

Features of the green economy in Algeria and possibilities for development

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Abstract: We discuss through this paper the conceptual framework of the green economy, in terms of definition, principles and characteristics, as well as measurement indicators, which are closely related to the sustainable development goals. In the simplest expression of a green economy, it can be considered as an economy with low carbon emission levels, high energy and other resource efficiency rates, and socialization through concern for people's welfare. On this basis, this paper aims to evaluate Algeria's efforts in the field of greening the economy. Several results have been reached, including: Algeria suffers from environmental degradation, despite the excessive dependence on hydrocarbon revenues as a key factor in spending on various economic sectors, and financing social protection policies.

Keywords: well-being; environment; green economy; Algerian economy; sustainable development.

JEL classifications codes : D63 ; F64 ; O20; O50 ; Q01.

I. Introduction

The green economy is considered as a means to achieve sustainable development, especially in light of the goal of reducing environmental risks and scarcity of ecological resources. In this context, it supports environmentally friendly sustainability and economic development through renewable resources. For Algeria, it has undertaken a number of reforms and initiatives aimed, in particular, at diversifying the economy, improving the business climate, enhancing energy security, protecting the environment, developing branches of the green economy and promoting territorial areas.

On this basis, this research paper attempts to answer the following main question: *what is the reality of the approach to the transition towards a green economy in Algeria, and what are the most important development efforts?* After this main question, there are sub-questions: (a) What is meant by the green economy? What are its principles and measurement mechanisms? How is it transmitted? (b) What is the reality of the green economy in Algeria?

In this research paper, we seek to investigate a basic hypothesis, which is: *the adoption of the green economy is an absolute necessity to address the failure recorded in achieving the sustainable development goals in Algeria.*

This research derives its importance from the essence of the idea of the green economy in creating an environment free of carbon emissions and pollution, ensuring the improvement of human well-being and achieving environmental sustainability. This has made many countries, whether developed or developing, adopt the path of transition to a green economy to seize the opportunity and reap the benefits arising from this transition.

This study aims to shed light on the approach of the transition towards a green economy in Algeria, and link it with the extent to which the sustainable development goals are achieved. To achieve this goal, descriptive and inductive method was based, by tracking efforts to adopt the green economy in Algeria.

II. Green Economy (GE) Conceptual Framework

1- Green Economy (GE) Definition

There are different destinations for defining the green economy. The (UNCTAD, 2011, p. 1) believed that it focuses on the environmental and social sustainability of production and consumption patterns. By sustaining natural resources and ecosystem functions, it also protects the global commons in a way that meets the needs of present and future generations. By promoting social inclusion, it creates jobs for low-income people and enhances their access to basic services.

According to the (UNEP, 2018) the green economy is defined as one that is low carbon, resource efficient and socially inclusive. Within it, public and private investment drives growth in employment across economic activities, infrastructure and assets that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem functions.

(The World Green Economy Organization, 2020, p. 9) considered that the green economy is one that is characterized by lower levels of carbon emissions, higher capacity to combat climate change, higher resource efficiency, and more social inclusion.

(DFFE, 2022) imagine the green economy as a system that includes economic activities related to the production, distribution, and consumption of goods and services that improve human well-being

in the long term, with a view to protecting future generations from significant environmental risks or ecological scarcity.

On the basis of the above definitions, we can define the green economy. As an economy characterized by low carbon emissions and pollution to ensure the reduction of environmental risks, loss of biodiversity, and scarcity of ecological resources, an advantage that is driven by public and private investments supported by policy reform aimed at increasing income and employment, and also by the efficient use of resources, especially energy, and the inclusion of all social groups through equality concern for the improvement of human well-being.

2- Green Economy Principles

According to (GEC, 2019, pp. 14-18) the Inclusive Green Economy (IGE) includes the relevant economic, social and environmental areas, which are followed by the Sustainable Development Goals and the Paris Agreement. It is governed by five main principles, each based on important precedents in international policy, which together can guide economic reform in a variety of contexts. See table 1.

