

# SDG 6.3.1

## Safely treated domestic wastewater



Mohammad Shakkour

[shakkourm@who.int](mailto:shakkourm@who.int)

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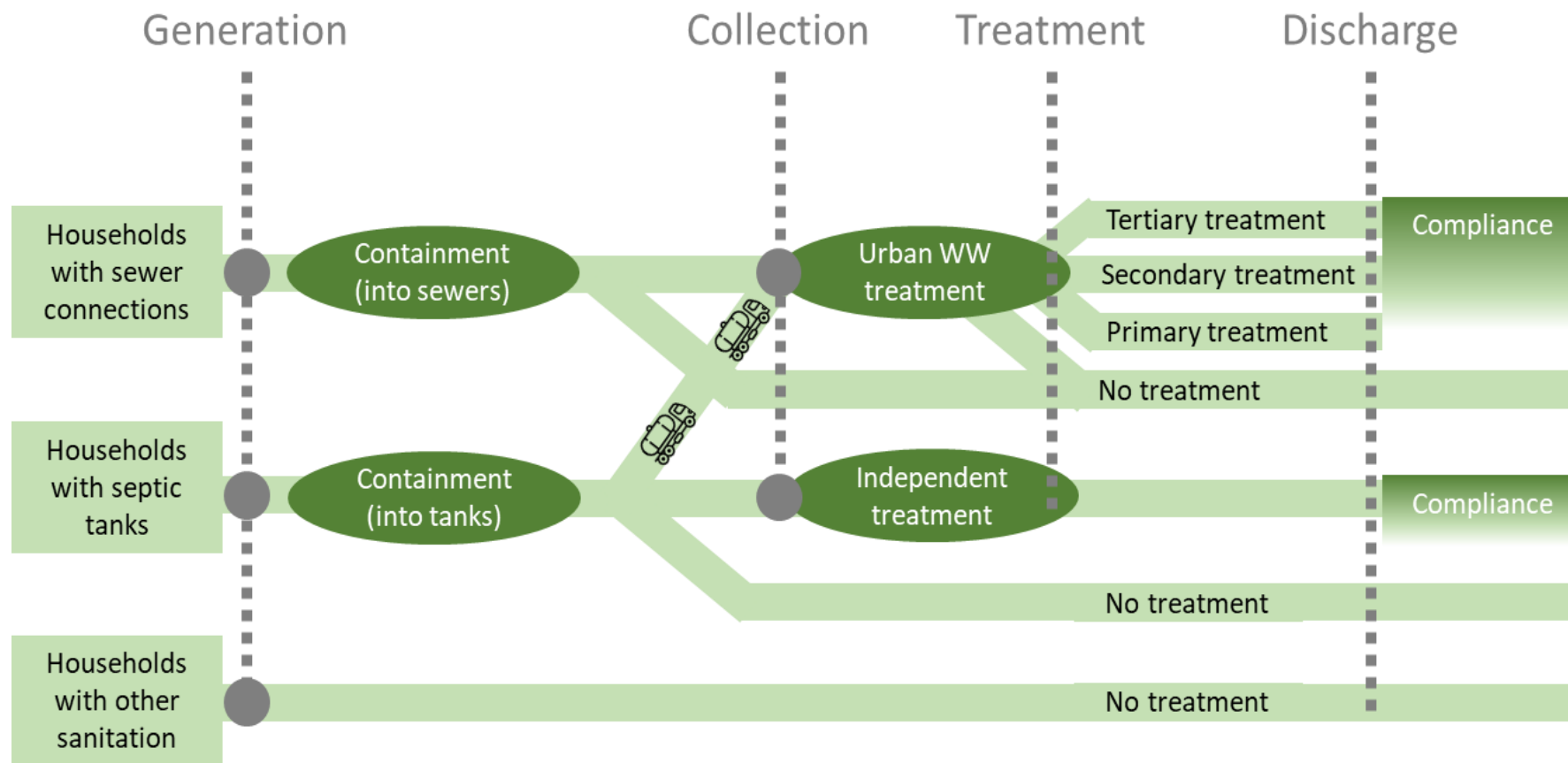
# Objectives

- Overview of SDG 6.3.1
- Global progress reports on SDG 6.3.1
- Global, regional and country estimates on SDG 6.3.1
- Data sources
- Methodology

