# Sustainable Consumption and Production – Assessment for the Arab Region



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# SCP Assessment Report: Arab Region (2017)

- Set a baseline for the ARSSCP and SCP-related SDG indicators

- Reviewed a combination of official SDG indicators and proxy indicators – 21 indicators in total (13 official), latest data for 2013-4

- Assessed progress at regional/subregional scale – trends and baseline values versus benchmarks (e.g. global average)

- Assessed national progress on a subset of 11 indicators (normalization approach)



● On Track    ● Off Track
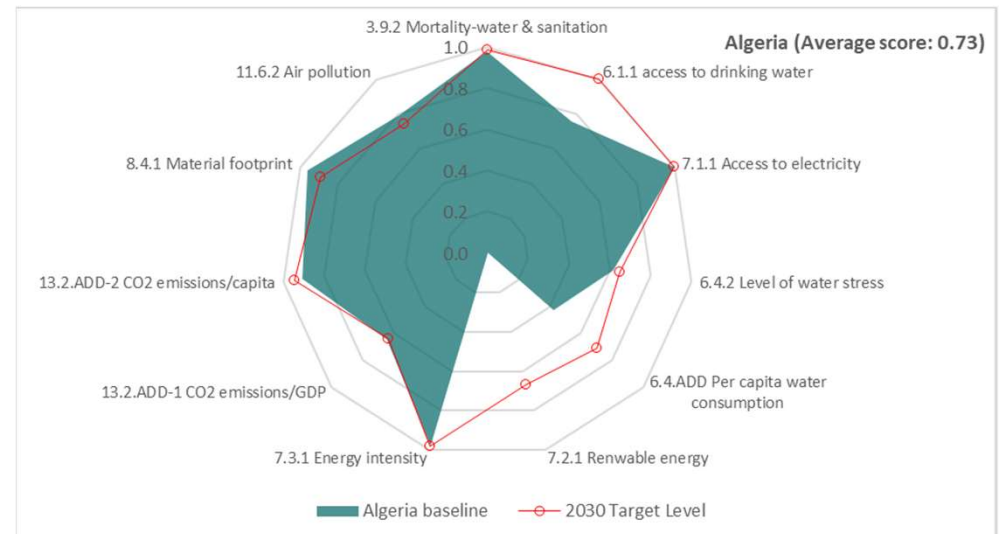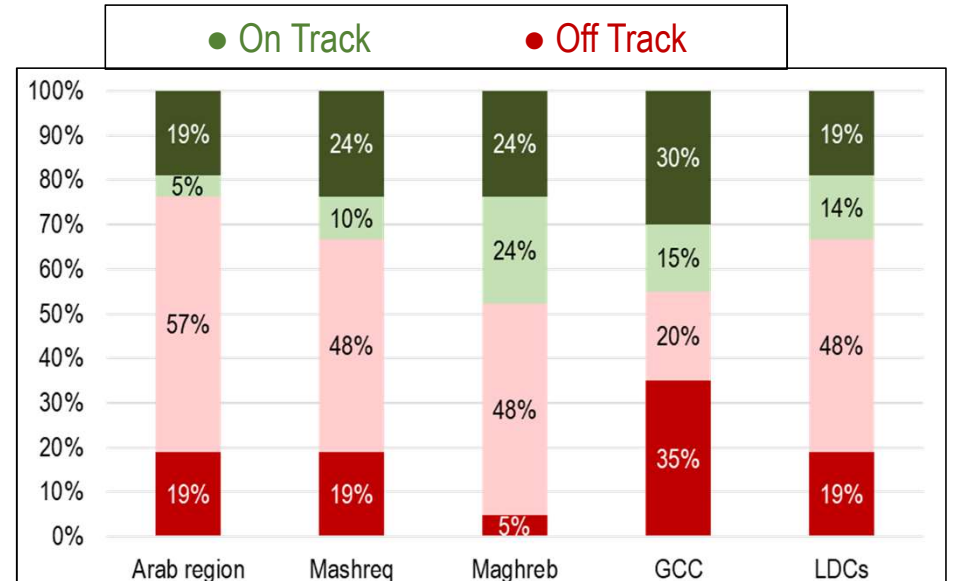
## 2020 – Updated SCP Assessment for Arab Countries
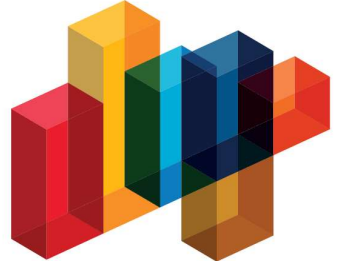
Progress since 2017 assessment:

- New data available

- Many recent advances in assessing SDG progress, data collection, refining indicators etc.

- SDG Progress evaluations – global, regional, national, local/city

- Academic literature – peer review and evaluation of methods

- Comparison of results across assessments – results differ, but no 'best' method

➢ New SCP assessment will use the latest data and methods

➢ Focus will primarily be at the national level – but also sub-regional/regional weighted averages

➢ Several methodological challenges to address…

# Recent SDG Progress Assessments

# SDG Assessments – key considerations



1. Indicator selection

2. Target setting

3. Methodologies for evaluating progress, assigning categories, and aggregation

*Recent research shows that how you address each of the above challenges has a significant impact on the results of any assessment*

*Particularly 1 and 2*

# 1. Indicator selection

**Challenges:**

- SDG official indicator framework is universally agreed and legitimate

- As a global framework – comparability is important

- Relevance for countries/regions varies - some critical national metrics may be lacking

- Almost half official indicators are Tier II (lack data for countries without advanced official data collection systems)

**Common approaches:**

- Studies by the UN use the official SDG indicators

- Studies by other organizations/groups include official + proxies (e.g. SDSN, OECD, Eurostat)

- Preferably align as much as possible with official framework

- If you include proxies – it's best to link them to an SDG target

# 2. Target Setting

**Challenges:**

- SDGs have limited target values

- Without targets, it's difficult to assess progress

- 2030 Agenda: countries are to *define national targets guided by the global level of ambition and… national circumstances*

- Target-setting is difficult and can be subjective – different levels ambition, accountability, etc.