Table 1. Green Economy Principles

Principle	Content
Well-being	Enable all people to achieve and enjoy well-being. By focusing on the growth of wealth, which includes human, social, physical and natural capital. It also prioritizes investment and access to sustainable natural systems, infrastructure, knowledge and education. In addition, it provides decent green livelihoods and jobs.
Justice	Promote equality within and between generations. With equitable sharing of decision-making, benefits and costs; Supporting women's empowerment. In addition to promoting the equitable distribution of opportunities and outcomes, and reducing stratification among people. Not to mention creating wealth and

	resilience that serves the interests of future generations. In addition to promoting the empowerment of micro, small and medium enterprises, social enterprises and sustainable livelihoods, on the one hand. Empowering vulnerable groups to be agents of transmission and innovation in the field of social protection and skills reshaping, on the other hand.
<i>Planetary Boundaries</i>	Protecting and investing in nature, as well as accommodating the limited interchangeability of natural capital with other capitals, using the precautionary principle to avoid loss of critical natural capital and breach of ecological limits, including climate stability. Protect, restore and invest in biodiversity, soil, water, air, climate and other natural systems. In addition to innovation in the management of natural systems.
<i>Efficiency and Sufficiency</i>	Support sustainable consumption and production, and conserve resources. Within the framework of minimizing negative social and environmental impacts, that is, the sustainability of those resources. As well as aligning prices, subsidies and incentives with the real costs to society, though “polluter pays” mechanisms and/or where benefits accrue to those who deliver inclusive green outcomes.
<i>Good Governance</i>	Guided by integrated, flexible, accountable, collaborative, integrated and coherent institutions – horizontally across sectors and vertically across levels of governance – able to perform their roles effectively and efficiently. In a climate of public participation and social dialogue, supported by transparency, democratic accountability and freedom from private interests in all institutions - public, private and civil society -. With natural systems management based on strong common standards, procedures and compliance systems.

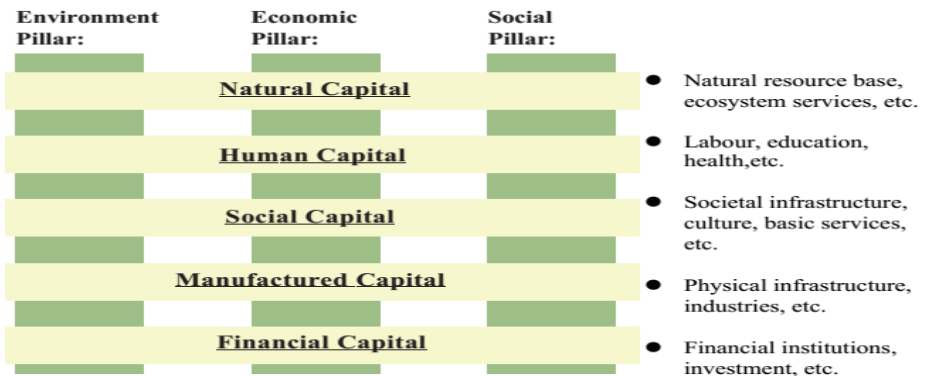
Source: GEC. (2019). *Principles, priorities and pathways for inclusive green economies: Economic transformation to deliver the SDGs*. London: Green Economy Coalition (International Institute of Environment & Development). Retrieved 12, 2022, from:

<https://www.greenecomonycoalition.org/news-and-resources/principles-priorities-pathways-for-inclusive-green-economies>

3- Capitals and Drivers of Green Growth

In this approach(UMG, 2011, pp. 39-41) the green economy reflects a new approach and a practical path to achieving sustainable development through three pillars. Where natural capital - which includes biodiversity and ecosystems - is a catalyst for economic growth and human well-being. Instead of viewing the environment in a green economy as a passive receiver of waste and pollution from economic activity or as one of the many replaceable factors of production, it is seen as a determinant of economic production, innovation, value creation, stabilityand prosperity in the long term. Moreover, moving towards a green economy represents a way to promote equitable and inclusive growth. See figure 1.

Fig.1.Five Capitals and Drivers of Green Growth



Source: UMG. (2011). *Working towards a Balanced and Inclusive Green Economy: A United Nations System-wide Perspective*. Geneva, Switzerland: the United Nations Environment Management Group. Retrieved 14, 2022, from: <https://www.greengrowthknowledge.org/research/working-towards-balanced-and-inclusive-green-economy-un-system-wide-perspective>

4- The Green Economy ProgressMeasurement Framework

According to (PAGE, 2017, p. 12) and (Sheng, 2018, p. 3) the GEP Framework designed based on an assortment of a GEP Index and a

companion Dashboard of Sustainability indicators. Two Figures 2 and 3 present the GEP parts and measurement framework. In detail, it is:

Fig.2.GEP Index and Sustainability Dashboard

The Green Economy Progress Measurement Framework

The GEP index is used to track desired changes in green economy indicators, which directly or indirectly affect the current human well-being. It is based on a set of multidimensional indicators that cover aspects of at least two of the 10 dimensions of sustainability (eg indicators that capture the link between health and the environment). It also shows the likely progress that countries have made with respect to targets set within planetary boundaries and related thresholds across several indicators. The value of the GEP index enables countries to get an overview of the extent of the transition towards greening the economy.

