

KEY PERFORMANCE INDICATORS FOR RESOURCE EFFICIENCY - WATER-ENERGY NEXUS

Water-Energy Nexus Operational Toolkit : Resource Efficiency

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Economic and Social Commission for Western Asia

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Outline

Introduction

Water indicators

Energy indicators

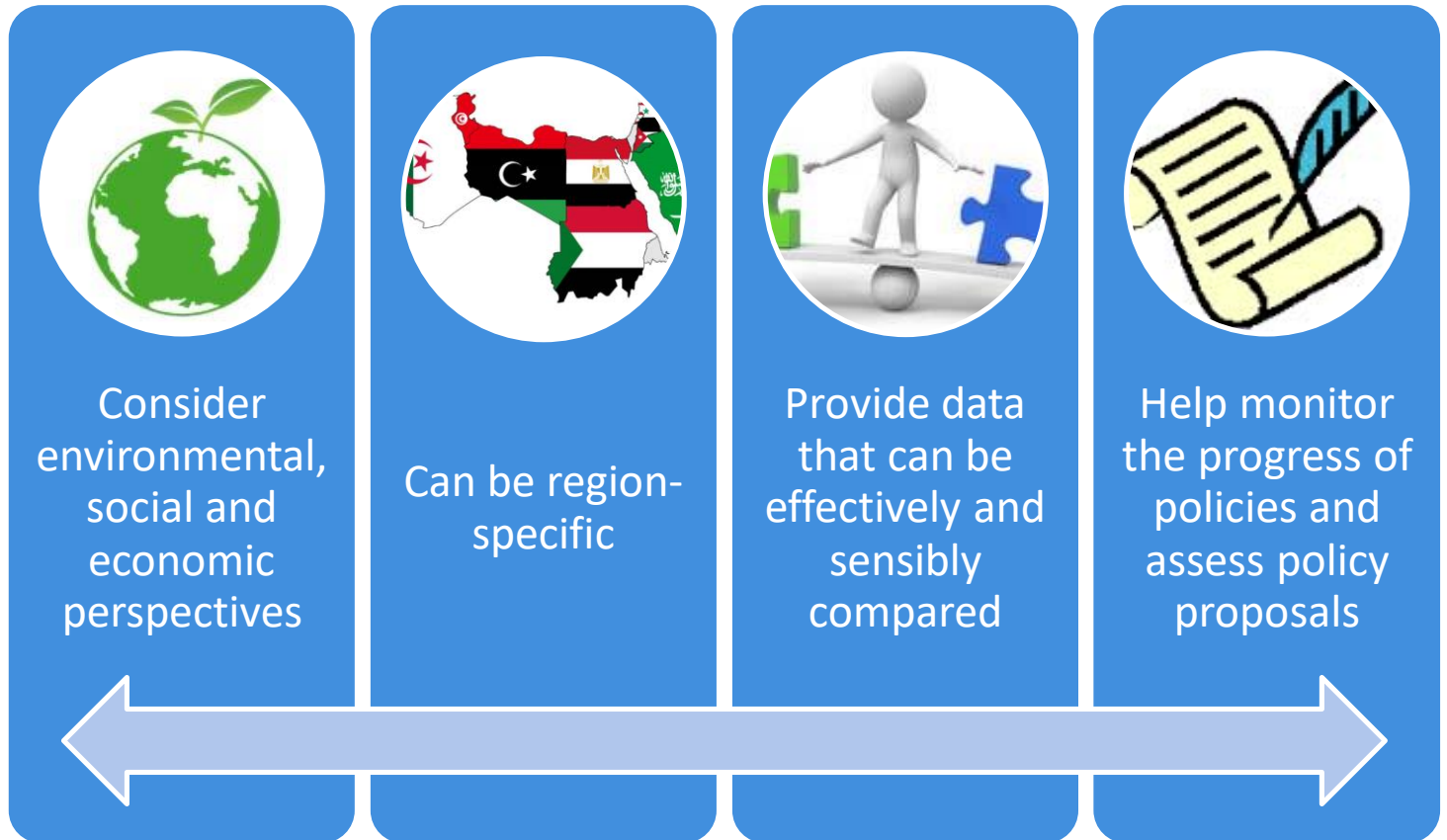
Water-energy nexus indicators

Sustainability reporting for the oil & gas industry

Key messages

Introduction

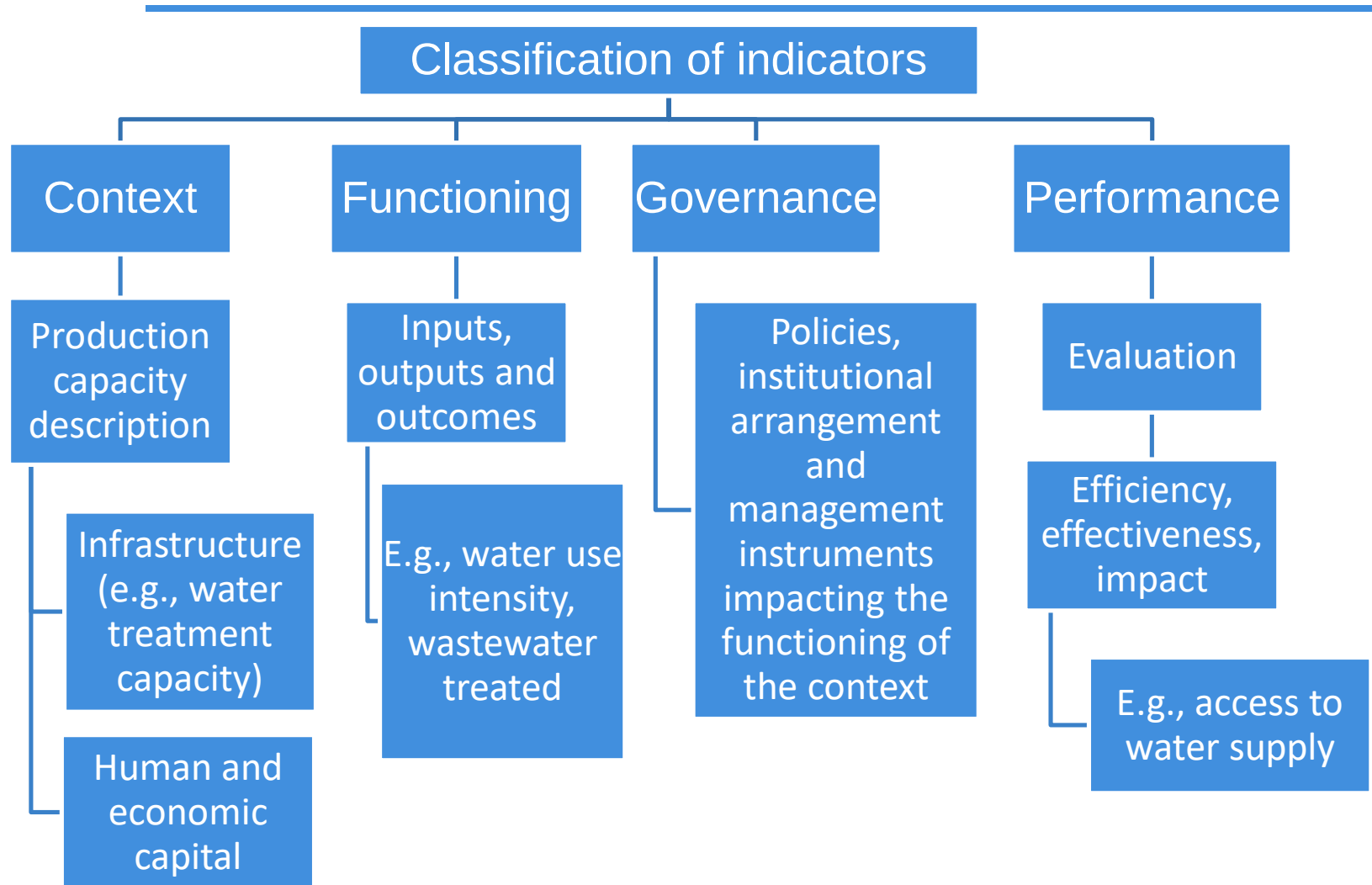
Characteristics of indicators