**Common approaches:**

- Official SDG targets

- Existing national targets

- Other international benchmarks (e.g. WHO)

- 'Champion Area' – average of top 5 performers

- Technical or historic optimums/thresholds

- Expert analysis

- % improvement on baseline

# 3. Methodologies

**Challenges:**

2030 Agenda does not provide guidance on:

- how to compute the distance to targets
- intercountry comparison
- aggregation (multiple indicators)

As a result, several methods have been developed – no 'best' method

- Static (current) and dynamic (trend)

Method selection also depends on

- Data availability – e.g. time series data
- Availability of targets/thresholds
- Scale – e.g. national/multi-country

**Common approaches - static:**

- Rescaling indicators to common units by normalization (min-max, z-score)

**Common approaches – dynamic:**

- Linear projection of timeseries to 2030 (e.g. % expected progress from 2015)
- Comparison of actual annual growth rate (CAGR) versus desired growth rate to reach a 2030 target

**Common approaches – evaluation, aggregation**

- Thresholds/categories to benchmark progress (e.g. traffic lights)
- Aggregation – arithmetic mean, geometric mean

# Examples – 'static' normalisation

- Allows comparison across indicators, countries and aggregation
- Based on peer group comparisons – best/worst performance or standard deviation

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### SDSN SDG Index – normalisation

$$x' = \frac{x - min(x)}{max(x) - min(x)} * 100 \; (Eq.S1)$$

Where:

- x = data value for country x
- Min/max = best and worst values across countries

Produces a linear scale (0-100), where 100 is optimal performance

Thresholds used to construct a traffic light dashboard

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### OECD – 'standardised distance' (z-score)

$$MAX(\frac{T - x}{sd}, 0)$$

Where:

- T: Value of the 2030 target for each indicator
- x: current value achieved for each indicator
- $sd$: Standard deviation

Interpreted as distance from targets, in standard deviations.

Can be rescaled to 0-100 for easy interpretation

# Example – 'dynamic' assessment

- Improved assessment – however requires trend data, preferably LT



SDSN – trend assessment (ST, linear projection)

Goal achievement
Green threshold

Performance in 2015

Extrapolated linear
annual growth rate
2015–2030

2015    2019    2030

Source: Authors' analysis
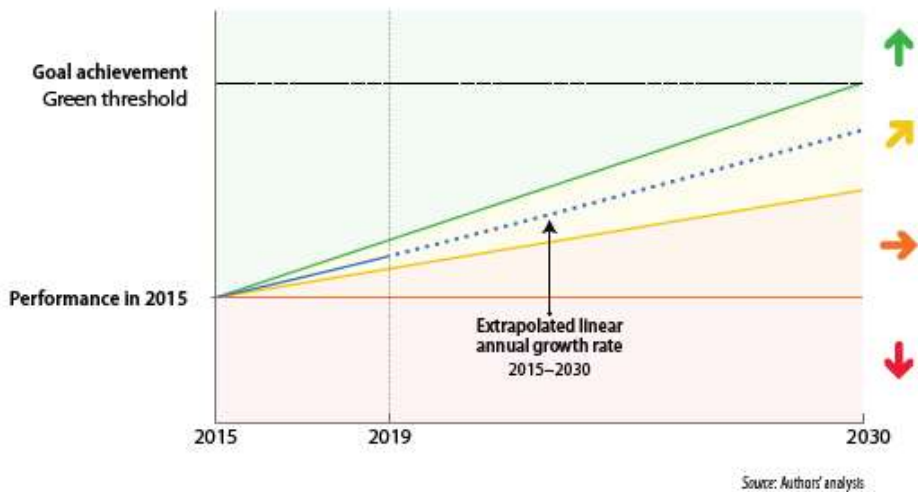


Eurostat – trend assessment (LT, CAGR)

95 % of target path

Theoretical target path

60 % of target path

Time
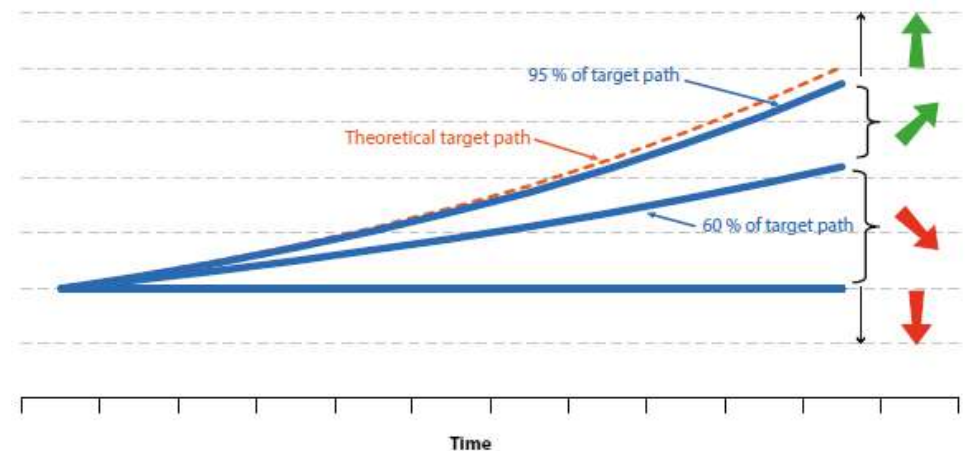
# Proposed approach - Arab SCP Assessment

**Parameters:**

- **Scope**: All 22 Arab countries

- **Indicators**: SDG official indicators related to SCP & ARSSCP, where data is available – 14 indicators

- **Targets**: Limited availability of targets – benchmarks set based on best practice approach

- **Method**: Lack of trend data for many indicators – static analysis using normalisation (plus trend assessment where available)

- Significant regional variation – need to account for extreme outliers

# Draft SCP Indicators and Targets/Benchmarks (14)

| Indicator | Name | Direction | Target/Benchmark Value | Target Source |
|---|---|---|---|---|
| 3.9.2 | Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene | Decrease | 5 | SDG target 3.9 |
| 6.3.1 | Proportion of wastewater safely treated | Increase | 85.8 | Average top 5 performers |
| 6.4.2 | Level of water stress | Decrease | 25 | Technical optimum |
| 7.1.1 | Proportion of population with access to electricity | Increase | 100 | SDG target 7.1 |
| 7.2.1 | Renewable energy share in TFEC | Increase | 20 | SDG Index green threshold |
| 7.3.1 | Energy intensity level of primary energy | Decrease | 3.5 | SDG Index green threshold |
| 9.4.1 | CO2 emission per unit of value added (GDP) | Decrease | 0.25 | Average developed countries |
| 11.6.1 | Proportion of urban solid waste regularly collected and with adequate final discharge | Increase | 100 | All waste collected/disposed |
| 11.6.2 | Annual mean levels of fine particulate matter in cities | Decrease | 10 | WHO guideline |
| 12.2.1 | Material footprint per capita | Decrease | 12 | World average |
| 12.2.2 | Domestic material consumption per capita | Decrease | 10.6 | World average |
| 12.4.1 | Parties meeting their commitments and - hazardous waste, and other chemicals | Increase | 100 | All countries reporting |
| 12.c.1 | Fossil-fuel pre-tax subsidies | Decrease | 0.35 | Average Top 5 performers |
| 12.a.1 | Installed renewable energy-generating capacity in developing countries (in watts per capita) | Increase | 3870 | Avg Top 5 performers |

# Standardisation Method and Evaluation

- Current baseline standardized using targets and z-score approach

- Trimmed and rescaled to 0-100, where 100 = target achieved, and 0 = $\geq 3$ standard deviations from the target

- Interpretation – assessment of 'effort required by countries to achieve targets'

- Outputs – charts and dashboard

- Progress evaluation using traffic lights – e.g. possible categories:

  ● On Track (>90)

  ● Needs Improvement (50-90)

  ● Breakthrough Needed (10-50)

  ● Off Track (<10)

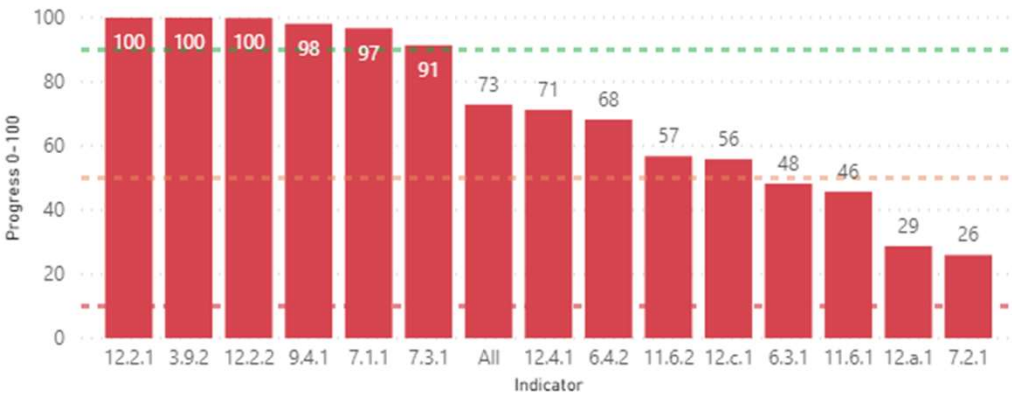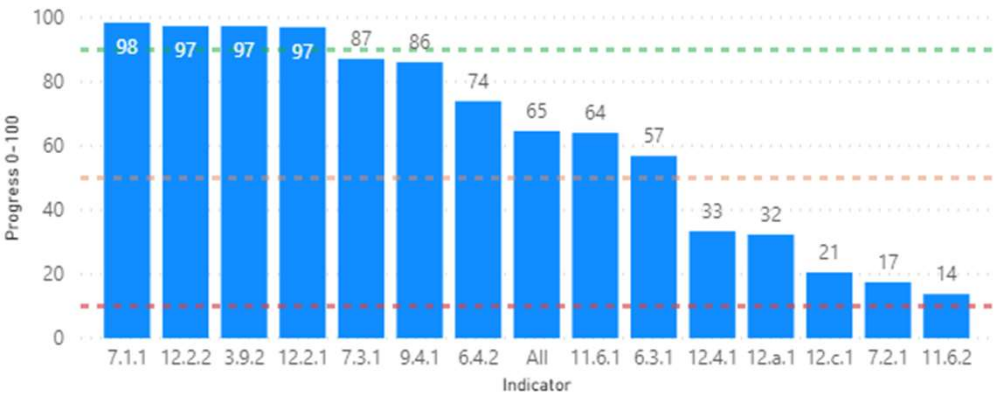# Arab Region – Weighted Averages
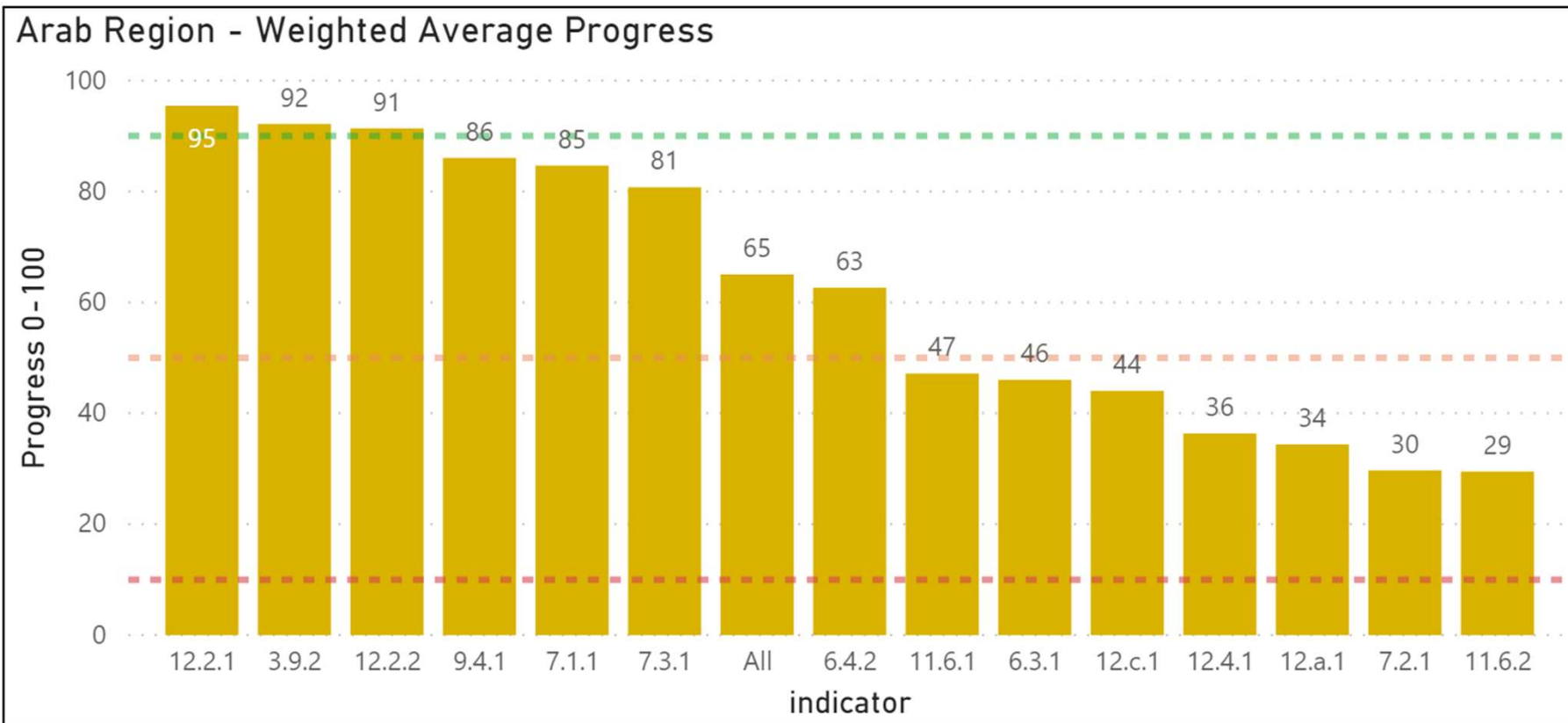
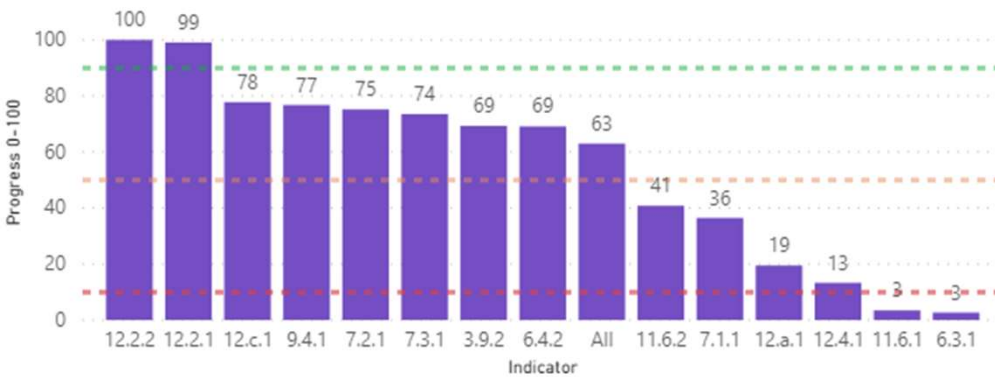Weigthed Average Progress, Maghreb Sub-Region