# Overview of SDG 6.3.1

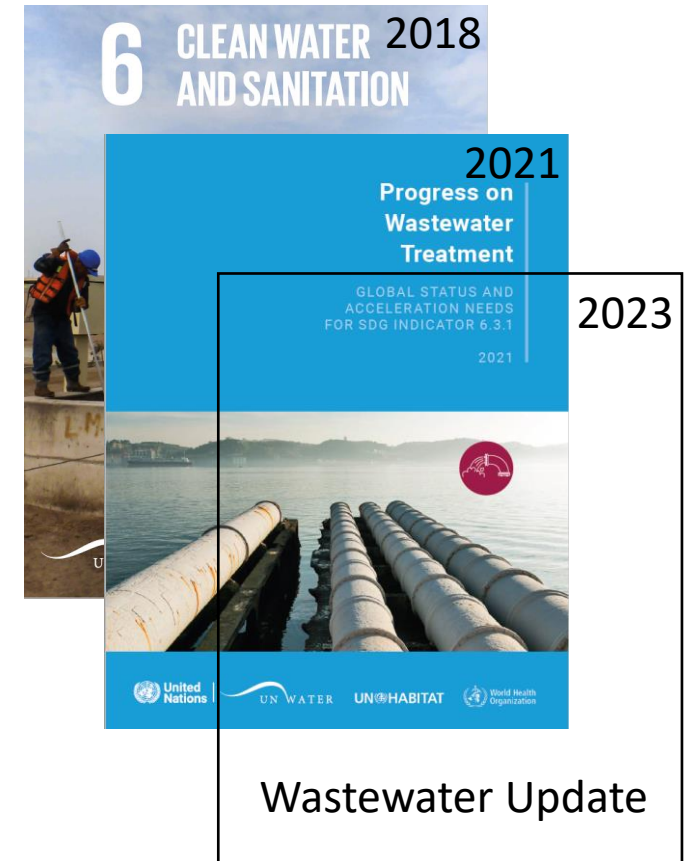
- The indicator 6.3.1 tracks the proportion of total, industrial and household wastewater flows **safely treated** in compliance with national or local standards.
- WHO and UN-Habitat are the custodians of the indicator 6.3.1
  - WHO is the custodian agency for data on household/domestic wastewater
  - UN-Habitat is the custodian agency for data on total and industrial wastewater
- **What does safely treated wastewater mean?**

# Safely treated wastewater



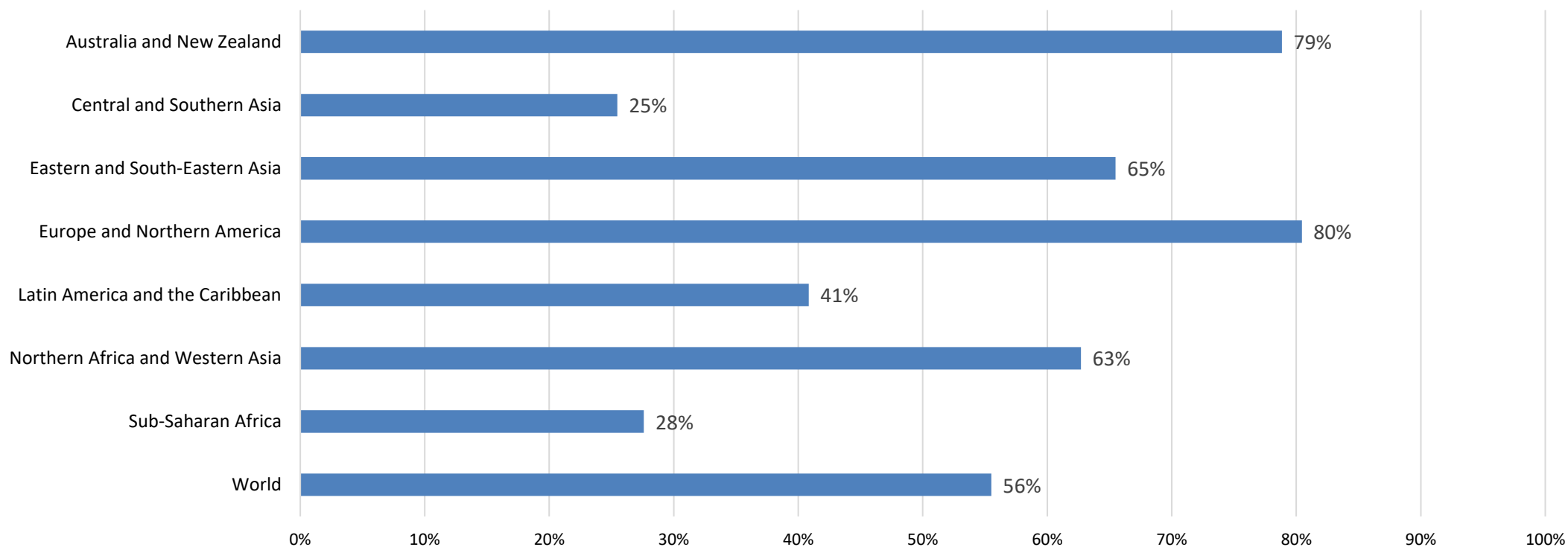
# Global progress reports on SDG 6.3.1

- First report was published in 2018.
- The progress reports present the global status on wastewater treatment and acceleration needs to achieve target 6.3 by 2030, based on the latest data on total, industrial and domestic wastewater.
- WHO and UN-Habitat carry out a **country consultation** prior to publish any data.