The Sustainability Dashboard seeks to monitor the long-term sustainability of any short-term progress as measured by the GEP Index. Traces some of the major forms of natural capital (eg fresh water and land), and other major stocks of capital (eg human and health) that affect long-term sustainability. Thus, a country is considered to be making progress, if it succeeds in maintaining the value of its natural assets (ie non-reducing stocks of natural capital), for example, it will be considered to be making progress. In this way, the dashboard monitors the lasting prospects for the progress of the green economy within a particular country, highlighting the impacts on the environment and society.

Source: PAGE. (2017). THE GREEN ECONOMY PROGRESS MEASUREMENT FRAMEWORK APPLICATION. P:12. Retrieved 01 21, 2022, from :

https://www.unpage.org/files/public/general/green_economy_progress_measurement_framework_application.pdf

Fig.3. Components of Green Economy Measurement Framework



Source: Sheng, F. (2018). The Green Economy Progress (GEP) Measurement Framework. green industry conference sustainable development, 5th. 3-5 October, pp. 1-6. Bangkok. Retrieved 1 22, 2022, from:

<https://www.unescap.org/sites/default/files/1.%20Fulai%20Sheng%20%28UNEP%29%20GIC5%20GIC5%20GEP%20presentation%20for%20Fulai%20fs.pdf>

Accordingly, the overall analytical framework of the Inclusive Green Economy, the GEP Index includes 13 multidimensional indicators, which are shown in Table 2.

Table 2: the Green Economy ProgressIndex

Index	Comment
Green trade	Measured by the share of environmental exports in total exports, it captures how competitive a country is in the production and trade of environmental goods. These environmental goods help reduce environmental risks and pollution levels, which are environmentally friendly in terms of their production, use and/or disposal. This indicator also measures the results of investments and regulatory policies in favor of green trade.
Environmental Patents	Measured by the share of patents related to environmental technologies, it embodies a country's innovative ability to manufacture green goods and services i.e. with less negative environmental impact. This is done through green innovation based on public or private R&D policies.
Renewable Energy Supply	It measures the percentage of renewable energy in the total energy supply. To enable the use of renewable energy sources, incentives must be provided that change price indices towards investing in new infrastructure. This will enable investors to reap the benefits of diversifying energy markets.
Energy Use	Measured by kilograms of oil equivalent consumed per US\$1,000 of GDP (2011 constant PPP), and determines the degree of energy intensity in an economy. The most energy efficient economy is one that provides free natural capital to maintain environmental services and biodiversity.
The Palma Ratio	It is defined as the share of the richest 10 percent of the population in gross national income divided by the share of the poorest 40 percent of the population. In recent years, policy-makers have preferred to use the Palma rate over the Gini index when referring to income inequality because it places special emphasis on including the most vulnerable. Policies that encourage the transition to an inclusive green economy by creating jobs and generating new income for a broader share of the population must reduce inequality.

Index	Comment
Access to Basic Services	Measured as the percentage of the population with access to basic services, it is included in the GEP index in order to capture some of the different forms of extreme poverty. It is divided into: i. Access to electricity: enabling increased access to electricity requires investments in the electricity grid, transmission and distribution, and decentralized electricity systems. Electricity generation from low-carbon and renewable sources should also be encouraged. ii. Access to water: progress in providing access to basic services requires new investments in infrastructure, including water distribution and purification systems, pipelines, and more. The effects on the environment must also be considered, particularly how to avoid water stress. iii. Access to sanitation: to improve access to sanitation, new facilities must be built while ensuring that waste collection and sanitation management systems are in place, suitable to handle a larger number of sanitation facilities. These investments and the services provided by these facilities may create new employment and economic opportunities.
Air Pollution	Measured at an atmospheric particulate concentration of 2.5 micrometers or less in diameter (PM2.5), this indicator is included to capture the relationship between components of economic and social/environmental sustainability. Particles can be found in smoke and fog from sources such as forest fires, or they can form when gases from power plants, industries and automobile exhaust react in the air. Air pollution directly affects the quality of the environment, human health, as well as labor productivity and social integration by reducing educational and employment opportunities.
Material Footprint per Capita	It measures raw material consumption of biotic and abiotic materials used (tons/person). This measure also indicates how much environment is consumed to maintain the current level of average consumption. A reduction in the volume of materials will lead to more natural capital being available for production and consumption. It is also synonymous with a high resource efficient economy. Thus, it is an alternative indicator for measuring efficiency, because it considers physical efficiency in terms of per capita, and complements an energy efficiency perspective.

