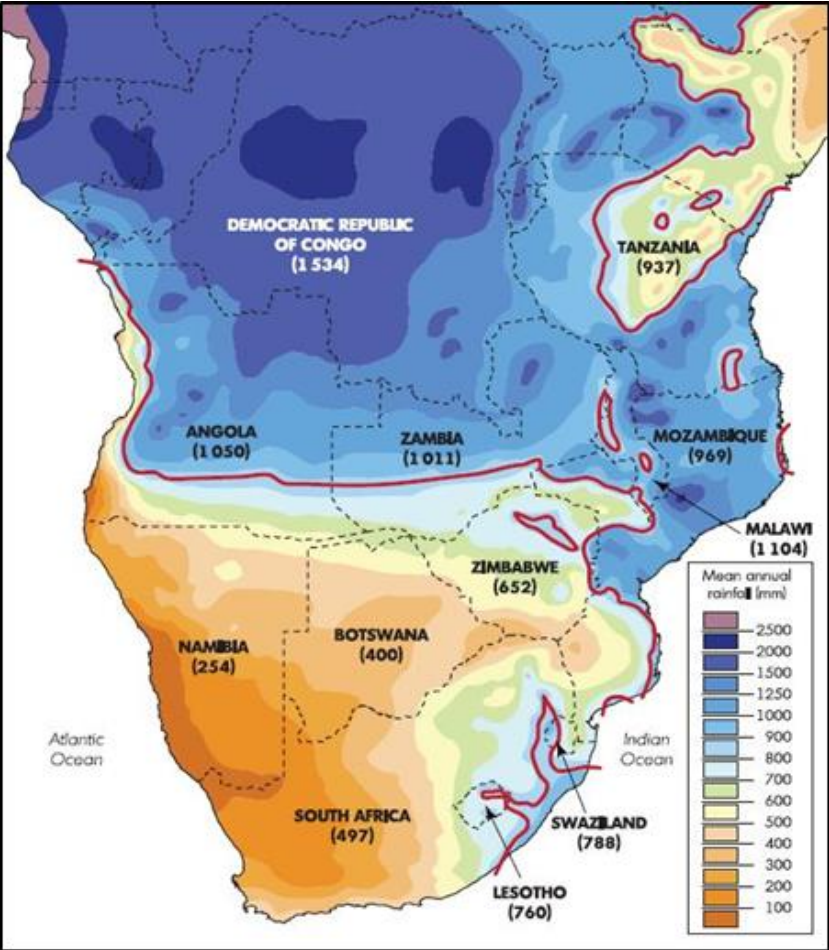


Water Security

- Water resources potential is estimated at 2 300 km³/year of the renewable freshwater resources. Total water storage is only 14% of the available annual renewable water resources
- The distribution of the resources is a major concern- (~300 mm/year in Namibia to 1530 mm/year in D.R. Congo).
- Access to drinking water is 60% and to sanitation is about 40% (2012)



