SDG 6: Clean water and sanitation

Ensure availability and sustainable management of water and sanitation for all

With 193 governments coming together to agree a common framework to tackle 17 major world issues by 2030, business engagement to achieve them is seen as critical. So how do you understand the implications of the SDGs and prioritise them? How do you quantify and minimise the potential risks, and explore the opportunities?

This is an extract from PwC's Navigating the SDGs: a business guide to engaging with the UN Global Goals 2016 on SDG 6 Clean water and sanitation. For more on the other 16 SDGs, go to www.pwc.com/globalgoals

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What's the global challenge?

- Clean water and sanitation is one of the most fundamental goals, since water is the foundation resource for **healthy ecosystems, thriving communities** and thus, **stable economic development**.[1]
- The World Economic Forum (WEF)'s 2015 Global Risk Report ranked **'water crises'** as the **highest impact risk** out of 28.[2] It continues to rank as the third highest risk in terms of impact in the 2016 report.[3]
- While 2.6 billion people gained access to 'improved drinking water' (compared to a 1990 baseline) during the period corresponding to the Millennium Development Goals, which ran from 2000 to 2015, **663 million people are still reliant on sources like unprotected wells and springs**.
- **Sanitation** is also a key development priority, with inadequate sanitation affecting individual health and dignity, as well as national **economic productivity**. Globally, **2.5 billion people** lack access to improved sanitation; while 1 billion people practice open defecation, nine out of ten in rural areas.
- **One in three people** already live in a country with moderate to high **water stress**, and by **2030** nearly half the global population could be facing **water scarcity**, with **demand outstripping supply by 40 per cent**.[4] Water availability and quality is threatened by pollution, the impacts of climate change, population growth and increasing consumption.
- Freshwater resource management is a complex area, with **watershed-wide approaches** evolving to take account of the **shared nature** of water resources. **Water conflict** can emerge where access or use of water resources is, or is perceived to be, unfair. For example, the high prices currently commanded by almonds have led to increased planting of this particularly water-intensive crop in California, despite a drought and water consumption restrictions being imposed on urban water agencies.[5]

#1

The World Economic Forum (WEF)'s 2015 Global Risk Report ranked 'water crises' as the highest impact risk out of 28. (It ranks as the third highest risk in terms of impact in the 2016 report, behind 'failure of climate change mitigation and adaptation' and 'weapons of mass destruction'.)[2,3]

Why does it matter for business? And what can business do?

Water is a key resource for business, with many sectors facing risks connected to quality, availability and access. Addressing gaps in clean water access or sanitation also provides opportunity for some businesses.

- Worldwide, agriculture accounts for 70% of all **water consumption**, compared to 20% for industry and 10% for domestic use. In industrialised nations, however, industries consume **more than half** of the water available for human use. Belgium, for example, uses 80% of the water available for industry.[6] Companies in the food, beverage and manufacturing sectors have therefore, a particularly important role to play in managing its use, often referred to as **water stewardship**.
- At the extreme, as the impacts of climate change or over-extraction are felt, some companies will be at risk of having **'stranded assets'**. If the water resources needed to keep assets, such as water intensive crops or nearby processing facilities, operational are no longer available, their value to the business and its shareholders is lost.[7]
- In planning and implementing their approach to water stewardship, business needs to consider the whole of the **industrial water cycle**, from extraction right through to **wastewater treatment** and **reuse**, and its impact on the natural water cycle.

? *Have you measured your **water footprint** of both your direct operations and your supply chain activities? Are you or your key suppliers sourcing water from any particularly **water stressed locations?** What will the picture look like in ten years' time? How do water issues affect key **stakeholders** in areas where you have operations?*

- Businesses are major users of freshwater, for example, it takes around 150 litres of water to make one litre of beer, and 7,000 litres to grow the cotton to make one pair of blue jeans. However, **leakages** and **missed efficiency gains** are a hidden operational cost, as well as increasing the local environmental footprint.