Organizations publishing indicators

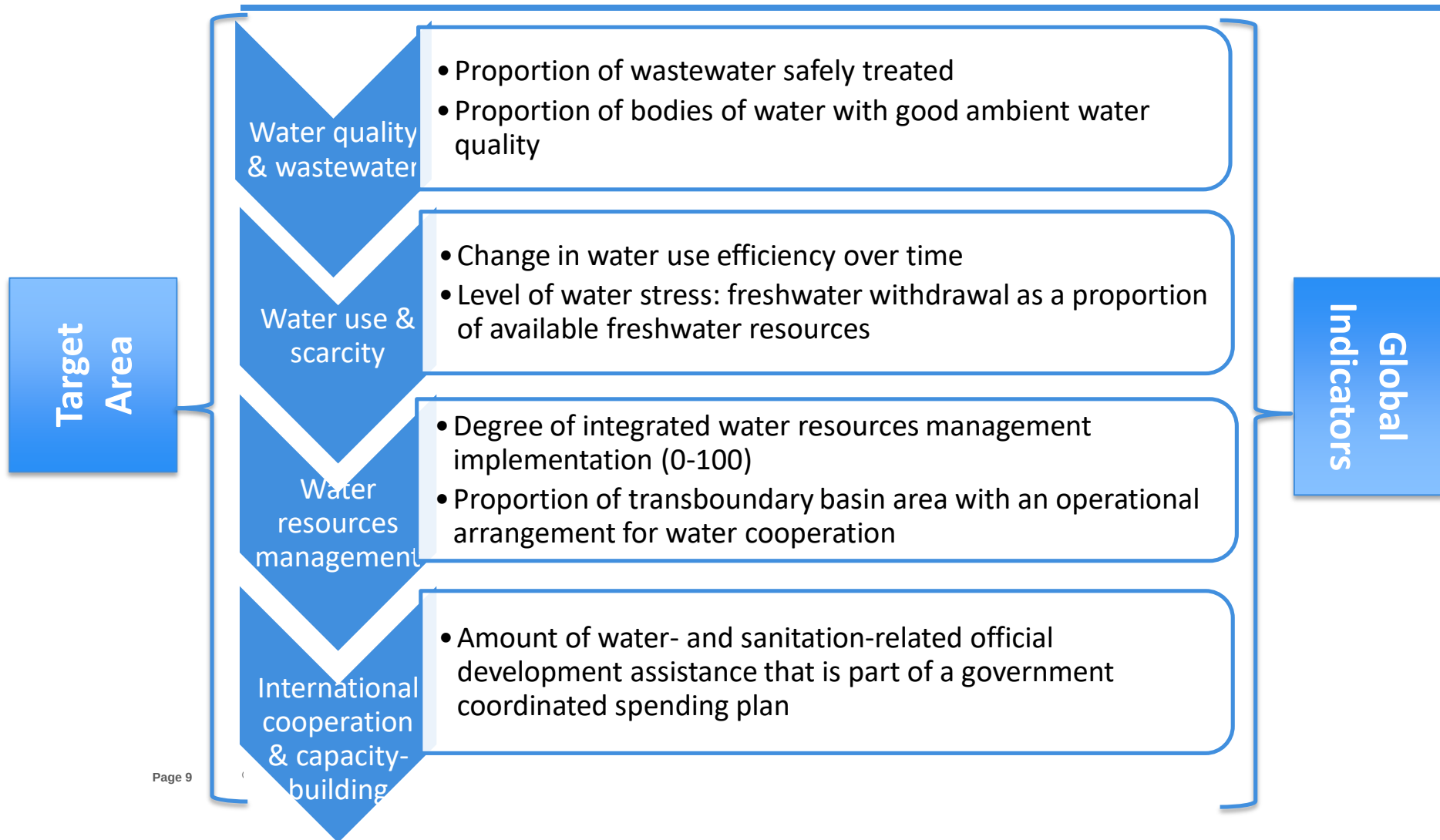


Classification of indicators



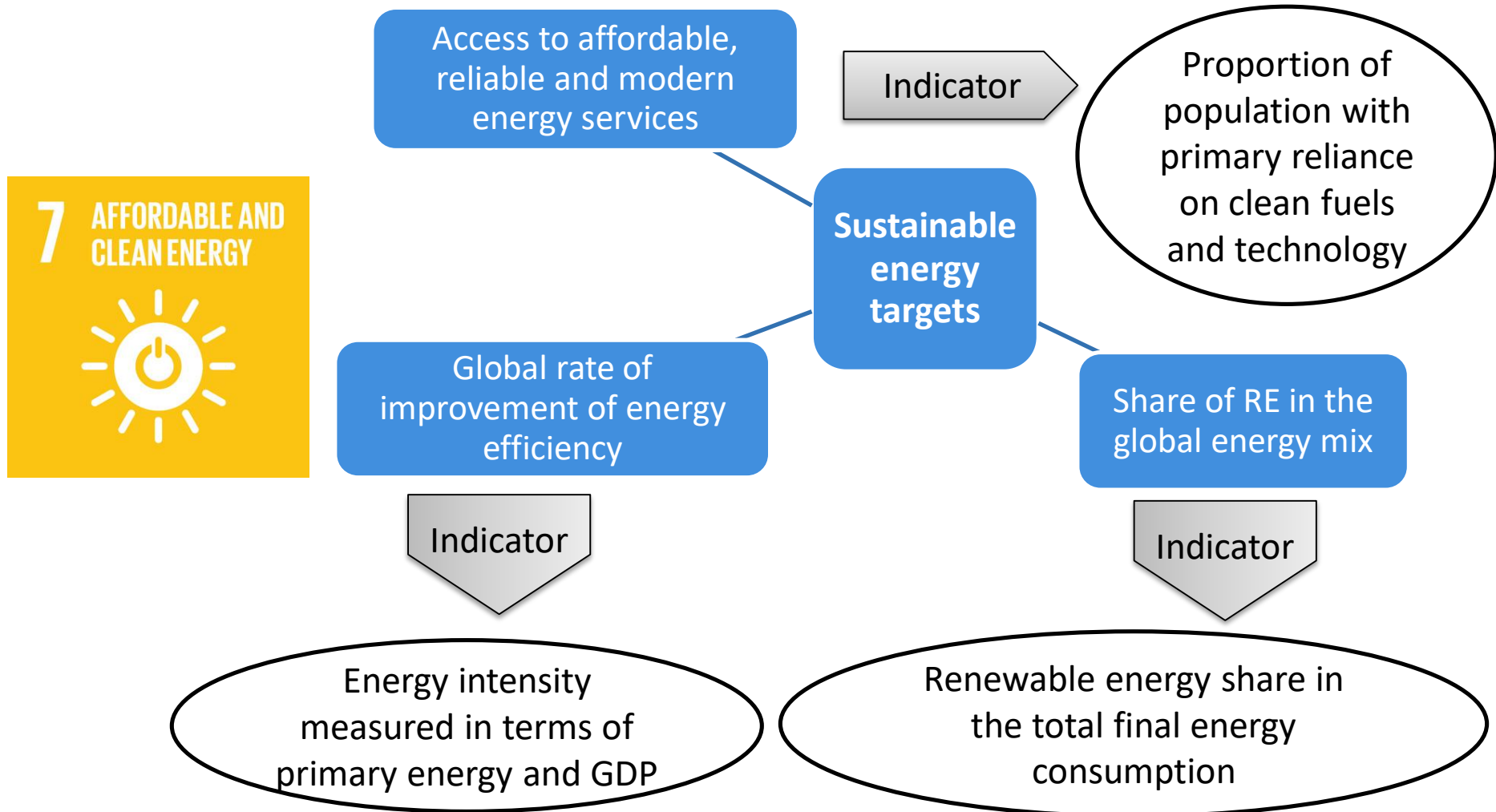
Water indicators

Indicators related to SDG 6

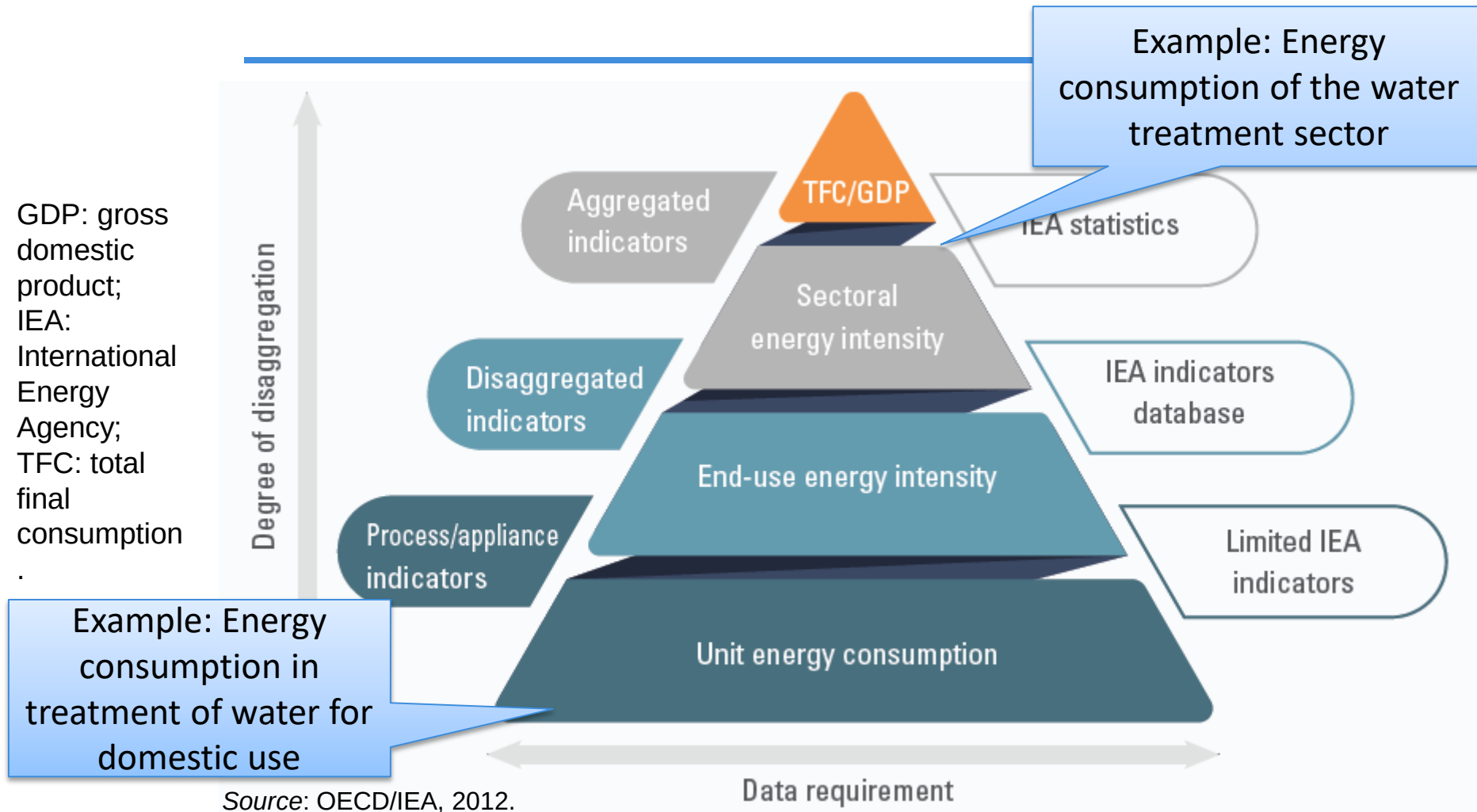


Energy indicators

Sustainable Development Goal (SDG) 7



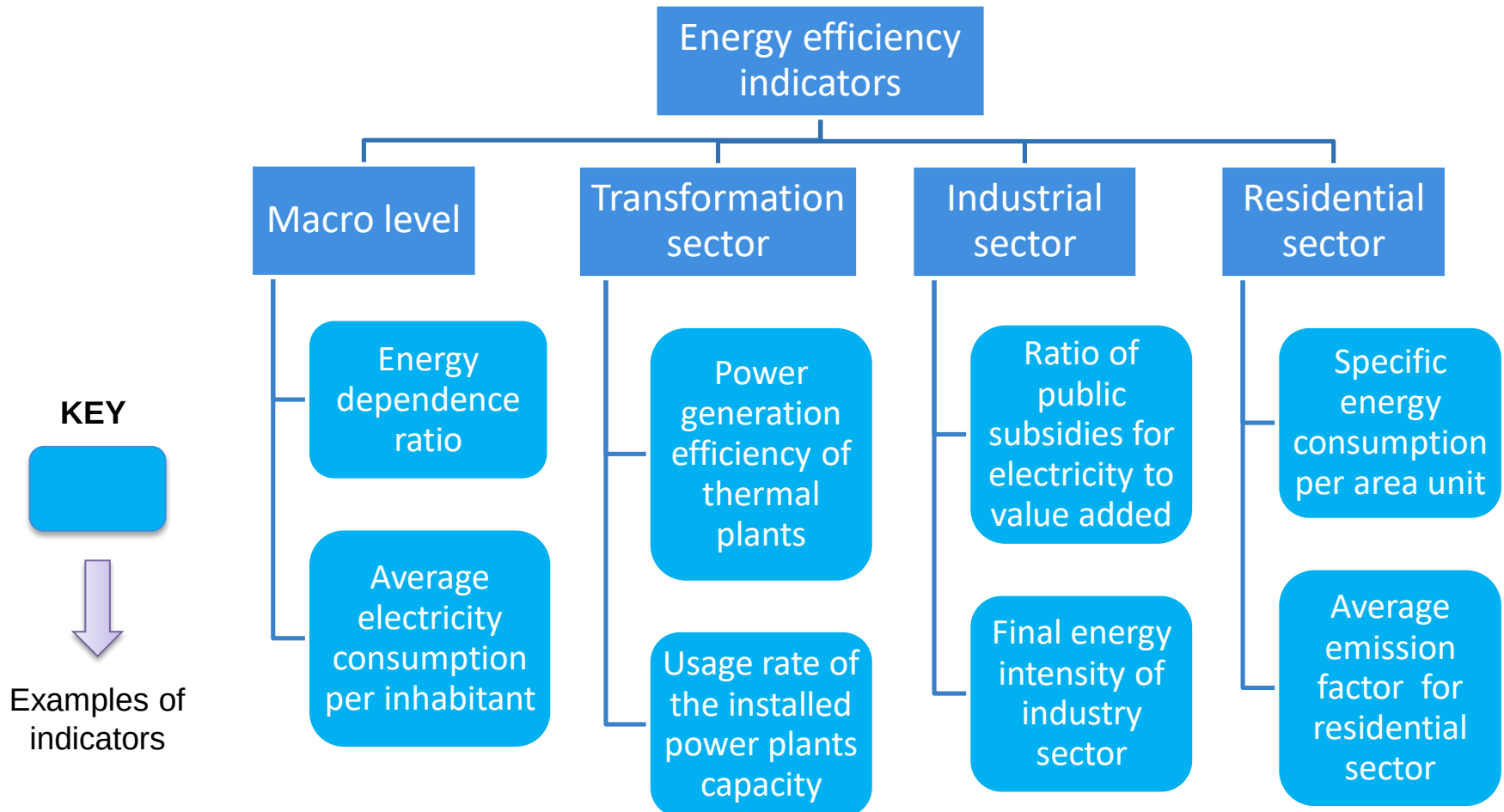
The IEA energy indicators pyramid



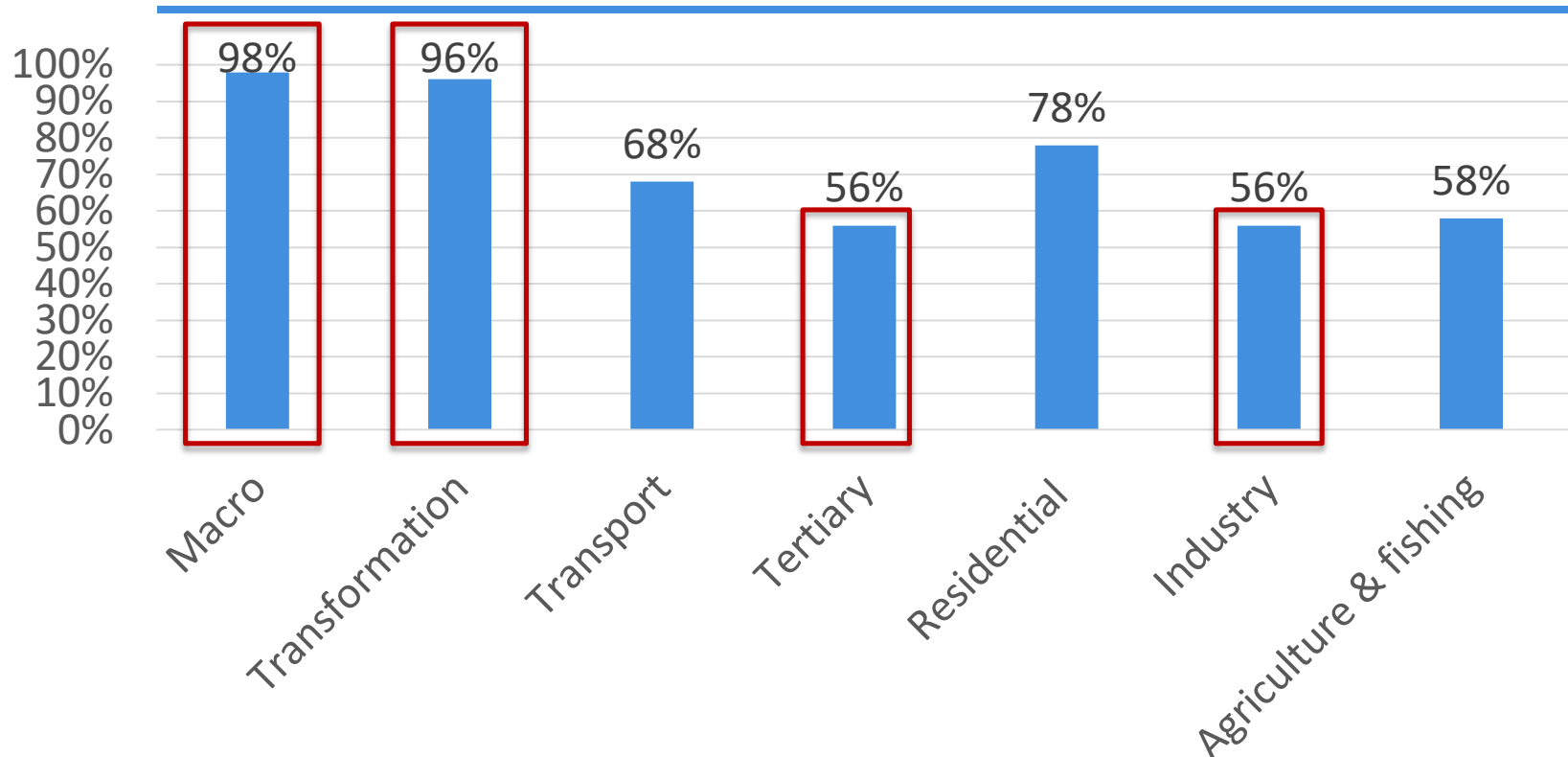
Energy efficiency indicators

- Plan Bleu (Regional Activity Centres of the Mediterranean Action Plan (MAP) of UNEP), RCREEE (Regional