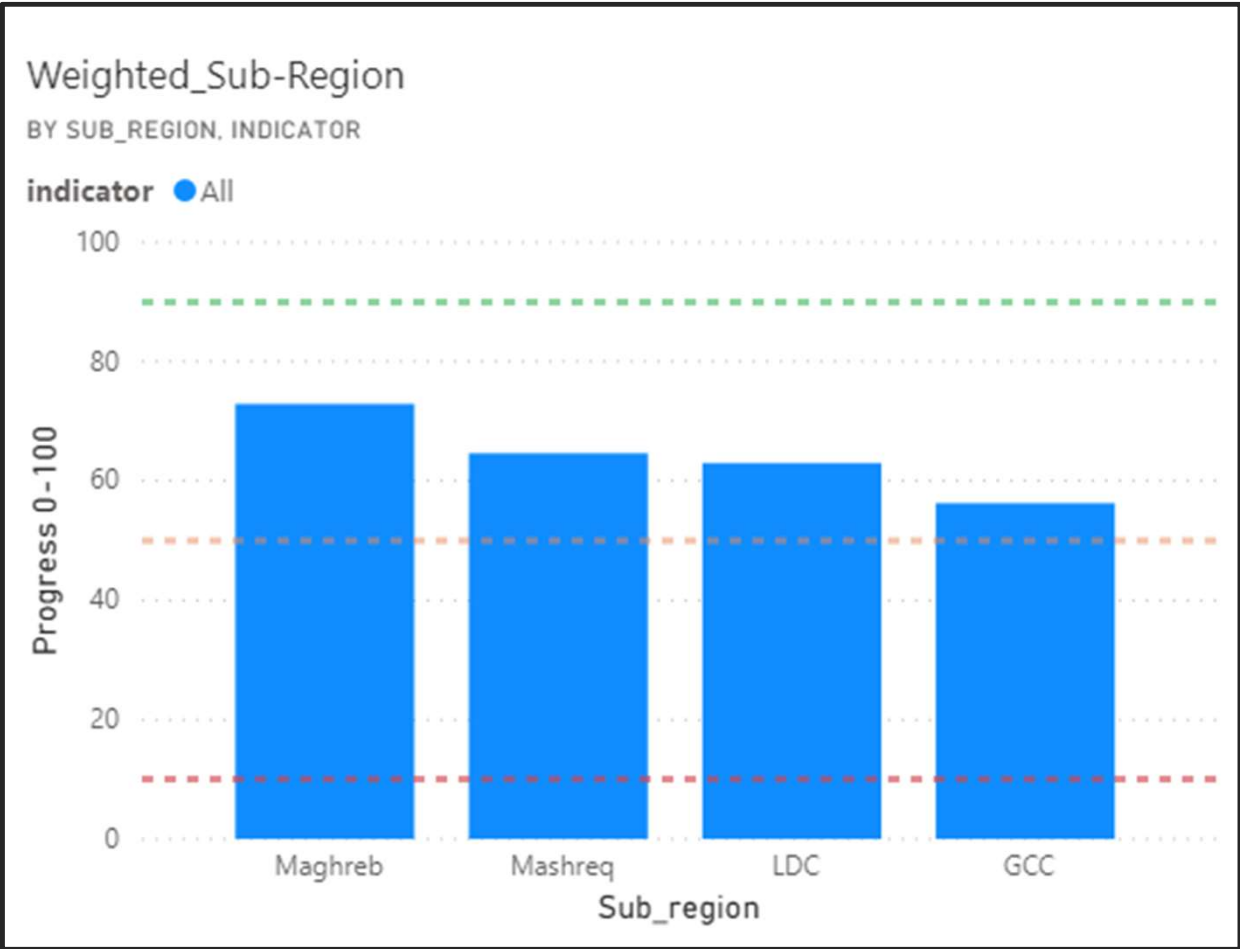Weigthed Average Progress, Mashreq Sub-Region

Weigthed Average Progress, GCC Sub-Region
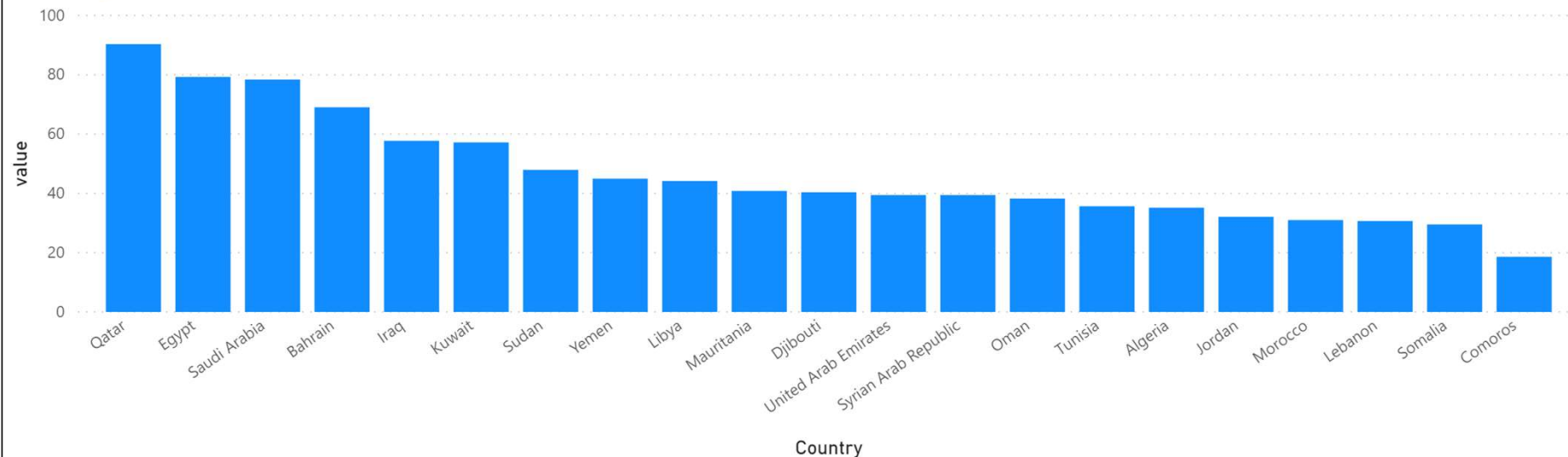
Weigthed Average Progress, LDC Sub-Region