? *Have you assessed opportunities for improving water efficiencies in your direct operations? Do you need to improve your **data quality** to build a better picture of this? What about water use elsewhere in your value chain, including water use by customers using your products? Can you influence this through changes to product design?*

? *Can you improve employee engagement in order to deliver on water efficiency goals? This could include awareness programmes on reduction, recycling and safe reuse of water.*

- The shared resource nature of water lends itself to a **systems-based approach** via **multi-stakeholder partnerships**. The 2030 Water Resources Group is an example of a public-private-civil society collaboration that aims to drive action on water resources reform in water stressed developing countries. Target sectors for this initiative are: energy, extractives, agriculture, financial services and utilities.[8]

? *Could you have greater impact on water management through participation in multi-stakeholder partnership initiatives? Would this help you address your business' water scarcity risks more effectively? Could it help you build stakeholder trust?*

- Helping to address **gaps in access** to clean water and good sanitation is an opportunity for some sectors to create shareholder value and play a part in solving a major global problem; and many businesses will benefit from the **healthier employees** that will result. **Lost working days** resulting from poor sanitation costs the global economy approximately $4 billion annually.[9]

? *Do you know if access to clean water or sanitation is an issue in your supply chain? Do your supply chain policies require suppliers to provide potable water and clean toilet facilities? Do you monitor suppliers for compliance with these policies? What action do you take if non-compliances are identified?*

- Some businesses have identified an opportunity to influence customers, communities or the employees' families, encouraging more **hygienic behaviours**, such as regular hand-washing, or reducing customs such as open defecation. Hygiene is often grouped together with water and sanitation and referred to as WASH.

? *Could you leverage particular expertise or products in order to focus WASH in your community investment programmes? For example, could any of your products or services encourage increased usage of toilets or handwashing? What would be the associated business benefits: increased products sales, reputation gains?*

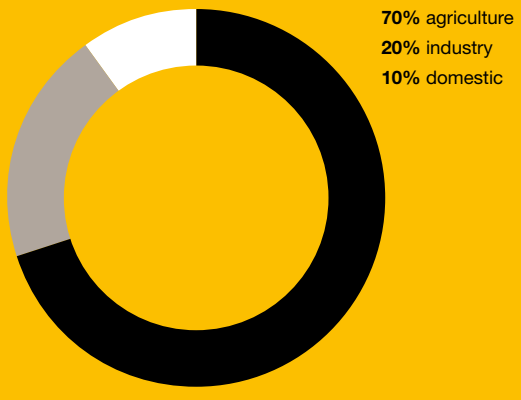
You could also think about:

? *How you could **incentivise water efficiency** in your operations. Could performance against targets be part of your firm's appraisal process?*

? *Including water and WASH as part of your **integrated reporting** or **sustainability reporting?***

? *Whether you could transition your company policies from **water management** towards **water stewardship**. Consider how you might be able to contribute to improving water catchment basins as a whole to have a positive impact, in both your direct operations and in your supply chain, rather than simply avoiding negative impacts.*

Where's water going?