Center for Renewable Energy and Energy Efficiency), and MED-ENEC (Project on Energy Efficiency in the Construction Sector in the Mediterranean-funded by the EU) initiated a project which covers ten countries in the Arab region: Morocco, Algeria, Egypt, Lebanon, Syria, Jordan, Libya, Palestine, Tunisia and Yemen.
- The project started in January 2011, and activities lasted for about 18 months.
- With the objective of capacity building, teams were formed, consisting of a private national expert and a RCREEE focal point for each country. They were trained to collect data from national institutions, evaluate and process these data, and finally to calculate the indicators. The teams presented their results in national country reports including a first analysis of the indicators.

Energy efficiency indicators



Data availability by sector



Data availability: Ratio between the number of available data collected during the reporting period, and those initially indicated to be collected

Indicator values for Arab countries

Values for Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia & Yemen

Source: Missaoui et al., 2012.	2009 average	2003 average
Specific consumption of power generation (SCPG) (toe/GWh)	220	224
Final energy intensity of industry sector (toe/1000 \$ ₂₀₀₀)	0.24	0.30
Unit consumption of energy per dwelling (kgoe)	616	545
		OECD (2009 average)
Primary energy intensity (toe/1000 \$ ₂₀₀₀)	0.459	0.174
Final energy intensity (toe/1000 \$ ₂₀₀₀)	0.268	0.108
Electricity intensity (kWh/1000 \$ ₂₀₀₀)	642	324

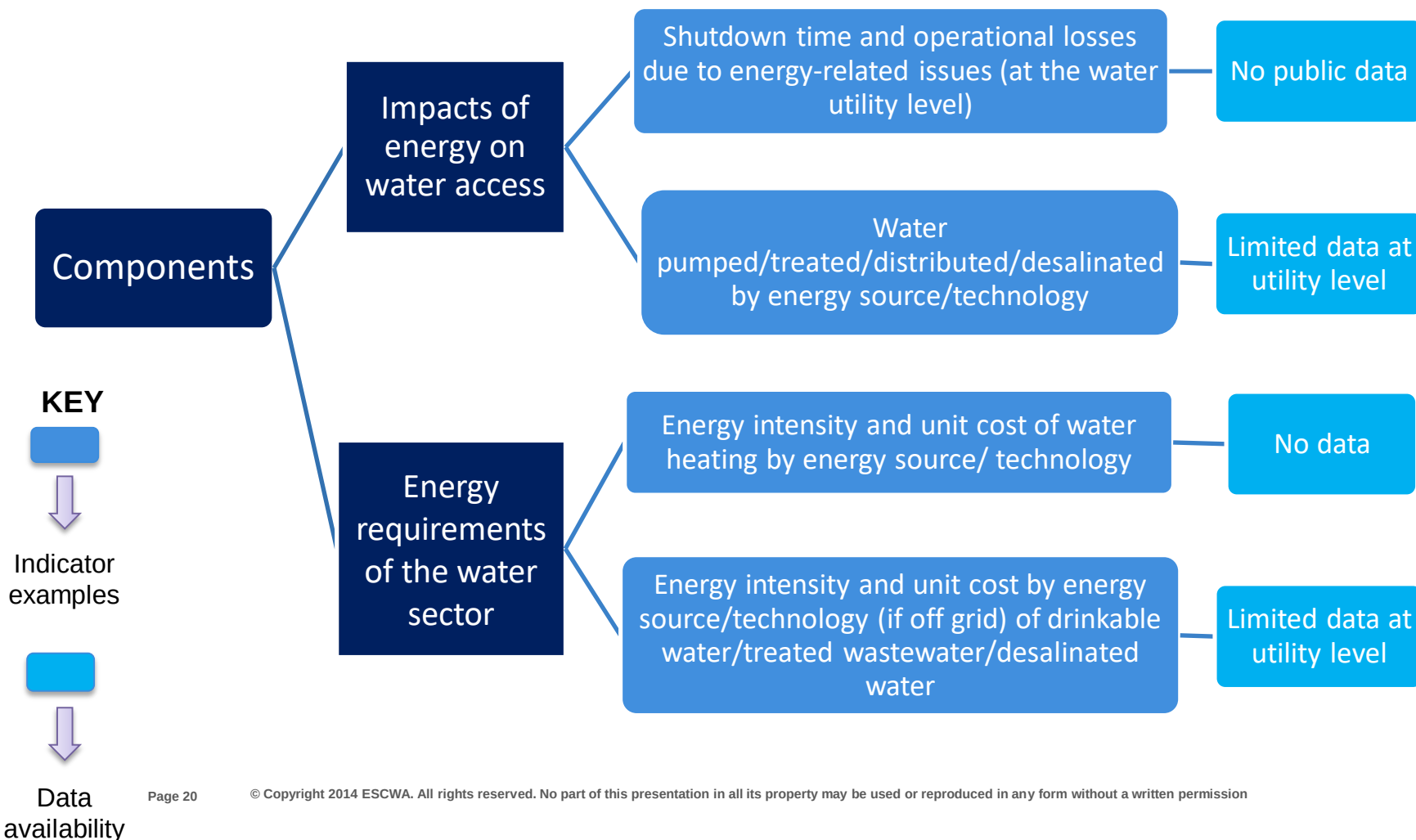
Water-energy nexus indicators



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Water-energy nexus indicators