# Arab Sub-Region – Weighted Averages

# Data for indicators, by country (in indicator units)

**indicator** ● 11.6.2



(Bar chart — value vs Country)

Countries (left to right): Qatar, Egypt, Saudi Arabia, Bahrain, Iraq, Kuwait, Sudan, Yemen, Libya, Mauritania, Djibouti, United Arab Emirates, Syrian Arab Republic, Oman, Tunisia, Algeria, Jordan, Morocco, Lebanon, Somalia, Comoros

## Indicator Name

- ■ Annual mean levels of fine particulate matter in cities, urban population (micrograms per cubic meter)
- ☐ Carbon dioxide emissions per unit of GDP (kilogrammes of CO2 per constant 2010 United States dollars)
- ☐ Domestic material consumption per capita (tonnes)
- ☐ Energy intensity level of primary energy (megajoules per constant 2011 purchasing power parity GDP)
- ☐ Fossil-fuel pre-tax subsidies (consumption and production) as a proportion of total GDP (%)
- ☐ Installed renewable energy-generating capacity (in watts per capita)
- ☐ Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (%)
- ☐ Material footprint in tonnes per capita
- ☐ Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (deaths per 100,000 population)
- ☐ Municipal Solid Waste collection coverage, by cities (%)
- ☐ Parties meeting their commitments and obligations in transmitting information as required on hazardous waste, and other chemicals (average all treaties)
- ☐ Proportion of population with access to electricity, by urban/rural (%)
- ☐ Proportion of safely treated domestic wastewater flows (%)
- ☐ Renewable energy share in the total final energy consumption (%)

# Progress on SCP indicators (0-100)

**Indicator Name** ● Average for all SCP indicators (where data is available)



Progress 0-100 (y-axis):

| Country | Progress |
|---|---|
| Morocco | 82 |
| Tunisia | 79 |
| Jordan | 70 |
| Comoros | 70 |
| Sudan | 69 |
| Algeria | 67 |
| Djibouti | 67 |
| Egypt | 66 |
| Lebanon | 65 |
| State of Palestine | 64 |
| Iraq | 64 |
| United Arab Emirates | 63 |
| Qatar | 62 |
| Yemen | 62 |
| Mauritania | 60 |
| Oman | 58 |
| Bahrain | 58 |
| Syrian Arab Republic | 56 |
| Saudi Arabia | 54 |
| Kuwait | 52 |
| Somalia | 50 |
| Libya | 49 |

ON TRACK
IMPROVEMENT NEEDED
BREAKTHROUGH NEEDED
OFF TRACK

**indicator**
- ☐ 11.6.1
- ☐ 11.6.2
- ☐ 12.2.1
- ☐ 12.2.2
- ☐ 12.4.1
- ☐ 12.a.1
- ☐ 12.c.1
- ☐ 3.9.2
- ☐ 6.3.1
- ☐ 6.4.2
- ☐ 7.1.1
- ☐ 7.2.1
- ☐ 7.3.1
- ☐ 9.4.1
- ■ All

**Country**

All ▼

## Progress 0-100 by Country and indicator

**indicator** ● All



## Progress on Indicator, by Sub-Region



| Sub-Region | Average of Progress 0-100 |
|---|---|
| Maghreb | ~70 |
| Mashreq | ~64 |
| LDCs | ~63 |
| GCC | ~58 |

**Sub-Region**
- ☐ GCC
- ☐ LDCs
- ☐ Maghreb
- ☐ Mashreq
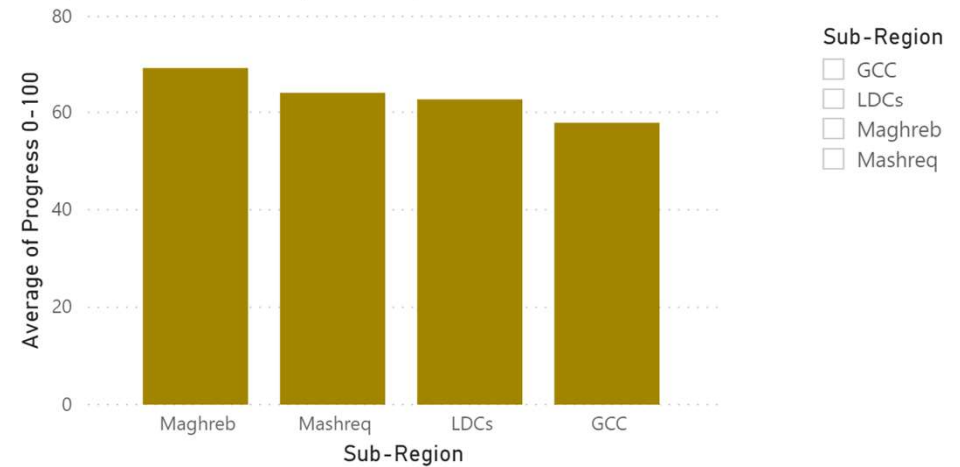
## Progress on SCP indicators (0-100)

**Indicator Name** ● Renewable energy share in the total final energy consumption (%)



Chart axis: Progress 0-100 (y-axis), Country (x-axis)

Values by country:
- Comoros: 100
- Mauritania: 100
- Somalia: 100
- Sudan: 100
- Djibouti: 72
- State of Palestine: 61
- Tunisia: 58
- Morocco: 50
- Egypt: 25
- Jordan: 22
- Yemen: 21
- Lebanon: 13
- Libya: 5
- Syrian Arab Republic: 2
- Algeria: 0
- Bahrain: 0
- Iraq: 0
- Kuwait: 0
- Oman: 0
- Qatar: 0
- Saudi Arabia: 0
- United Arab Emirates: 0

Reference lines:
- ON TRACK
- IMPROVEMENT NEEDED
- BREAKTHROUGH NEEDED
- OFF TRACK