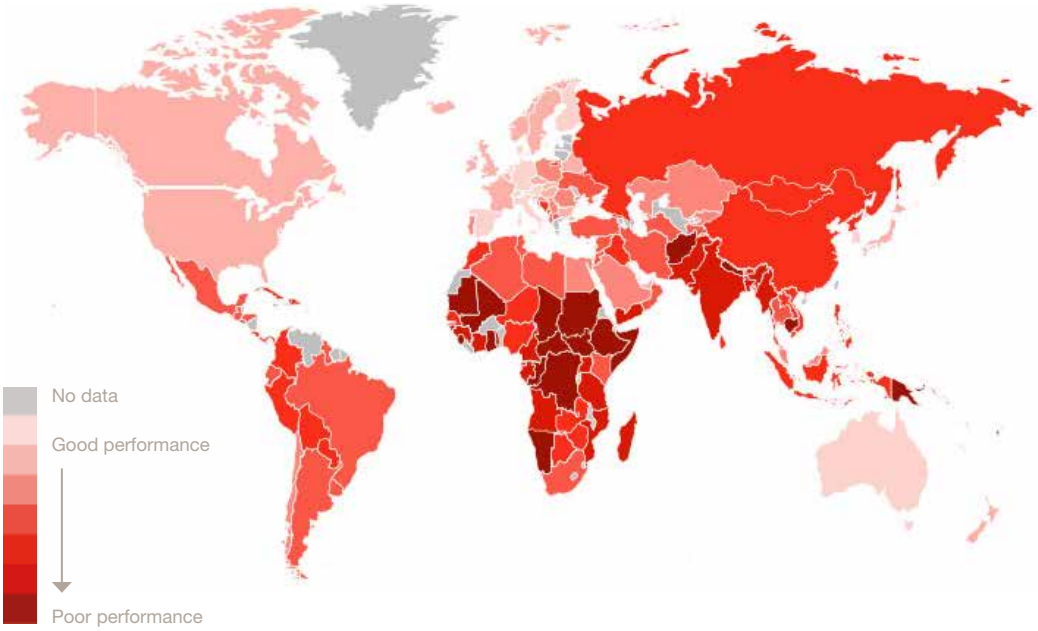


Targets *in focus*

There are eight targets for this SDG. The first is "By 2030, achieve universal and equitable access to safe and affordable drinking water for all". Target 6.3 illustrated in the heat map is "By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally". For details on the remaining targets, please see 'Global Goals and targets' on page 5.

The lie of the land – exploring the distance to cover to achieve

Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally



$4bn

Lost working days resulting from poor sanitation costs the global economy approximately $4 billion annually.[9]

Key links to other SDGs:

Goal 3 – Good health and well-being: water and sanitation are closely linked to health, given waterborne diseases, and the critical role of WASH in reducing maternal and child mortality.

Goal 4 – Quality education: many schools do not have drinking water or secure, private, single sex toilets. The latter means that many girls are kept at home by their parents or drop out once they reach puberty. Where households are not within close proximity of a water source, children (particularly girls) are often required to fetch water for many hours each day rather than attending school.

Goal 5 – Gender equality: inadequate sanitation contributes to women's health issues and violence against women and girls. Women and girls bear a disproportionate burden of fetching water where there is no pumped water.

Goal 11 – Sustainable cities and communities: access to WASH facilities is a great challenge in informal settlements in many rapidly growing cities globally. Cities do not necessarily provide better access to adequate facilities than more remote areas.

Global Goals and targets

Please note 'Targets' are referenced as n.1 n.2 n.3 etc. 'The means of implementing the targets' are referenced as n.a n.b n.c etc.

Goal 6. Ensure availability and sustainable management of water and sanitation for all

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b Support and strengthen the participation of local communities in improving water and sanitation management