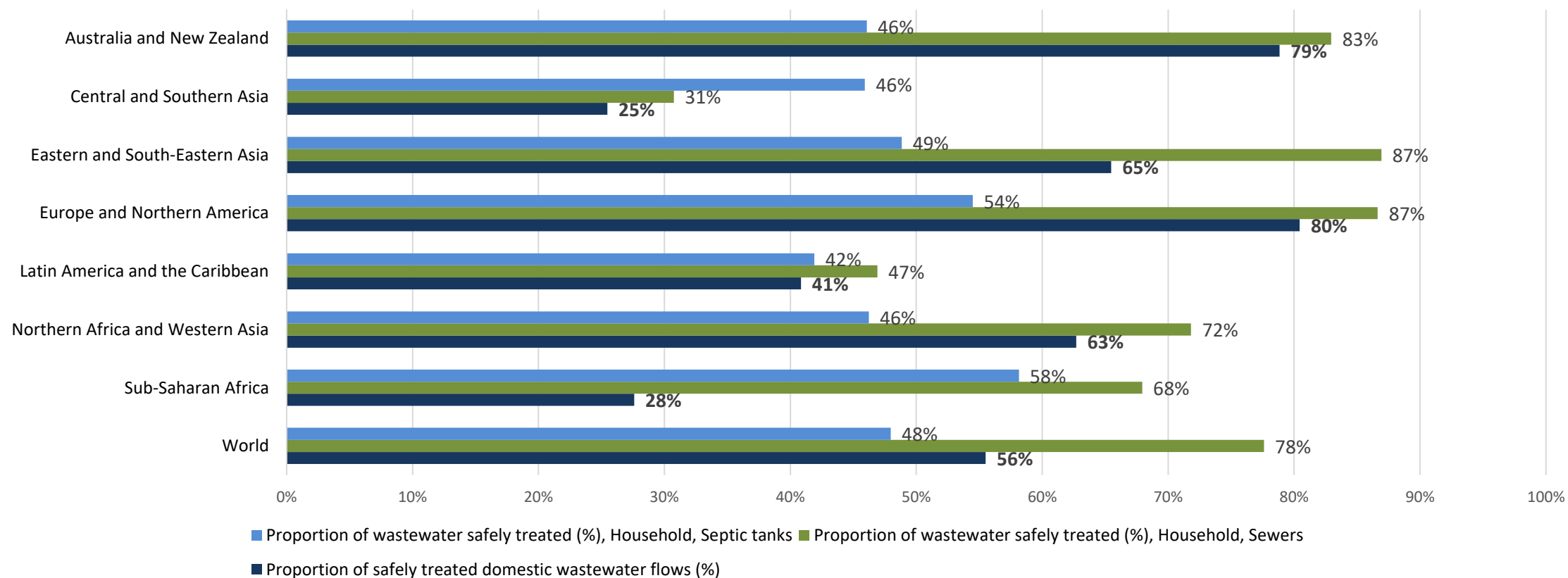


# World and SDG regions estimates

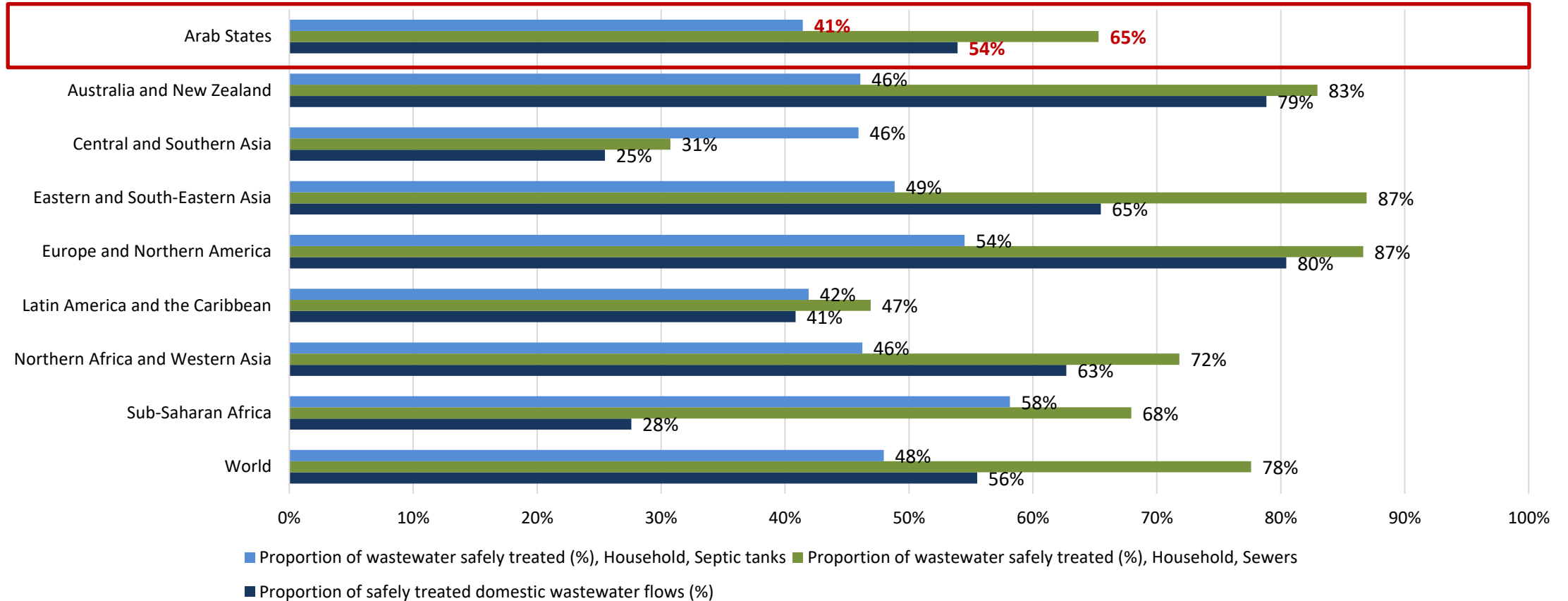
Proportion of safely treated domestic wastewater flows (%)