**indicator**
- ☐ 11.6.1
- ☐ 11.6.2
- ☐ 12.2.1
- ☐ 12.2.2
- ☐ 12.4.1
- ☐ 12.a.1
- ☐ 12.c.1
- ☐ 3.9.2
- ☐ 6.3.1
- ☐ 6.4.2
- ☐ 7.1.1
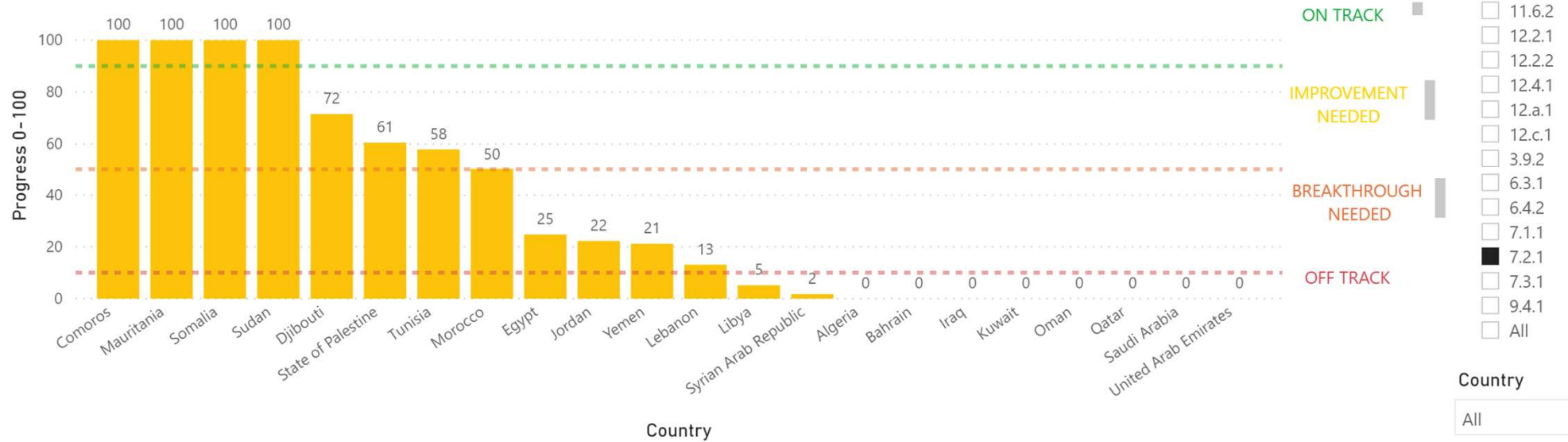- ☑ 7.2.1
- ☐ 7.3.1
- ☐ 9.4.1
- ☐ All

**Country**

| All | ⌄ |

## Progress 0-100 by Country and indicator

**indicator** ● 7.2.1



## Progress on Indicator, by Sub-Region



Average of Progress 0-100 (y-axis), Sub-Region (x-axis)
- LDCs: ~82
- Maghreb: ~28
- Mashreq: ~20
- GCC: 0

**Sub-Region**
- ☐ GCC
- ☐ LDCs
- ☐ Maghreb
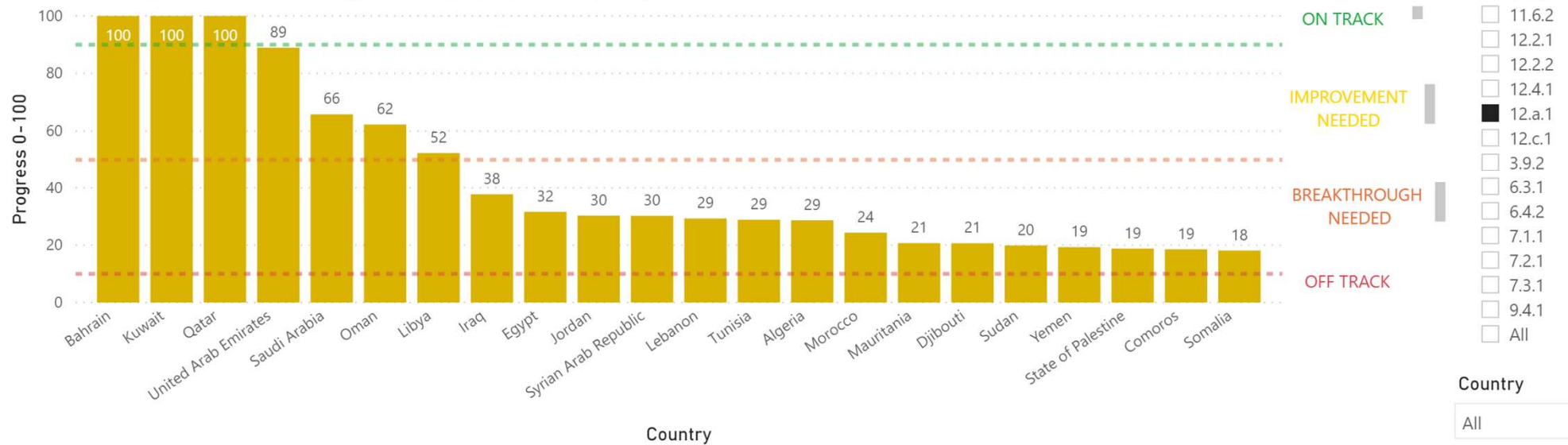- ☐ Mashreq
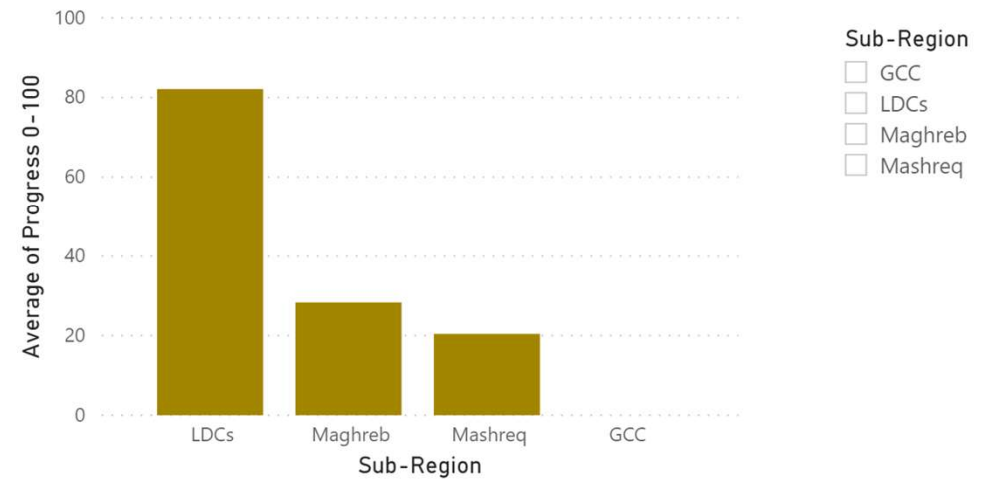
## Progress on SCP indicators (0-100)

**Indicator Name** ● Installed renewable energy-generating capacity (in watts per capita)



| indicator |
| --- |
| ☐ 11.6.1 |
| ☐ 11.6.2 |
| ☐ 12.2.1 |
| ☐ 12.2.2 |
| ☐ 12.4.1 |
| ☑ 12.a.1 |
| ☐ 12.c.1 |
| ☐ 3.9.2 |
| ☐ 6.3.1 |
| ☐ 6.4.2 |
| ☐ 7.1.1 |
| ☐ 7.2.1 |
| ☐ 7.3.1 |
| ☐ 9.4.1 |
| ☐ All |