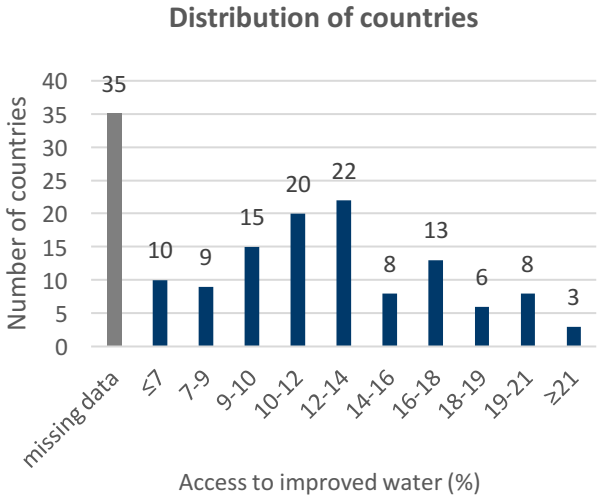
Sources

1 United Nations University, Water Will Transform the World, webpagebit.ly/1NzmIIm
2 World Economic Forum, The Global Risks Report, 2015, http://bit.ly/15wPuqV
3 World Economic Forum, The Global Risks Report, 2016, bit.ly/1RRzt37
4 UN Secretary General's message on World Water Day, webpage http://www.un.org/sg/statements/?nid=6679
5 The Sacramento Bee, California almond growers to expand orchards, despite drought, webpage http://bit.ly/1JbtuzA
6 Worldometer, Water consumed this year (millions of litres), webpage http://www.worldometers.info/water/ based on data provided by the United Nations.
7 GreenBiz, Two Steps Forward, Exxon, stranded assets and the new math, webpage, bit.ly/1S3TxOS
8 2030 Water Resources Group, webpage http://www.2030wrg.org/
9 Business Fights Poverty, Water & Sanitation for the Urban Poor, Creating business value and development impact in the WASH sector, 2015 http://bit.ly/229jDEP

How well are countries performing against the indicators that sit behind the SDG goals and targets?

SDG 6 Indicator Profile: Access to improved water
(NB. this table is from the SDG Index & Dashboards - Global Report)

Access to improved water (%)



Country	Value/Rating
Armenia	100
Australia	100
Austria	100
Belgium	100
Bhutan	100
Cyprus	100
Czech Republic	100
Denmark	100
Finland	100
France	100
Georgia	100
Germany	100
Greece	100
Hungary	100
Iceland	100
Israel	100
Italy	100
Japan	100
Luxemb.	100
Malta	100
Netherlands	100
New Zealand	100
Norway	100
Portugal	100
Qatar	100
Romania	100
Singapore	100
Slovakia	100
Spain	100
Sweden	100
Switzerland	100
Turkey	100
UK	100
Bosnia and Herzegovina	99.9
Mauritius	99.9
Canada	99.8
Belarus	99.7
Montenegro	99.7
Uruguay	99.7
Croatia	99.6
Estonia	99.6
UAE	99.6

Country	Value/Rating
Slovenia	99.5
Bulgaria	99.4
Egypt	99.4
Macedonia	99.4
Latvia	99.3
Serbia	99.2
USA	99.2
Argentina	99.1
Chile	99
Kuwait	99
Lebanon	99
Guyana	98.3
Poland	98.3
Malaysia	98.2
Brazil	98.1
Paraguay	98
Ireland	97.9
Costa Rica	97.8
Thailand	97.8
Tunisia	97.7
Korea, Rep.	97.6
Vietnam	97.6
Saudi Arabia	97
Jordan	96.9
Russia	96.9
Lithuania	96.6
Botswana	96.2
Iran	96.2
Ukraine	96.2
Mexico	96.1
Sri Lanka	95.6
China	95.5
Albania	95.1
Trinidad and Tobago	95.1
Suriname	94.8
Panama	94.7
India	94.1
El Salvador	93.8
Jamaica	93.8
Oman	93.4
Gabon	93.2
South Africa	93.2
Venezuela	93.1
Kazakhstan	92.9

Country	Value/Rating
Guatemala	92.8
Philippines	91.8
Cabo Verde	91.7
Nepal	91.6
Colombia	91.4
Pakistan	91.4
Honduras	91.2
Namibia	91
Gambia	90.2
Malawi	90.2
Bolivia	90
Kyrgyzstan	90
Ghana	88.7
Moldova	88.4
Indonesia	87.4
Azerbaijan	87
Nicaragua	87
Bangladesh	86.9
Ecuador	86.9
Peru	86.7
Iraq	86.6
Morocco	85.4
Dominican Republic	84.7
Algeria	83.6
Burkina Faso	82.3
Cote d'Ivoire	81.9
Lesotho	81.8
Myanmar	80.6
Uganda	79
Senegal	78.5
Benin	77.9