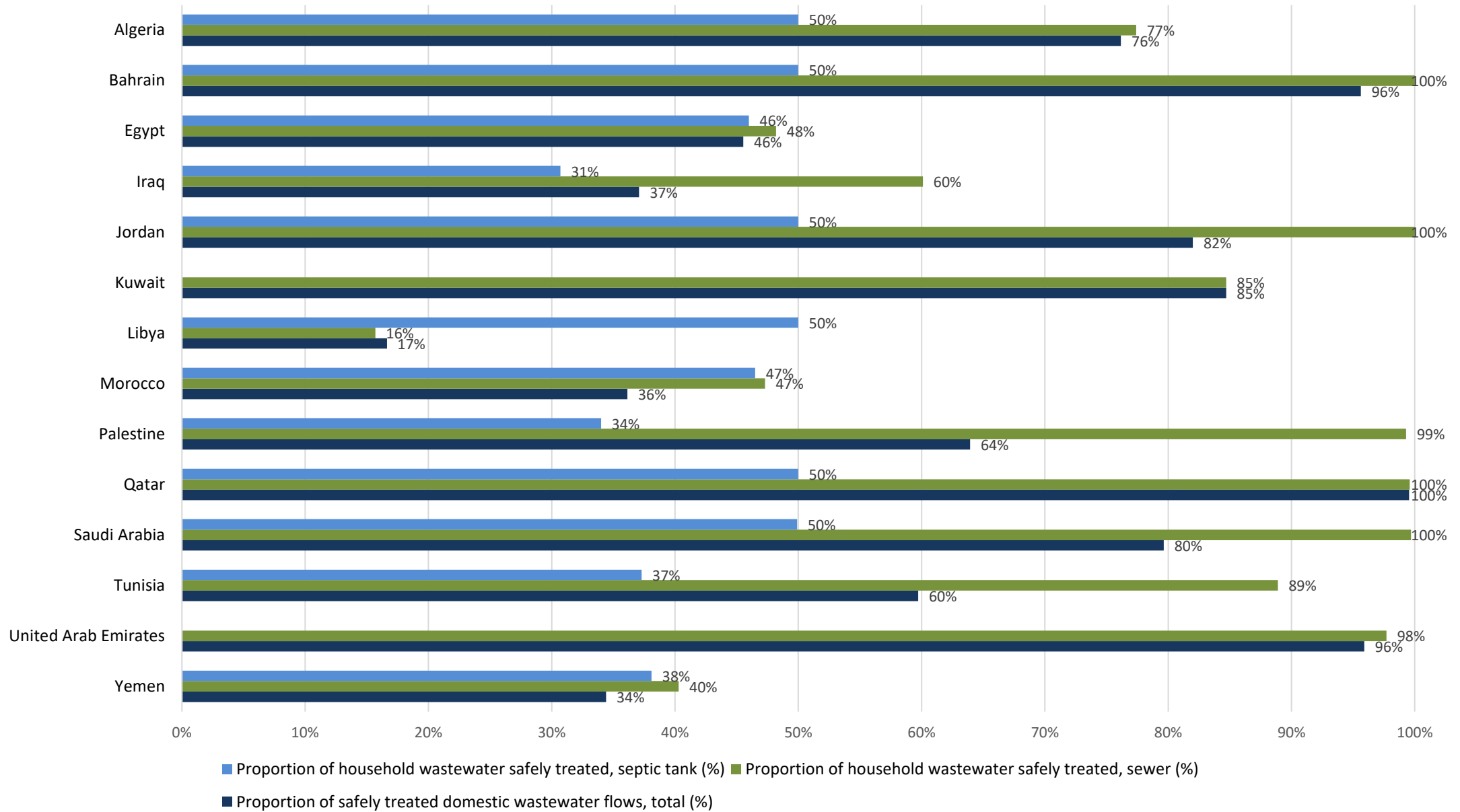
# World and SDG regions estimates



# Arab States vs Regions estimates







# Countries with no estimates

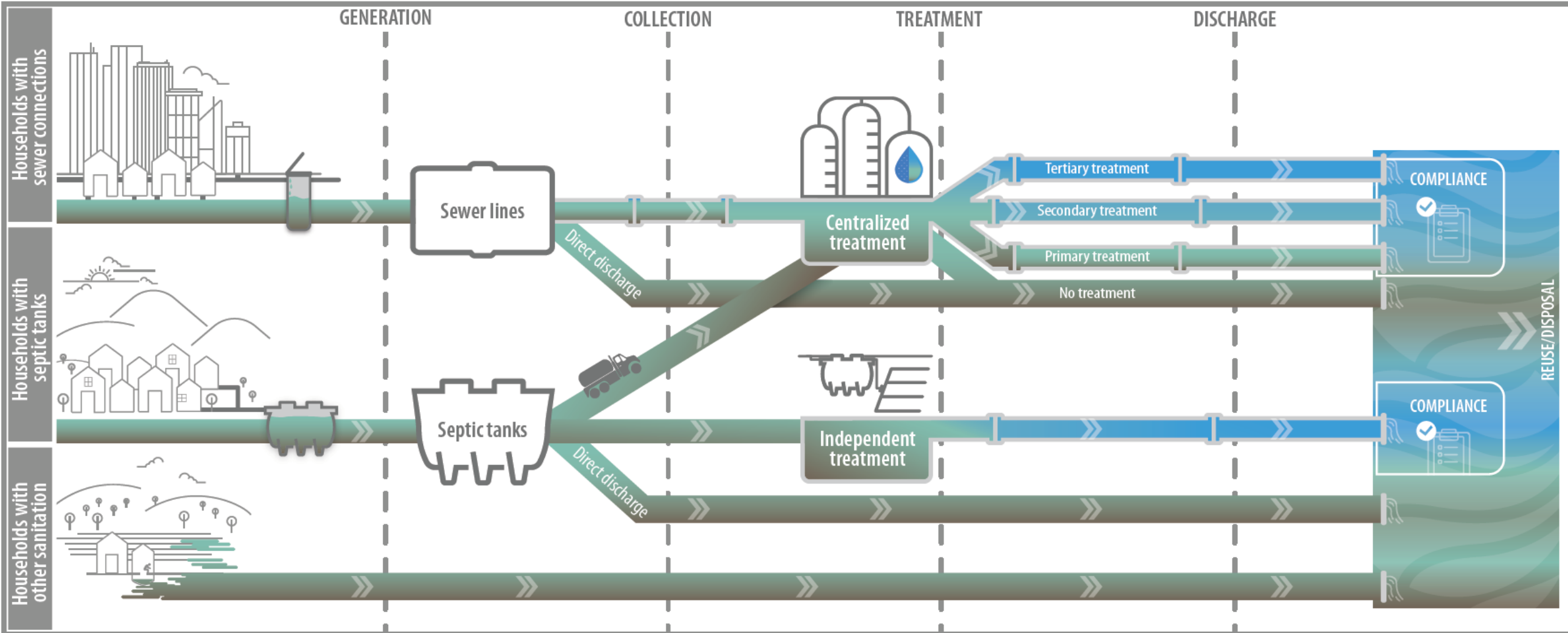
Country	Missing data
Lebanon Somalia Syria	The volume of sewer wastewater generated is greater than the volume of septic tank wastewater generated, and data on <b>sewer wastewater treatment performance are not reported</b>
Oman Mauritania Sudan	The volume of septic tank wastewater generated is greater than the volume of sewer wastewater generated, and data on <b>septic tank emptying are not reported</b>

- Note: In some countries (particularly those under emergency or low-income contexts), the proportion of the population connected to sewers and septic tanks is very small or almost insignificant. However, estimates on the proportion of wastewater safely treated are reported regardless - as long as the data requirements are met.

# Data sources

- Joint Monitoring Programme for Water, Sanitation, and Hygiene (JMP)
  - Household surveys
  - Administrative data
- Questionnaires
  - UNSD/UNEP Environment Statistics
  - MDG+ reports
- National reports
  - National Statistics Offices
  - Line ministries, utilities
  - Regulators