Chart values (Progress 0-100): Bahrain 100, Kuwait 100, Qatar 100, United Arab Emirates 89, Saudi Arabia 66, Oman 62, Libya 52, Iraq 38, Egypt 32, Jordan 30, Syrian Arab Republic 30, Lebanon 29, Tunisia 29, Algeria 29, Morocco 24, Mauritania 21, Djibouti 21, Sudan 20, Yemen 19, State of Palestine 19, Comoros 19, Somalia 18

Reference lines: ON TRACK, IMPROVEMENT NEEDED, BREAKTHROUGH NEEDED, OFF TRACK

**Country**

| All ⌄ |
| --- |

## Progress 0-100 by Country and indicator

**indicator** ● 12.a.1



## Progress on Indicator, by Sub-Region



**Sub-Region**

| ☐ GCC |
| --- |
| ☐ LDCs |
| ☐ Maghreb |
| ☐ Mashreq |
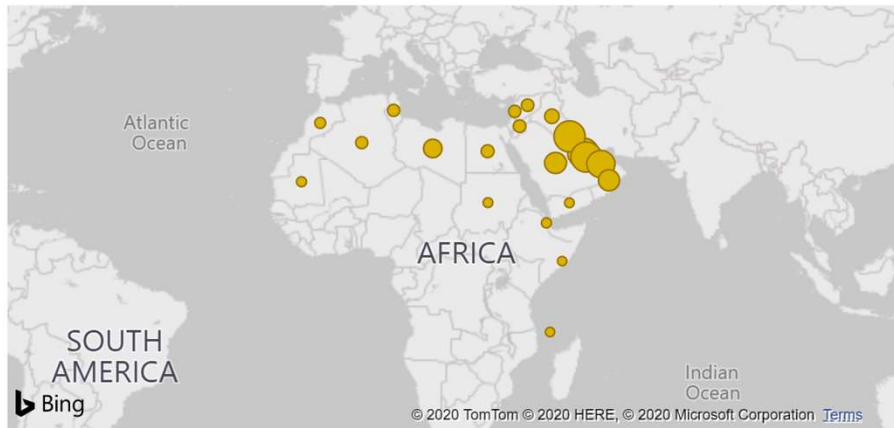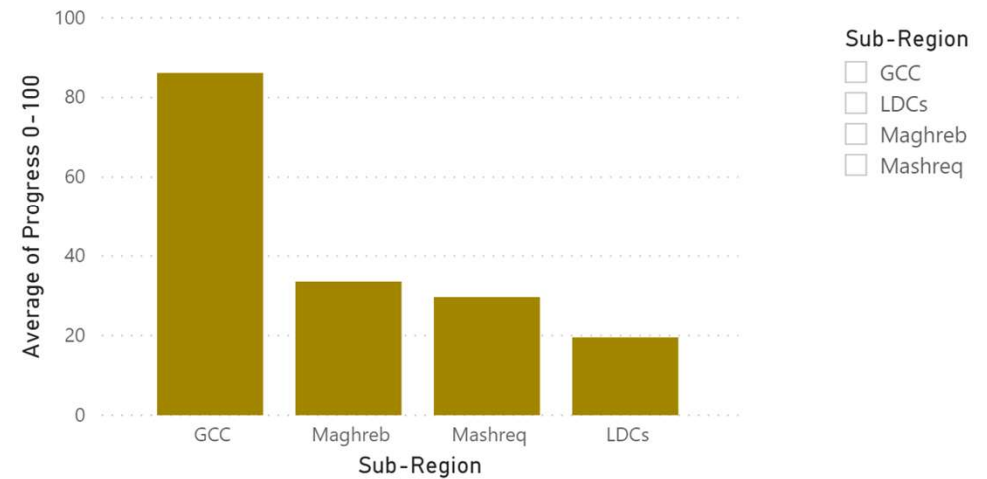
# Progress on SCP indicators (0-100)

**Indicator Name** ● Domestic material consumption per capita (tonnes)



Bar chart values (Country — Progress 0–100):
- Algeria — 100
- Comoros — 100
- Djibouti — 100
- Egypt — 100
- Iraq — 100
- Jordan — 100
- Lebanon — 100
- Mauritania — 100
- Morocco — 100
- Somalia — 100
- Sudan — 100
- Syrian Arab Republic — 100
- Tunisia — 100
- Yemen — 100
- Libya — 98
- United Arab Emirates — 58
- Saudi Arabia — 49
- Bahrain — 36
- Kuwait — 32
- Oman — 25
- Qatar — 0

Reference lines: ON TRACK, IMPROVEMENT NEEDED, BREAKTHROUGH NEEDED, OFF TRACK

**indicator**
- 11.6.1
- 11.6.2
- 12.2.1
- 12.2.2
- 12.4.1
- 12.a.1
- 12.c.1
- 3.9.2
- 6.3.1
- 6.4.2
- 7.1.1
- 7.2.1
- 7.3.1
- 9.4.1
- All

**Country**

All

## Progress 0-100 by Country and indicator

**indicator** ● 12.2.2



## Progress on Indicator, by Sub-Region
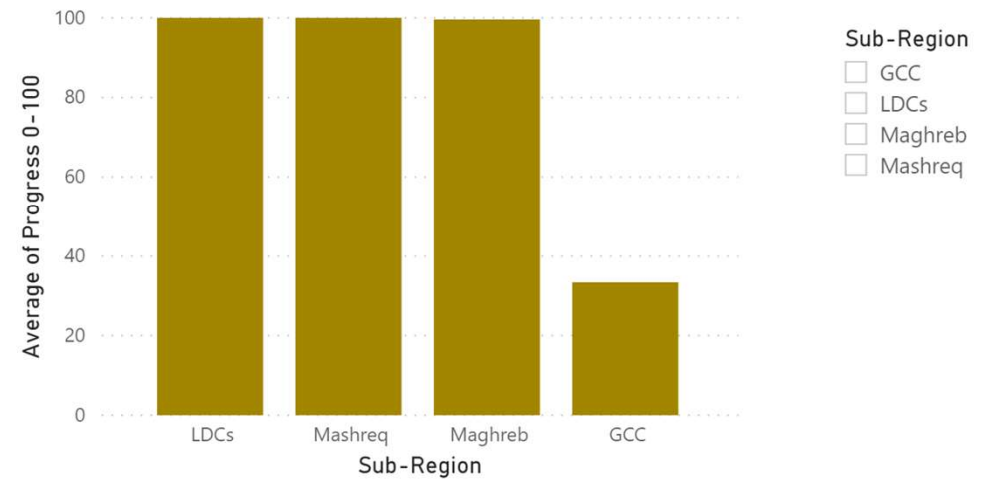


Sub-Region values (Average of Progress 0–100):
- LDCs — 100
- Mashreq — 100
- Maghreb — 100
- GCC — ~33