Indicators for tracking the water-energy nexus at country levels

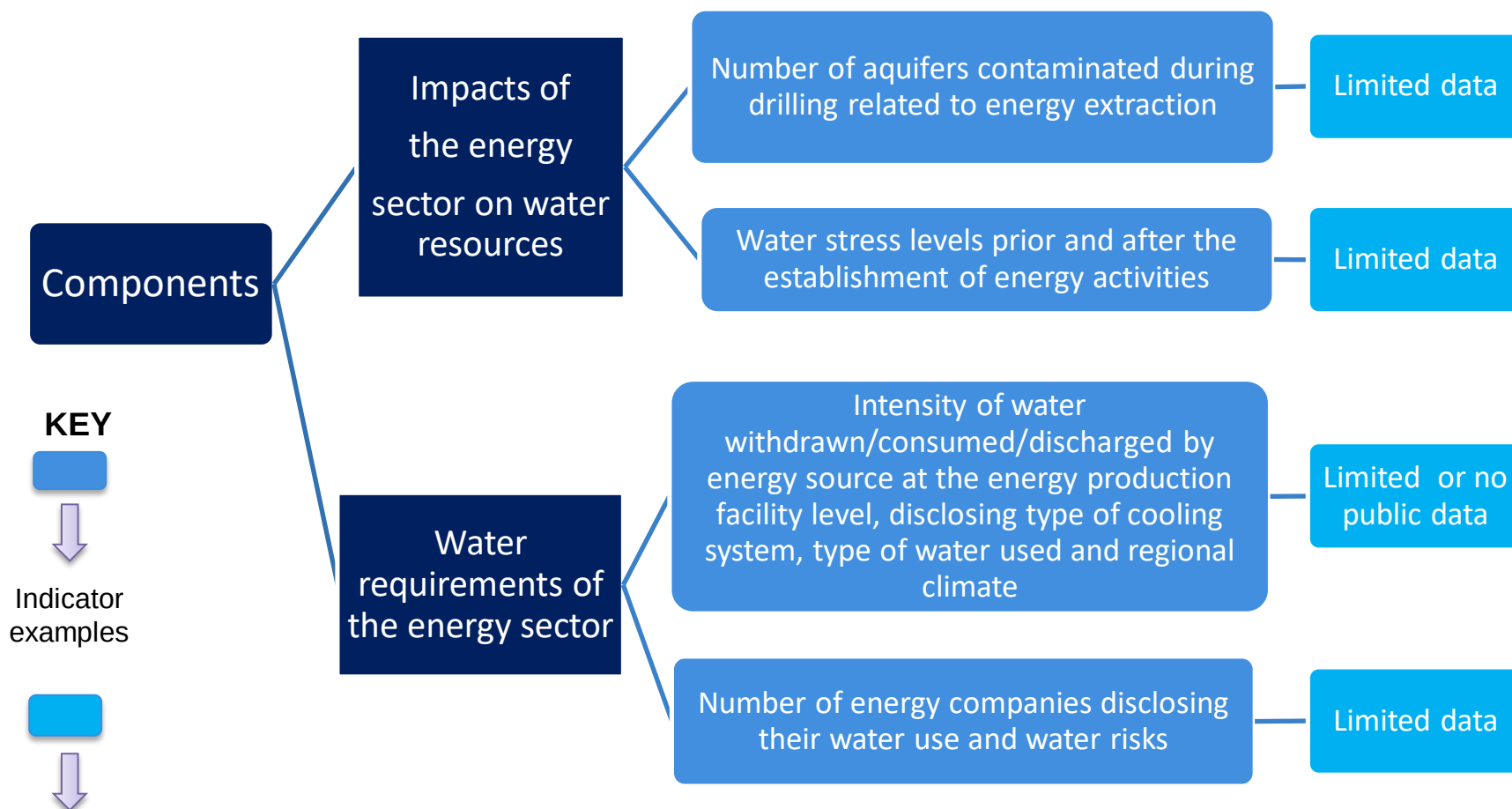




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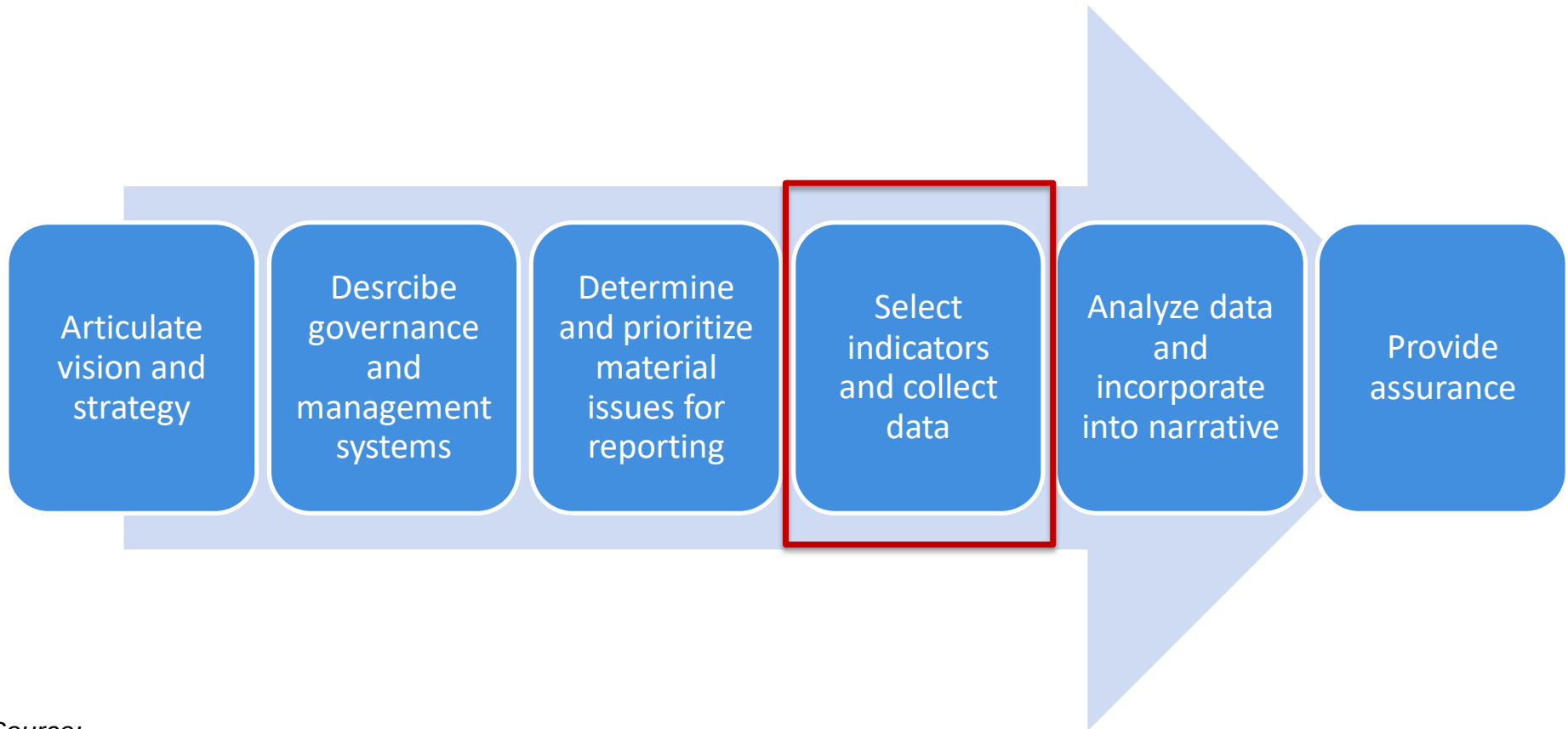
Water-energy nexus indicators