# Methodology



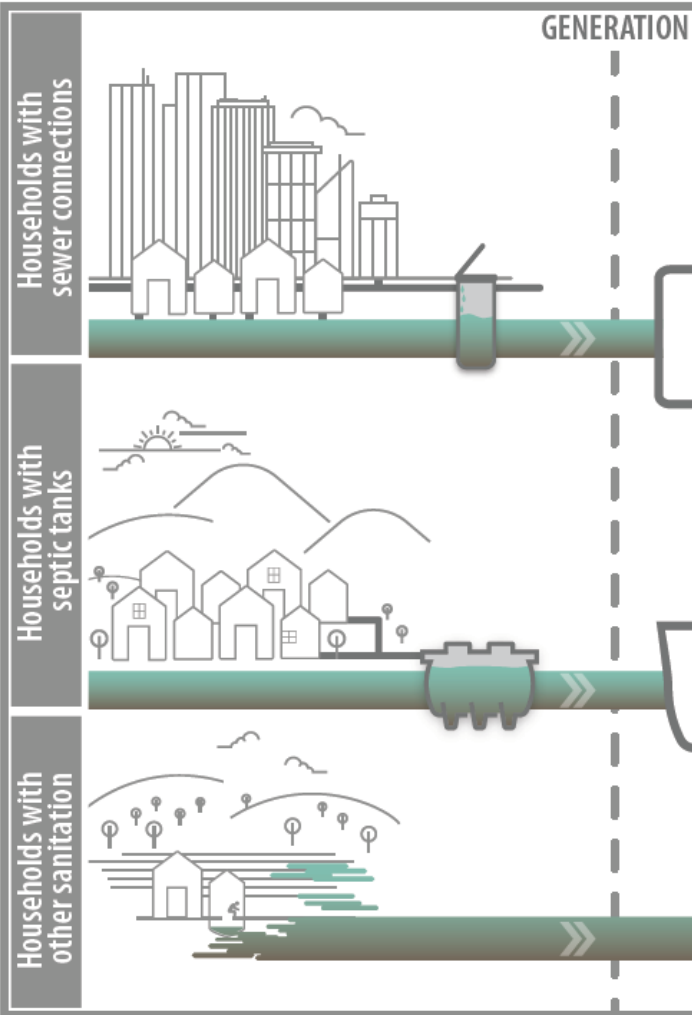
# Methodology

## Total Generated Wastewater

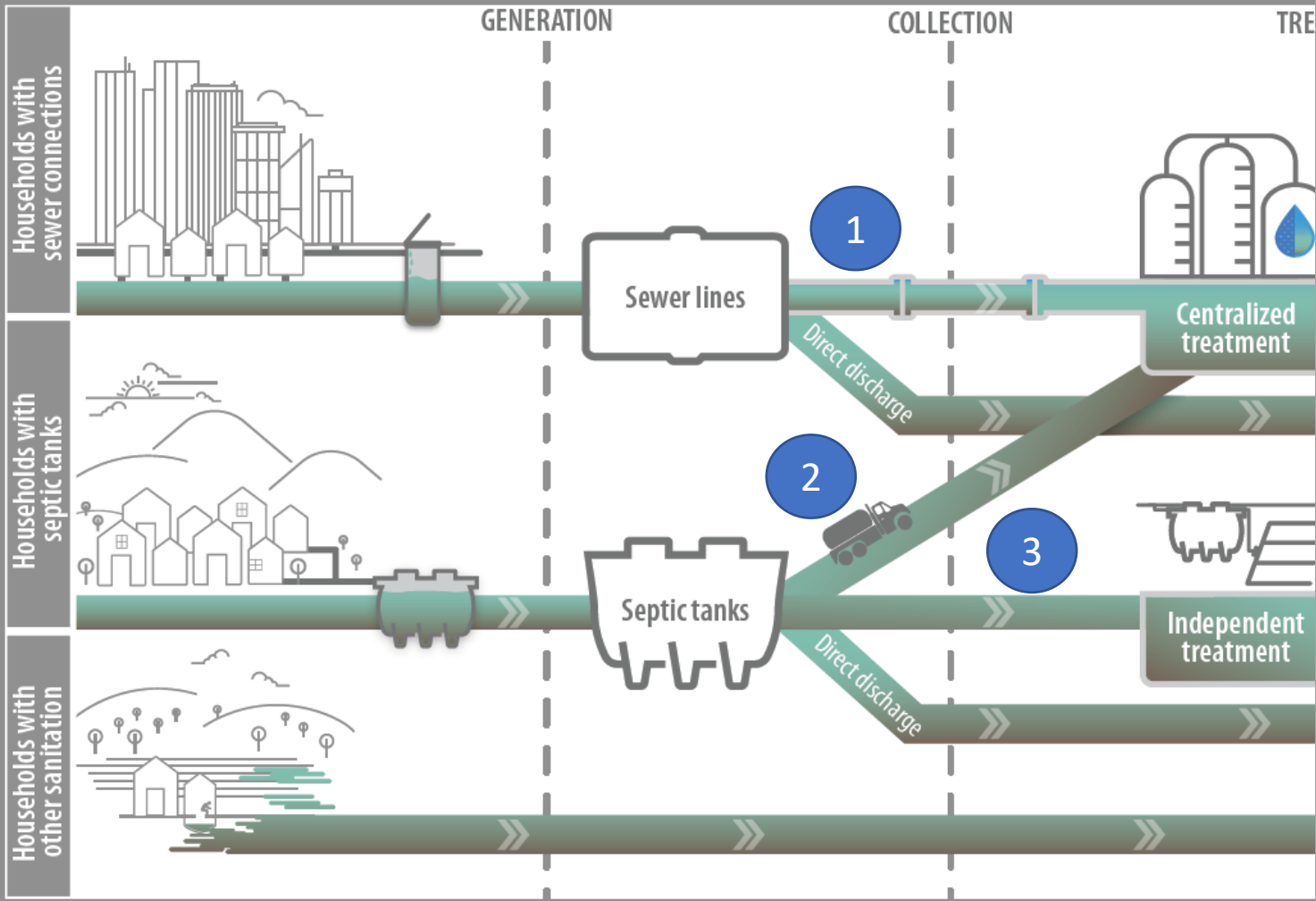
Either:

1. Directly reported by countries
2. Calculated internally using:

- **Total population**
  - (UN World Population Prospects estimates)
- **Proportion of population with on- and off-premises water supply**
  - (JMP estimates – household surveys)
- **Domestic water consumption for on- and off-premises water supply**
  - (Reported or Assumed: on-premises 120 L/c/d; off-premises 20 L/c/d)
- **Ratio of water use to wastewater produced**
  - (Reported or Assumed: 80%)



# Methodology: 3 wastewater streams



## Total Collected at Treatment

Calculated based on:

- Proportion of H.Hs connected to sewer system or septic tanks
  - Only JMP estimates!
- Reported by countries:

**1 Sewer system**

- Volumes of Wastewater collected at WWTPs, OR
- Percentage of population connected to treatment (W5 – UNSD ES)

**2 Septic tanks off – site**

Volumes of wastewater:

- contained,
- emptied and conveyed, collected at WWTPs

**3 Septic tanks on - site**

Volumes of wastewater

- contained
- not emptied ever
- not emptied and buried on-site

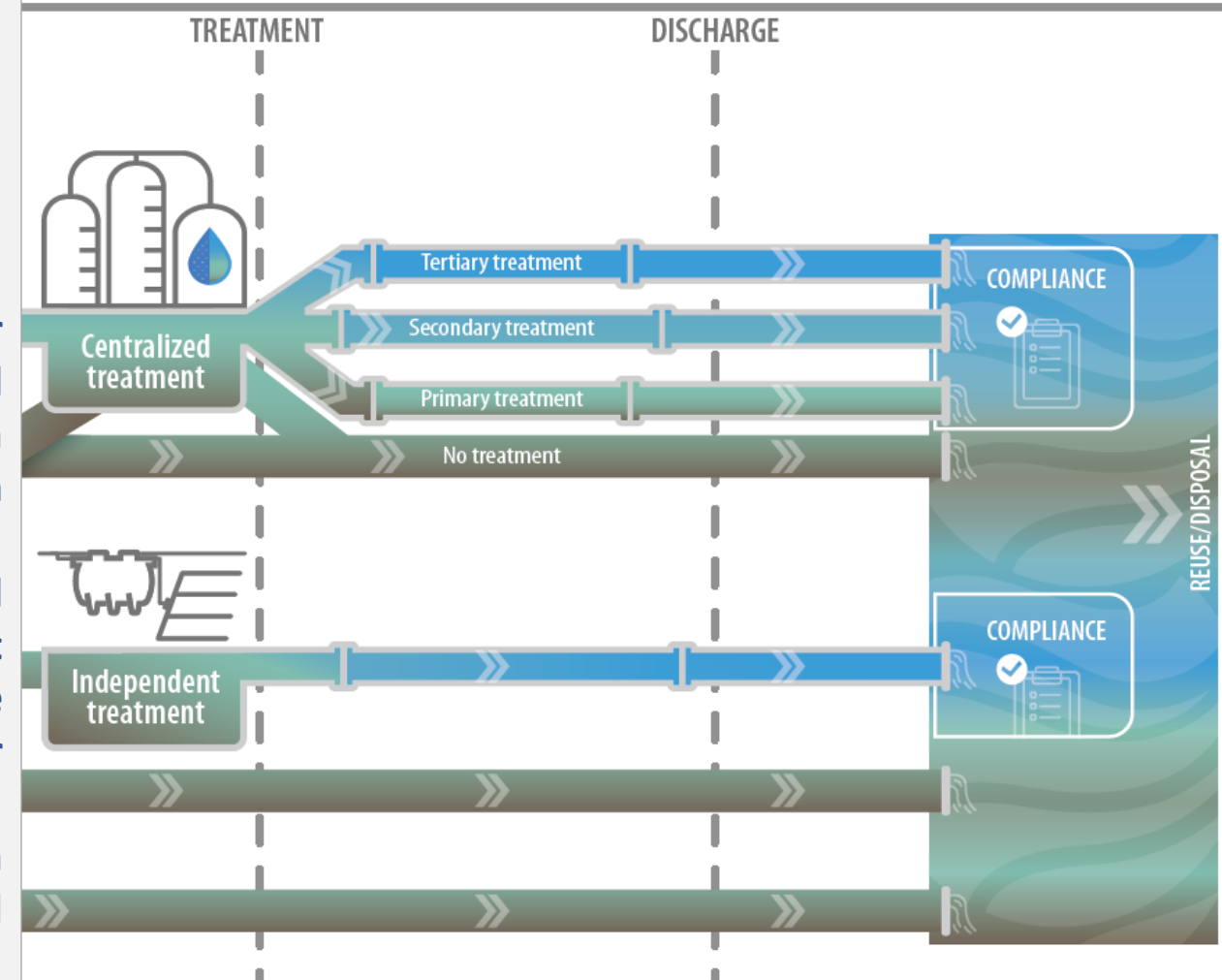
# Methodology

## Total Treated

Treatment Performance is reported by countries

Three considerations:

- **Sewer System:** safe treatment related to sewer wastewater is defined as either having been processed by secondary or higher technologies (associated with biological removal) OR having been discharged in compliance with relevant national standards.
- **Septic tanks off-site:** wastewater emptied and delivered to WWTPs, safe treatment depends on treatment performance at receiving WWTPs, otherwise the same treatment performance is assumed as that for sewer wastewater treatment.
- **Septic tanks on-site:** wastewater that has been contained and subsequently not emptied or emptied and buried on-site is considered safely treated.



# Calculation of safely treated wastewater

## ■ Sewer

- $\{ [m^3 \text{ sewer generated}] \times [\% \text{ collected}] \times [\% \text{ treated}] \} / [m^3 \text{ total generated}]$

## ■ Septic tank (off-site):

- $\{ [m^3 \text{ septic generated}] \times [\% \text{ contained}] \times [\% \text{ removed offsite}] \times [\% \text{ collected}] \times [\% \text{ treated}] \} / [m^3 \text{ total generated}]$

## ■ Septic tank (on-site):

- $\{ [m^3 \text{ septic generated}] \times [\% \text{ contained}] \times \{ [\% \text{ buried onsite}] + [\% \text{ not emptied}] \} \} / [m^3 \text{ total generated}]$



Estimates of safely treated household wastewater (Arab States, 2020)

		Volume of household wastewater generated [million m3/d]				Volume of wastewater collected at wastewater treatment facilities [million m3/d]				Volume of safely treated domestic wastewater [million m3/d]				Proportion of household wastewater safely treated [%]			
Country	Population [1000s]	Stream 1: Households connected to sewers	Stream 2: Households connected to septic tanks	Households using all other types of sanitation	Total generated	Stream 1: Collected from piped sewers at wastewater treatment plants	Stream 2a: Wastewater collected at septic tanks and faecal sludge at wastewater treatment plants (off-site)	Stream 2b: Wastewater collected at septic tanks and faecal sludge at on-site treatment (on-site)	Total collected	Stream 1: Safely treated from piped sewers at wastewater treatment plants	Stream 2a: Wastewater safely treated at septic tanks and faecal sludge at wastewater treatment plants (off-site)	Stream 2a: Wastewater safely treated at septic tanks and faecal sludge at on-site treatment (on-site)	Total safely treated	Piped sewer wastewater treated off-site	Septic tank wastewater treated off-site	Septic tank wastewater treated on-site	Overall proportion of household wastewater safely treated (SDG 6.3.1)
Algeria	43 851	1 290	14	16	1 320	998	4	4	1 005	998	4	4	1 005	76%	0%	0%	76.2%
Bahrain	1 702	138	13	0	151	138	7	0	144	138	7	0	144	91%	4%	0%	95.6%
Egypt	102 334	5 063	1 433	304	6 800	2 906	358	358	3 623	2 438	301	358	3 097	36%	4%	5%	45.5%
Iraq	40 223	276	565	74	916	167	94	174	434	166	0	174	340	18%	0%	19%	37.1%
Jordan	10 203	179	81	8	267	179	20	20	219	179	20	20	219	67%	8%	8%	82.0%
Kuwait	4 271	536	0	0	536	536	0	0	536	454	0	0	454	85%	0%	0%	84.7%
Lebanon	6 825	248	38	6	293	248	10	10	268								N/A
Libya	6 871	401	48	73	522	63	12	12	87	63	12	12	87	12%	2%	2%	16.6%
Mauritania	4 650	5	25	59	89	5	6	6	17								N/A
Morocco	36 911	323	101	129	552	178	25	25	228	153	22	25	200	28%	4%	5%	36.1%
Oman	5 107	49	159	1	208	49	40	40	128								N/A
Palestine	5 101	95	30	42	167	95	8	4	108	95	8	4	107	57%	5%	2%	63.9%
Qatar	2 881	441	0	0	442	439	0	0	440	439	0	0	440	99%	0%	0%	99.5%
Saudi Arabia	34 814	4 609	3 113	0	7 722	4 609	778	778	6 165	4 595	776	778	6 149	60%	10%	10%	79.6%
Somalia	15 893	34	24	204	261	34	0	10	44								N/A
Sudan	43 849	21	127	799	947	21	32	32	85								N/A
Syrian Arab Republic	17 501	465	42	30	538	465	11	11	486								N/A
Tunisia	11 819	105	30	40	174	103	1	10	115	93	1	10	104	53%	1%	6%	59.7%
United Arab Emirates	9 890	336	0	6	343	336	0	0	336	329	0	0	329	96%	0%	0%	95.9%
Yemen	29 826	314	208	77	598	241	52	52	345	127	27	52	206	21%	5%	9%	34.4%

Thank you for your attention

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