The WEF Nexus approach for regional cooperation, development, integration

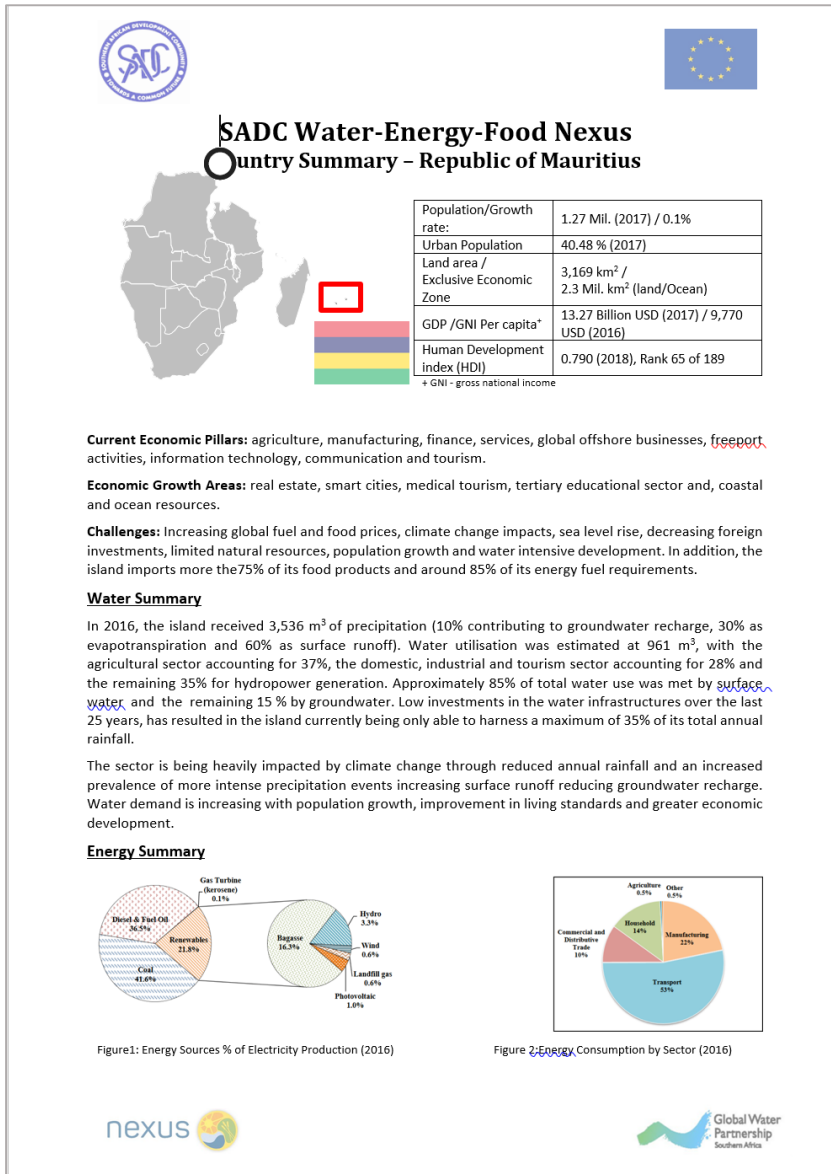


Uneven distribution of Water, Energy, Land resources-SADC

The WEF Nexus approach for coherent policies

Coherence analysis for WEF 3 (High), 2 (Partial), 1(Limited) & 0 (No) coherence	WEF Security				WEL Resource Use Efficiency				Overall	
	Water	Energy	Food	WEF mean score	Climate change	Biodiversity Ecosystems	Land	WEL mean score	Overall mean score	Overall score WEF and WEL
Regional Water Policy (SADC, 2005)	-	3	3	3	1	2	1	1,33	2.12	
Regional Water Strategy (SADC, 2006)	-	3	3	3	3	2	1	2	2.37	
Guidelines for Strengthening RBOs (SADC, 2010a)	-	1	1	1	1	3	1	1,67	1.75	
Climate Change Adaptation in SADC, Strategy for the Water Sector (2011)	-	2	2	2	-	1	1	1	1.71	
Regional Strategic Action Plan. Integrated Water Resources Development and Management, 2016-2020 (SADC, 2016a)	-	3	3	3	3	3	2	2,67	2.85	
Regional Infrastructure Development Master Plan, Energy Sector (2012)	3	-	1	2	3	1	1	1,67	1.5	
Renewable Energy and Energy Efficiency Strategy and Action Plan, 2016-2030 (SADC, 2016b)	2	-	2	2	3	1	1	1,67	2	
Regional Energy Access Strategy and Action Plan (SADC, 2010b)	1	-	1	1	0	0	1	0,33	0.77	
Regional Agricultural Policy (SADC, 2014)	3	3	-	3	3	1	3	2,33	2.25	
Regional Food and Nutrition Security Strategy (SADC, 2015a)	2	0	-	1	3	0	2	1,67	1.37	
Regional Indicative Strategy Development Plan, 2015-2020 (2015b)	3	2	3	2.66	3	2	2	2,33	2.44	
Regional Biodiversity Strategy (2008)	1	1	2	1.33	2	-	3	1,67	1.75	
Subject mean coherence	2.14	2	2.1	-	2.27	1.45	1.58	-	-	