Indicators for tracking the water-energy nexus at country levels



Sustainability reporting for the oil & gas industry

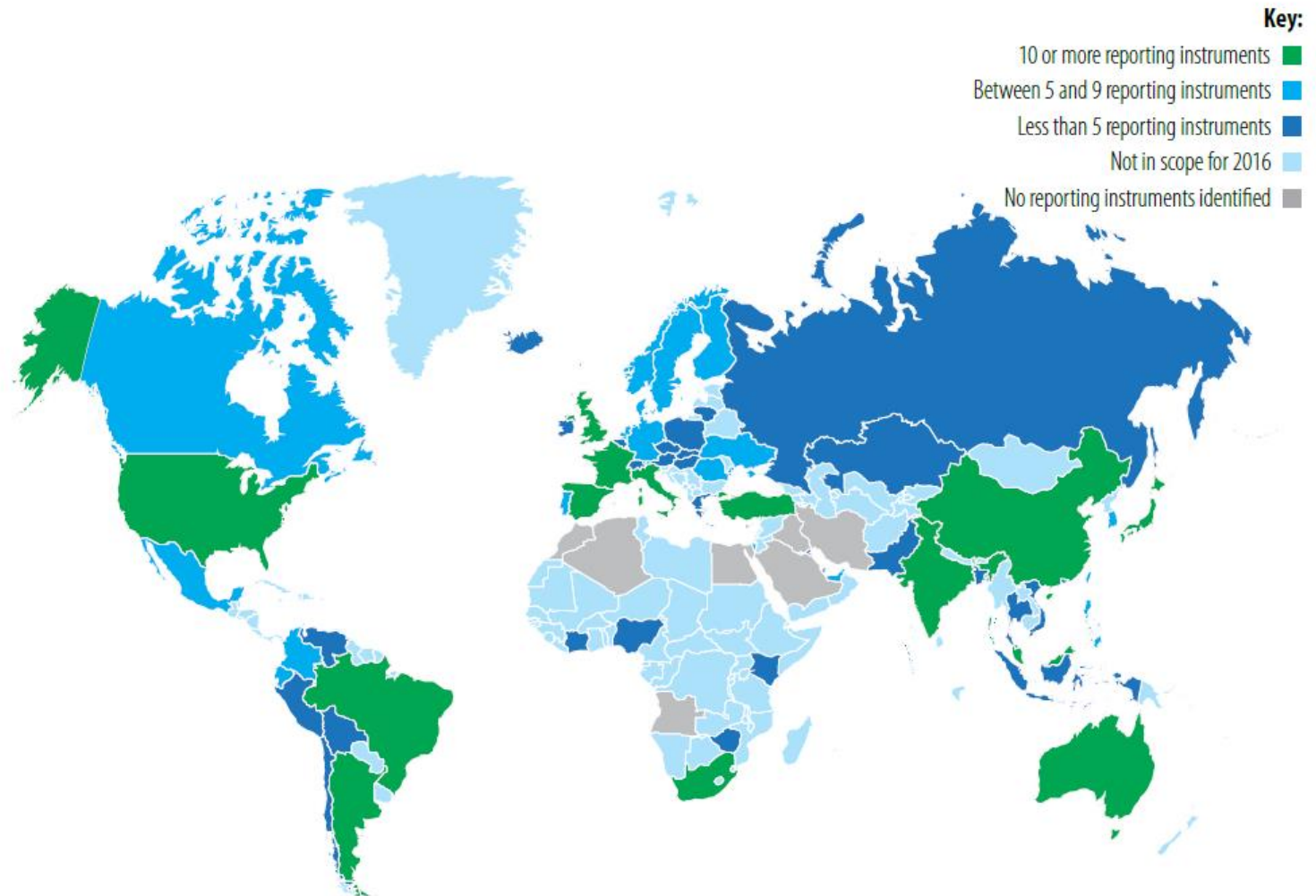
The sustainability reporting process



Source:
IPIECA.,
2015.

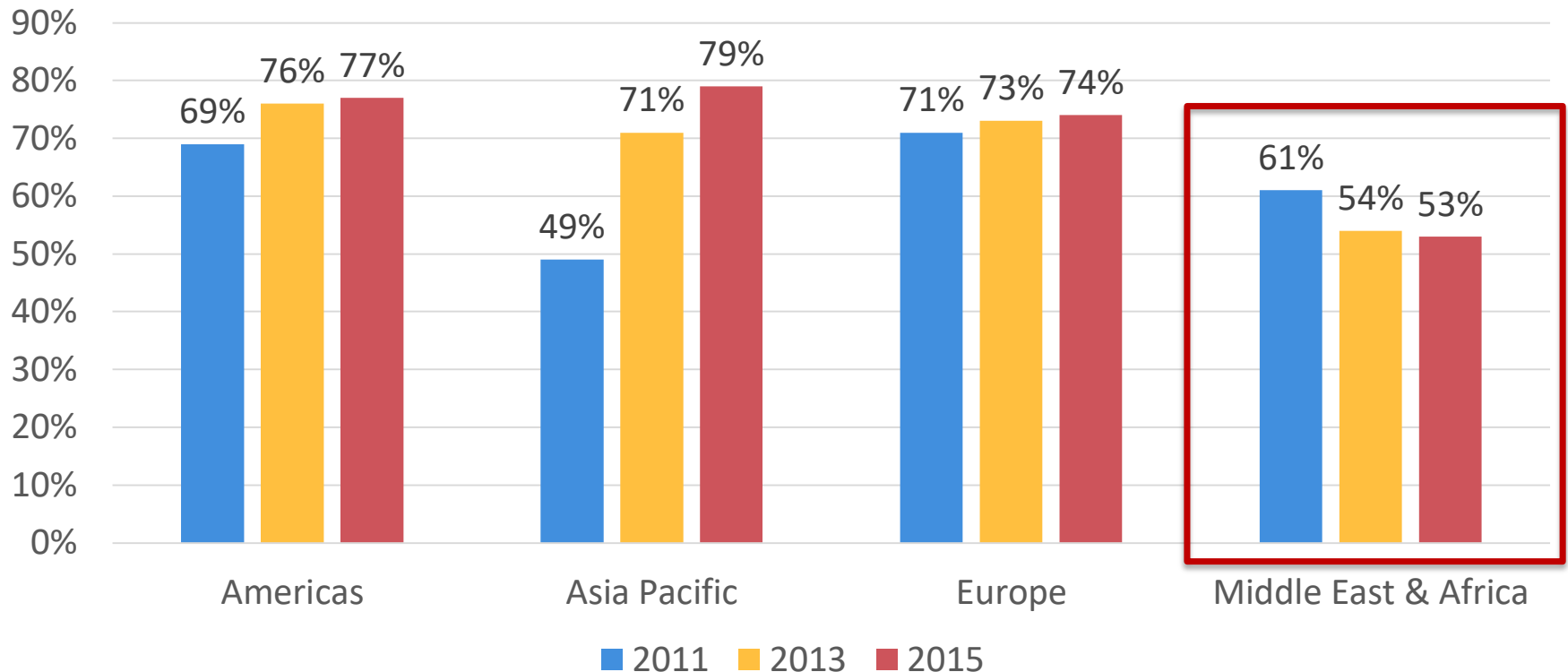
Sustainability reporting for the oil & gas industry