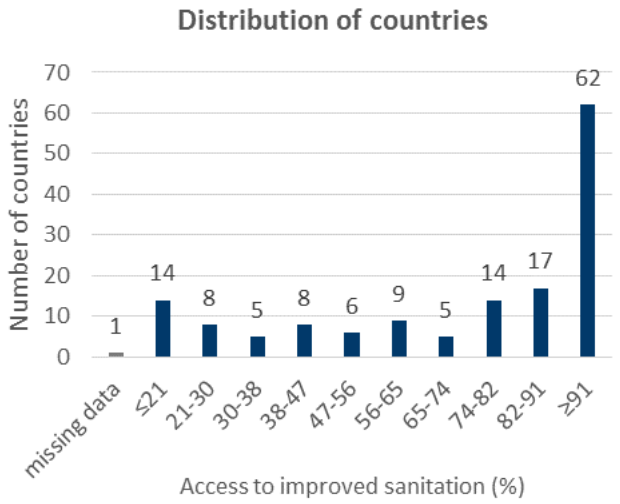
Country	Value/Rating
Mali	77
Zimbabwe	76.9
Guinea	76.8
Congo, Rep.	76.5
Rwanda	76.1
Burundi	75.9
Lao PDR	75.7
Cameroon	75.6
Liberia	75.6
Cambodia	75.5
Swaziland	74.1
Tajikistan	73.8
CAR	68.5
Nigeria	68.5
Zambia	65.4
Mongolia	64.4
Kenya	63.2
Togo	63.1
ierra Leone	62.6
Niger	58.2
Mauritania	57.9
Haiti	57.7
Ethiopia	57.3
Tanzania	55.6
Sudan	55.5
Afghanistan	55.3
Yemen	54.9
Congo, Dem. Rep.	52.4
Madagascar	51.5
Mozamb.	51.1
Chad	50.8
Angola	49

Source : WHO and UNICEF (2016). Years : 2011-2015. Detailed metadata and quantitative thresholds used for each indicator are available online at www.sdgindex.org. Data refer to the most recent year available during the period specified.

How well are countries performing against the indicators that sit behind the SDG goals and targets?

SDG 6 Indicator Profile: Access to improved sanitation
(NB. this table is from the SDG Index & Dashboards - Global Report)

Access to improved sanitation (%)



Country	Value/Rating
Australia	100
Austria	100
Cyprus	100
Israel	100
Japan	100
Korea, Rep.	100
Kuwait	100
Malta	100
Saudi Arabia	100
Singapore	100
USA	100
Spain	99.9
Switzerland	99.9
Canada	99.8
Portugal	99.7
Denmark	99.6
Belgium	99.5
Italy	99.5
Sweden	99.3
Germany	99.2
UK	99.2
Chile	99.1
Czech Republic	99.1
Slovenia	99.1
Greece	99
Iceland	98.8
Slovakia	98.8
France	98.7
Jordan	98.6
Norway	98.1
Hungary	98
Qatar	98
Netherlands	97.7
Finland	97.6
Luxemb.	97.6
UAE	97.6
Kazakhstan	97.5
Estonia	97.2
Poland	97.2
Croatia	97
Oman	96.7
Argentina	96.4
Serbia	96.4
Uruguay	96.4

Country	Value/Rating
Malaysia	96
Montenegro	95.9
Ukraine	95.9
Sri Lanka	95.1
Tajikistan	95
Turkey	94.9
Bosnia and Herzegovina	94.8
Egypt	94.7
Costa Rica	94.5
Venezuela	94.4
Belarus	94.3
Kyrgyzstan	93.3
Albania	93.2
Mauritius	93.1
Thailand	93
Lithuania	92.4
Tunisia	91.6
Trinidad and Tobago	91.5
Macedonia	90.9
Ireland	90.5
Iran	90
Armenia	89.5
Azerbaijan	89.3
Paraguay	88.6
Latvia	87.8
Algeria	87.6
Georgia	86.3
Bulgaria	86
Iraq	85.6
Mexico	85.2
Ecuador	84.7
Dominican Republic	84
Guyana	83.7
Brazil	82.8
Honduras	82.6
Jamaica	81.8
Colombia	81.1
Lebanon	80.7
Myanmar	79.6
Suriname	79.2
Romania	79.1
Vietnam	78