WEF Nexus opportunities for SADC Member States: Nexus Perspective Papers

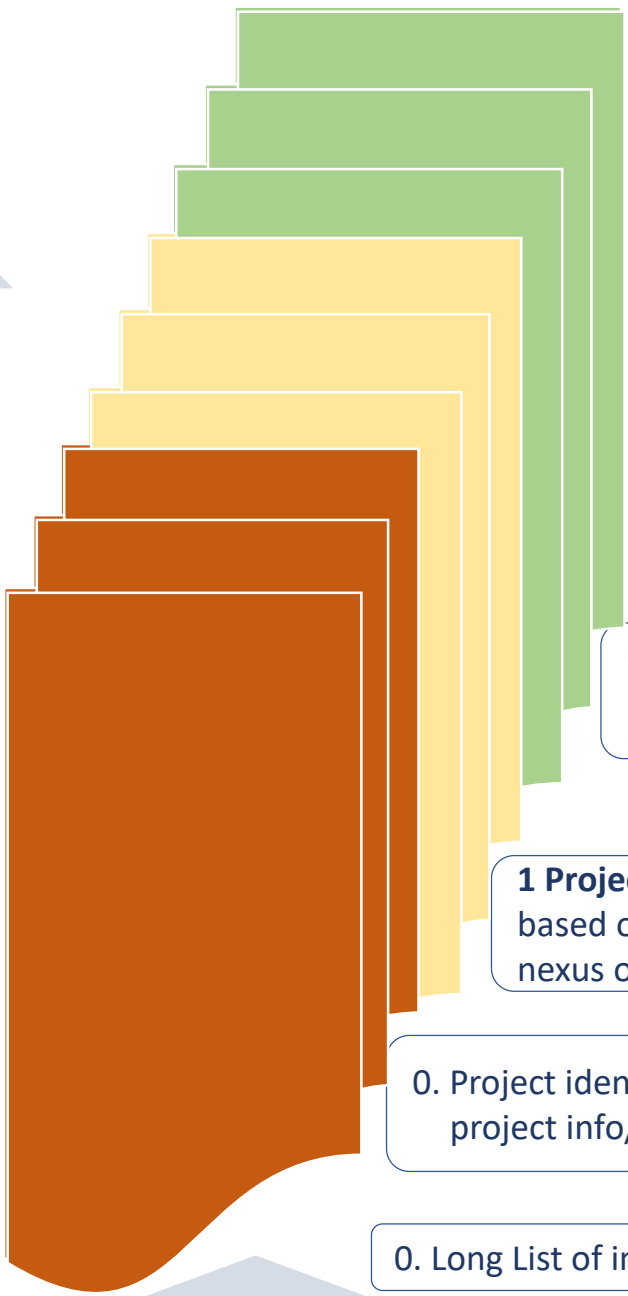


WEF Nexus opportunities in the SADC Member States

- National Development Plans (NDPs)/SDGs:
 - NDP (Zambia, Namibia, South Africa;
 - SDGs (Botswana, Mozambique, Seychelles, Lesotho & South Africa)
- Climate Change Response: South Africa in the NAP process
- Efficiency and sustainability in Priority Sectors:
 - ✓ Agriculture/Livestock: Botswana, Lesotho, eswatini
 - ✓ Energy-Mauritius, Mozambique
 - ✓ Environment-Angola, Lesotho
 - ✓ Water-Botswana, Namibia, South Africa
 - ✓ Industry-Tanzania, DRC, South Africa
- Multi-purpose dam projects (eg. Angola, Malawi, Zimbabwe, Tanzania, Madagascar, Lesotho)
- Others-circular economy-Namibia

The WEF Nexus to facilitate investment....through identification and screening of projects