Countries with reporting instruments



Source:
Bartels et al.,
2016.

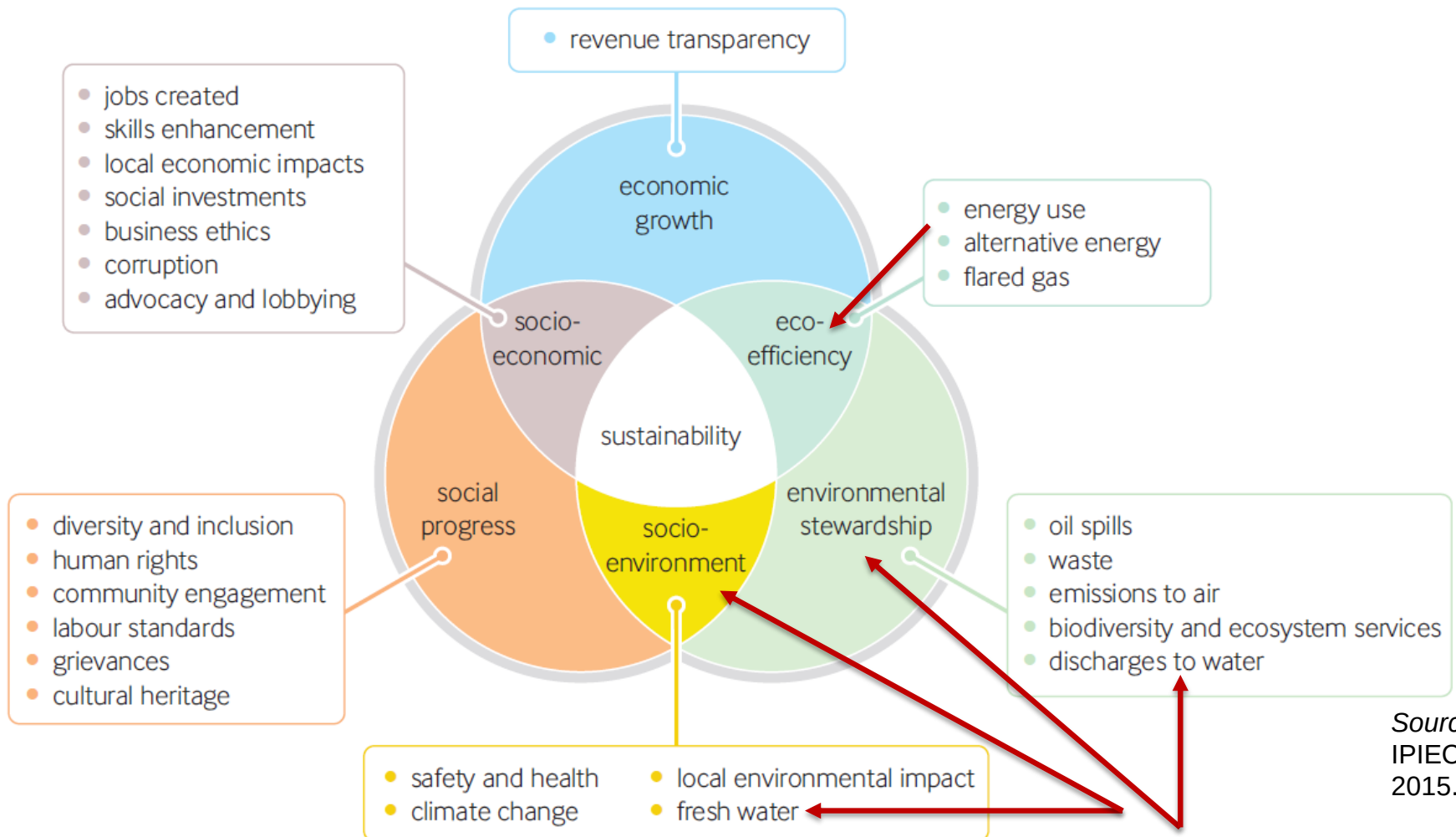
Rate of sustainability reporting



- Percentage of the 100 largest companies per country that reported

Source: KPMG Survey of Corporate Responsibility Reporting, 2015.

Sustainability issues for sustainability reporting



GRI G4 reporting elements for the water-energy nexus

Total water withdrawal by source

Water sources significantly affected by withdrawal of water

Percentage and total volume of water recycled and reused

Total water discharged by quality and destination

Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and run-off

Volume and disposal of formation or produced water



Supplemental reporting element:
Percentage of operations located in water-stressed or scarce areas.

GRI G4 reporting elements in the Arab countries



- As of April 28th 2016, there were 42 countries in which the GRI Standards are referenced in government or market instruments.
 - None of these are Arab countries

Key messages

- Water and energy efficiency indicators are still being developed.
 - These indicators are vital to measure progress with respect to the water-energy nexus in the Arab countries.
 - Various indicators have been developed by various organizations.
 - The data required for these indicators is not always available.
- The Arab countries need to improve their sustainability reporting levels.
- Sustainability reporting frameworks are a good steppingstone towards addressing the water and energy efficiency indicators.
 - Greater collaboration should be facilitated between the UN and reporting framework establishments.
 - This can make data required for more easily available.

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