**Sub-Region**
- GCC
- LDCs
- Maghreb
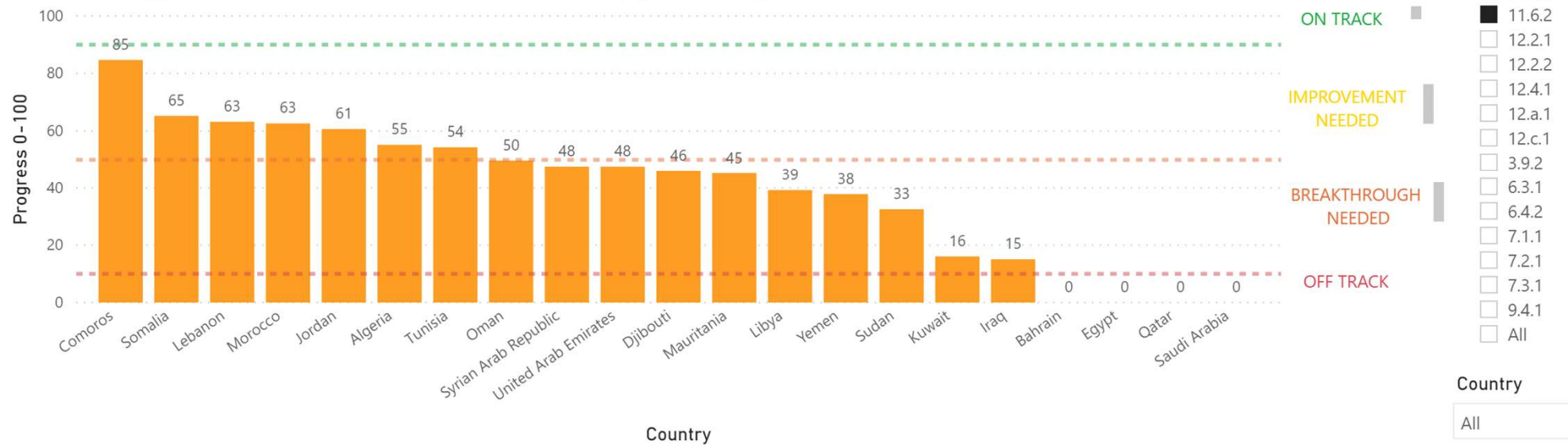- Mashreq

# Progress on SCP indicators (0-100)

**Indicator Name** 🟠 Annual mean levels of fine particulate matter in cities, urban population (micrograms per cubic meter)
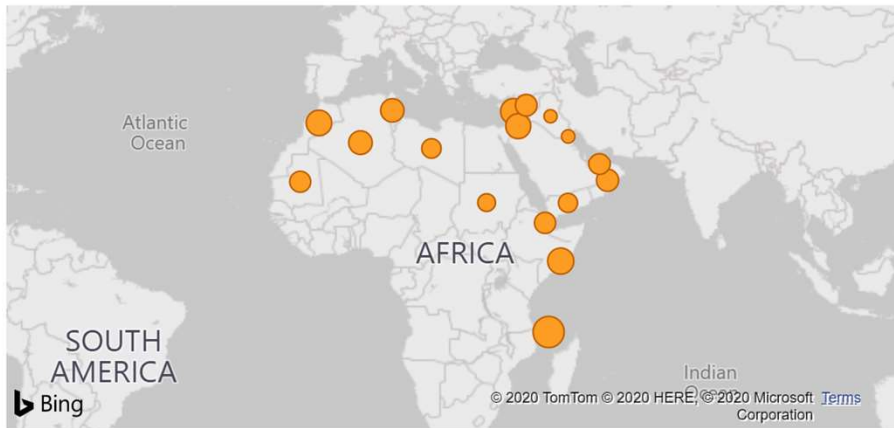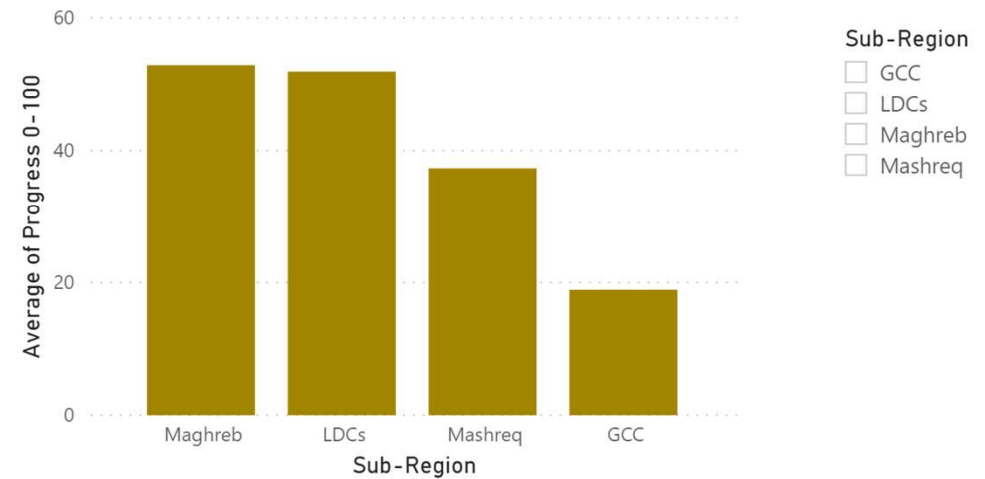


ON TRACK

IMPROVEMENT NEEDED

BREAKTHROUGH NEEDED

OFF TRACK

Bar chart values (Progress 0-100 by Country):
- Comoros: 85
- Somalia: 65
- Lebanon: 63
- Morocco: 63
- Jordan: 61
- Algeria: 55
- Tunisia: 54
- Oman: 50
- Syrian Arab Republic: 48
- United Arab Emirates: 48
- Djibouti: 46
- Mauritania: 45
- Libya: 39
- Yemen: 38
- Sudan: 33
- Kuwait: 16
- Iraq: 15
- Bahrain: 0
- Egypt: 0
- Qatar: 0
- Saudi Arabia: 0

Y-axis: Progress 0-100
X-axis: Country

**indicator**
- ☐ 11.6.1
- ⬛ 11.6.2
- ☐ 12.2.1
- ☐ 12.2.2
- ☐ 12.4.1
- ☐ 12.a.1
- ☐ 12.c.1
- ☐ 3.9.2
- ☐ 6.3.1
- ☐ 6.4.2
- ☐ 7.1.1
- ☐ 7.2.1
- ☐ 7.3.1
- ☐ 9.4.1
- ☐ All

**Country**
All ▾

## Progress 0-100 by Country and indicator

**indicator** 🟠 11.6.2



## Progress on Indicator, by Sub-Region



Y-axis: Average of Progress 0-100
X-axis: Sub-Region (Maghreb, LDCs, Mashreq, GCC)

**Sub-Region**
- ☐ GCC
- ☐ LDCs
- ☐ Maghreb
- ☐ Mashreq