Complexity of analysis and data requirement



The SADC WEF Nexus Project Screening Tool

15 Investment Projects Screened

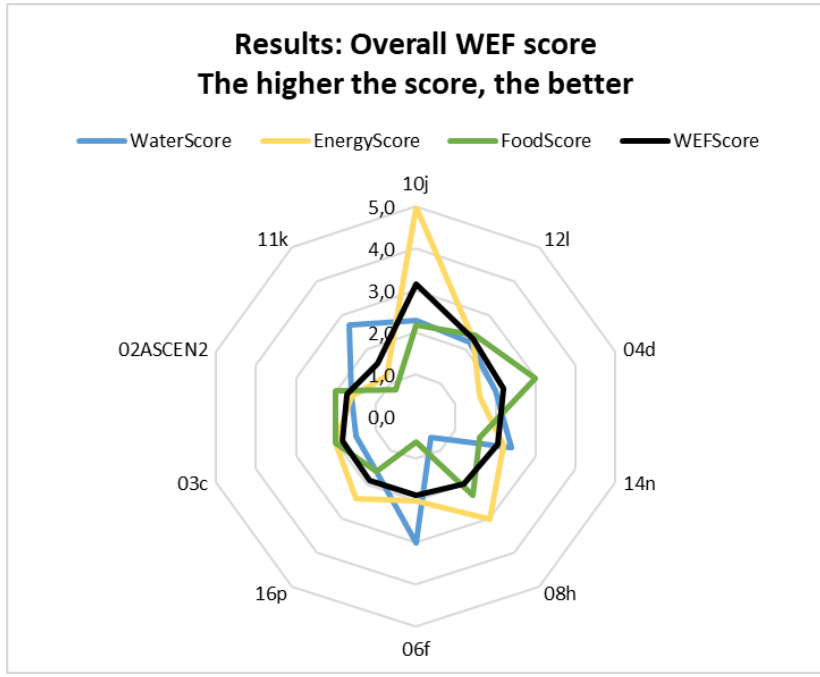
3. Project appraisal (BCA)

2. Project impact assessment & prioritisation based on a multi-criteria decision support framework

1 Project screening for WEF Nexus based on a decision tree-identifies nexus opportunities

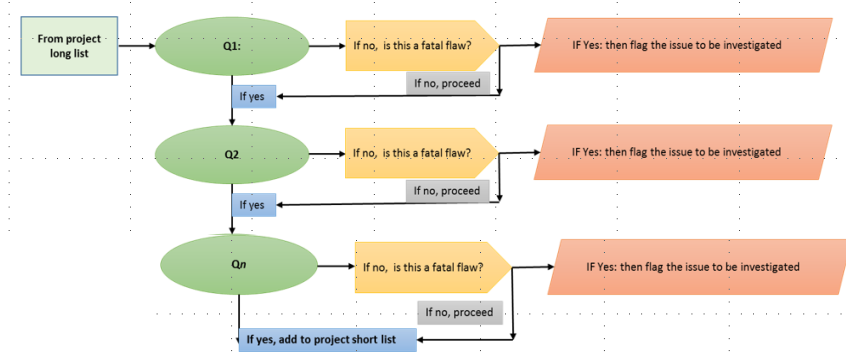
0. Project identification and description: project info/data fed