Country	Value/Rating
Morocco	76.7
China	76.5
Moldova	76.4
Peru	76.2
El Salvador	75
Panama	75
Philippines	73.9
Cabo Verde	72.2
Russia	72.2
Lao PDR	70.9
Nicaragua	67.9
South Africa	66.4
Guatemala	63.9
Pakistan	63.5
Botswana	63.4
Rwanda	61.6
Indonesia	60.8
Bangladesh	60.6
Mongolia	59.7
Gambia	58.9
Swaziland	57.5
Yemen	53.3
Angola	51.6
Bhutan	50.4
Bolivia	50.3
Burundi	48
Senegal	47.6
Cameroon	45.8
Nepal	45.8
Zambia	43.9
Cambodia	42.4
Gabon	41.9
Malawi	41

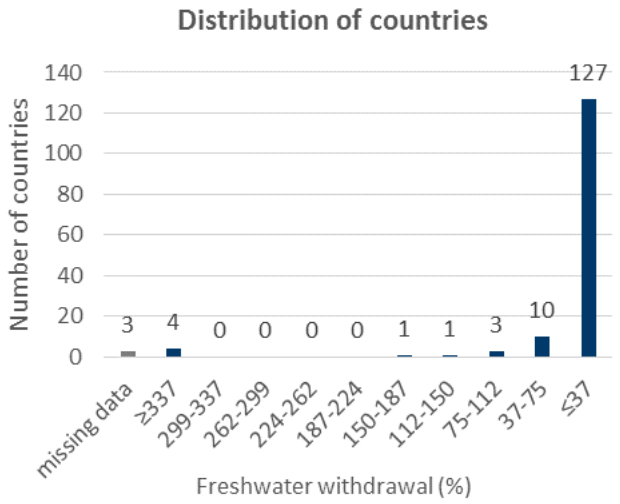
Country	Value/Rating
Mauritania	40
India	39.6
Zimbabwe	36.8
Namibia	34.4
Afghanistan	31.9
Lesotho	30.3
Kenya	30.1
Nigeria	29
Congo, Dem. Rep.	28.7
Ethiopia	28
Haiti	27.6
Mali	24.7
Sudan	23.6
Cote d'Ivoire	22.5
CAR	21.8
Mozamb.	20.5
Guinea	20.1
Benin	19.7
Burkina Faso	19.7
Uganda	19.1
Liberia	16.9
Tanzania	15.6
Congo, Rep.	15
Ghana	14.9
Sierra Leone	13.3
Chad	12.1
Madagascar	12
Togo	11.6
Niger	10.9
New Zealand	n/a

Source : WHO and UNICEF (2016). Years : 2011-2015. Detailed metadata and quantitative thresholds used for each indicator are available online at www.sdgindex.org. Data refer to the most recent year available during the period specified.

How well are countries performing against the indicators that sit behind the SDG goals and targets?