0. Long List of investment projects

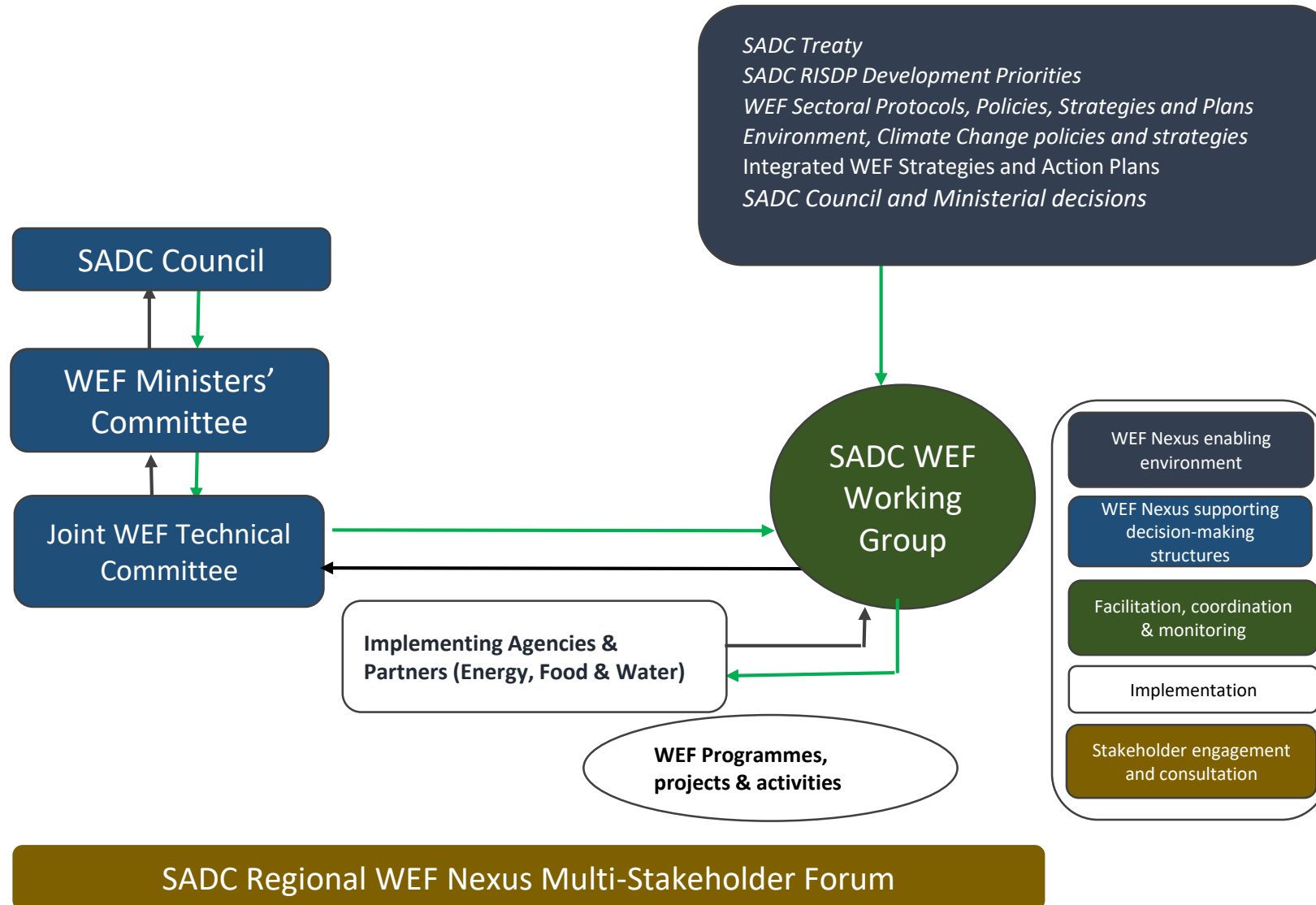


The relative impact of projects for WEF defined (based on weighting the parameters) Eg. How much will the project contribute to improved water use efficiency? MCDA

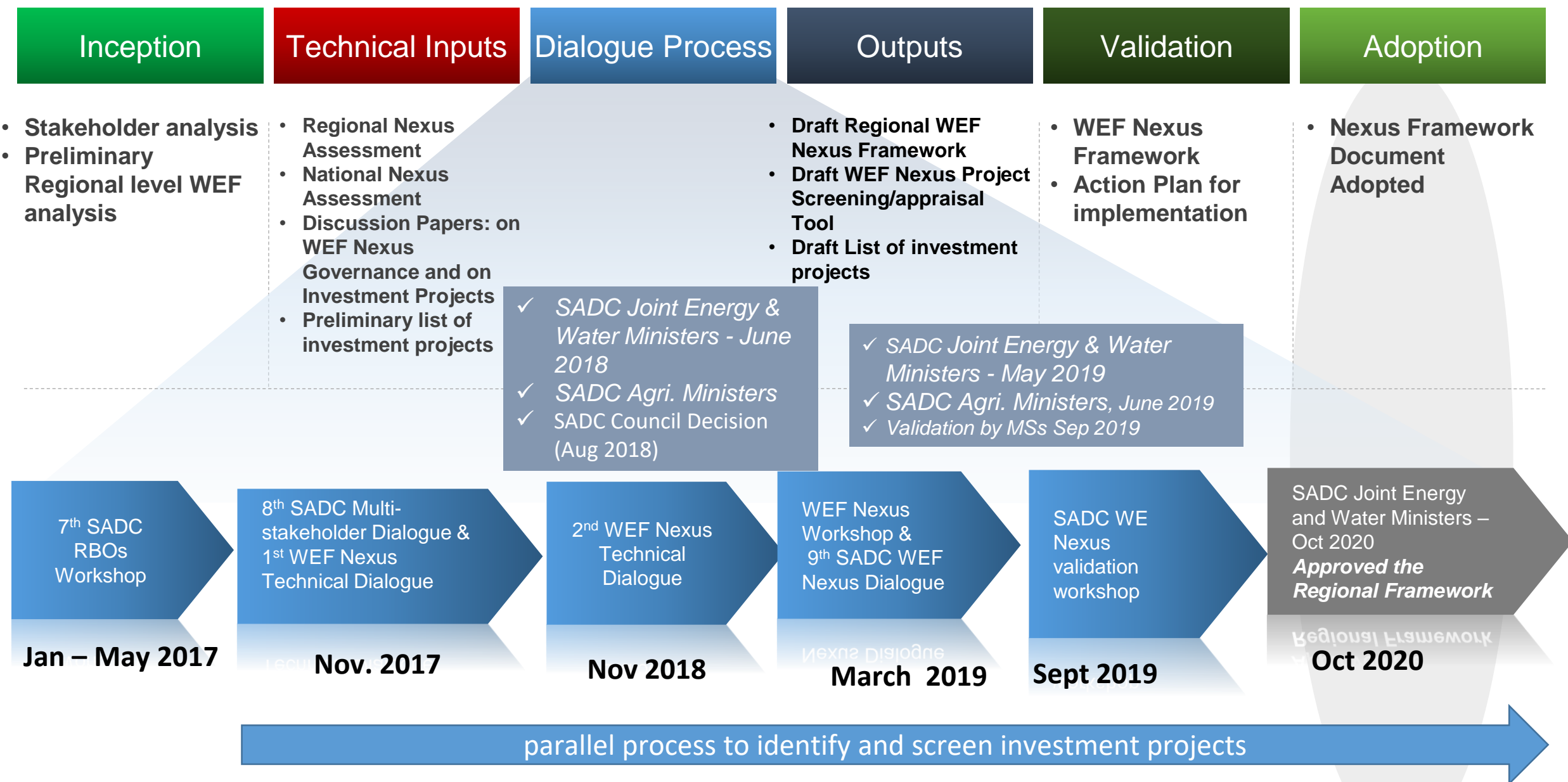
WEF opportunities of projects identified (trade offs & synergies)
Eg. Q1. Will this project contribute to improved water use efficiency? Yes/No. Provides feedback to project owners.



The SADC Regional WEF Nexus Framework



The process of developing the SADC WEF Nexus Framework and investment projects



Key Lessons from the SADC Region

Adopting a WEF Nexus approach is a long process that requires:

1. **A High level political support and ownership.** SADC took the WEF nexus discussions at higher levels—SADC Council of Ministers, SADC Ministers for Water, Energy and Agriculture
2. **A continuous multi-stakeholder/sectoral dialogue/engagement:** The SADC process built on the existing regional dialogues...from water to WEF dialogue platform
3. **Build on existing structures rather than creating new ones.** SADC regional framework is building on the existing SADC structures
4. **Capacity for analysis to support decisions.** Research to generate knowledge and information for decision
5. **Define the scope and objectives of the Nexus approach.** SADC defined the conceptual understanding and objectives of the Nexus approach for regional development