SDG 6 Indicator Profile: Freshwater withdrawal
(NB. this table is from the SDG Index & Dashboards - Global Report)

Freshwater withdrawal (%)



Country	Value/Rating
Congo, Rep.	0
Iceland	0.1
Gabon	0.1
CAR	0.1
Sierra Leone	0.1
Liberia	0.1
Congo, Dem. Rep.	0.1
Guinea	0.2
Cameroon	0.3
Bolivia	0.4
Mozamb.	0.4
Bhutan	0.4
Angola	0.5
Guyana	0.5
Cambodia	0.5
Colombia	0.5
Benin	0.5
Suriname	0.6
Croatia	0.6
Paraguay	0.6
Namibia	0.7
Norway	0.7
Peru	0.7
Panama	0.7
Nicaragua	0.9
Bosnia and Herzegovina	0.9
Brazil	0.9
Lao PDR	1
Rwanda	1.1
Uganda	1.1
Latvia	1.1
Gambia	1.1
Togo	1.2
Luxemb.	1.3
Canada	1.3
Lesotho	1.4
Slovakia	1.4
Sweden	1.5
Ireland	1.5
Russia	1.5
Zambia	1.5
New Zealand	1.6

Country	Value/Rating
Mongolia	1.6
Botswana	1.6
Honduras	1.7
Venezuela	1.7
Ghana	1.7
Cote d'Ivoire	1.8
Chad	1.9
Malaysia	1.9
Uruguay	2.1
Ecuador	2.2
Burundi	2.3
Serbia	2.5
Guatemala	2.6
Belarus	2.7
Myanmar	2.8
Slovenia	2.9
Bangladesh	2.9
Niger	2.9
Georgia	2.9
Australia	3.2
Romania	3.2
Switzerland	3.7
Chile	3.8
Argentina	4.3
Albania	4.3
Mali	4.3
Nepal	4.5
Ethiopia	4.6
Nigeria	4.6
Austria	4.7
Madagascar	4.9
Hungary	4.9
Tanzania	5.4
Indonesia	5.6
Senegal	5.7
Finland	6
Burkina Faso	6.1
Cabo Verde	6.8
UK	7.2
Jamaica	7.5
Malawi	7.9
El Salvador	8.1
Ukraine	8.5
Moldova	8.7

Country	Value/Rating
Trinidad and Tobago	8.8
Vietnam	9.3
Lithuania	9.7
Haiti	10.3
Kenya	10.5
Denmark	10.6
Netherlands	11.7
Portugal	11.8
Mauritania	11.8
Estonia	12.7
Thailand	13.1
USA	13.6
Greece	13.9
Czech Republic	14
France	15.5
Macedonia	16.1
Philippines	17
Mexico	17.2
Cyprus	17.6
Zimbabwe	17.9
Kazakhstan	18.4
Turkey	18.9
Japan	18.9
Poland	19
China	19.5
Germany	21.4
Swaziland	23.1
South Africa	24.2
Lebanon	24.3
Sri Lanka	24.5
Mauritius	26.4

Country	Value/Rating
Italy	28.1
Bulgaria	28.7
Spain	29.6
Dominican Republic	30.4
Afghanistan	31
Kyrgyzstan	32.6
Belgium	33.7
India	33.9
Azerbaijan	34.5
Morocco	35.7
Armenia	37.9
Korea, Rep.	41.9
Tajikistan	51.1
Algeria	66.9
Malta	67.3
Iran	67.9
Tunisia	69.7
Sudan	71.2
Iraq	73.4
Pakistan	74.4
Israel	79.7
Oman	84.7
Jordan	92.4
Egypt	126.6
Yemen	168.6
Qatar	374.1
Saudi Arabia	943.3
UAE	1867
Kuwait	2075
Costa Rica	n/a
Montenegro	n/a
Singapore	n/a

Source : FAO (2015). Years : 1999-2012. Detailed metadata and quantitative thresholds used for each indicator are available online at www.sdgindex.org. Data refer to the most recent year available during the period specified.

Source: Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D. and Teksoz, K. (2016): An SDG Index and Dashboards – Global Report. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN). All indicators are based on published data. Each data point is coloured as "green", "yellow" or "red", indicating whether the country is close or at SDG achievement (green), is in a "caution lane" (yellow), or is seriously far from achievement as of 2015 (red), on that indicator. Thresholds are based on the authors' analysis and expert assessments. For more detail, see www.sdgindex.org

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