Index	Comment
Protected areas (Marine and terrestrial)	Measured as a percentage of marine and terrestrial areas protected of the total area. Increased coverage of protected areas reflects a country's recognition of the value of preserving natural capital for its current well-being and development. Protected areas contribute to the preservation of natural capital. For example, creating national parks to protect natural environments and preserve biodiversity is also a way to protect the livelihoods of poor communities, attract sustainable tourism, and create new job opportunities in the tourism and conservation sectors, which in turn generate new income and promote social inclusion.
Gender Inequality	Measured by the UNDP Gender Inequality Index. It highlights the loss of potential development due to the disparity between female and male achievements in empowerment and economic status, and reflects the country's position on normative ideals across key dimensions of women's health. The index combines data on maternal mortality, the teenage birth rate, women's share of seats in parliament, education rates and labor force participation. The Gender Inequality Index ranges from 0 to 1 with higher values indicating higher levels of inequality.
Pension Coverage	Measured by the population share over the statutory pension age who receive an old-age pension based on contributions and gender.
Education	Measured by means years of schooling, i.e. the average number of years of education received by people over 25 years of age, which is then converted from levels of educational attainment using the official duration for each level.
Life Expectancy	It is measured as the average number of years a newborn infant would live if prevailing patterns of age-specific mortality rates at the time of birth remained the same throughout the infant's life.

Source: PAGE. (2017). THE GREEN ECONOMY PROGRESS MEASUREMENT FRAMEWORK APPLICATION. P:17-19. Retrieved 01 21, 2022, from

https://www.unpage.org/files/public/general/green_economy_progress_measurement_framework_application.pdf

III. A view of the reality of the green economy in Algeria and the requirements for its development

1- The reality of the Algerian ecosystem in light of the sustainable development goals

In this context(UNECA, p. 5) Algeria is characterized by its ecological fragility, which is the sensitivity of its ecosystems, drought, desertification (the arid climate covers more than 90% of the country's area, and oases are becoming extinct), severe coastal erosion and water scarcity (water stress) in some areas, with an average rate of less than 600 cubic meters per person. In this framework, we will present the most important relevant indicators as follows, see annex 1:

- i. In Algeria, the population proportion using a safely managed drinking water service was estimated at 72%. (SDG Indicator 6.1.1, 2020).
- ii. 18% of the population use a safely managed sanitation service (SDG indicator 6.2.1a, 2020).
- iii. 138% of the renewable water resources is being withdrawn, after taking into account environmental flow requirements (SDG indicator 6.4.2, 2018).
- iv. Particulate matter (PM_{2.5}), which is the air pollutant that poses the greatest threat to health globally - and affects people more than any other pollutant - is about 32.9% in 2019.
- v. The bare area constitutes 90% of total country areas, while tree cover is only 1% in 2019.

In general, Algeria has made remarkable progress with regard to achieving the sustainable development goals, according to the Sustainable Development Report 2021, where it ranked 66th out of 165 countries, in terms of overall performance. However, there are some failures in achieving these goals, especially with regard to the maintenance and preservation of the ecosystem, see annex 1. This is what calls for strengthening the reality of the green economy in Algeria.

2. Efforts to Advance the Reality of the Green Economy in Algeria

According to (BERASS, 2020, p. 1075) the development strategy must be supported to keep pace with the challenges of environmental sustainability. As part of the implementation of the five-year growth plan (2015/2019), the focus was on key sectors such as energy, hydraulics, construction, health, education and vocational training. The state also had the opportunity to reconsider its economic model and redirect public and private investments in the productive sectors of industry and agriculture. This would encourage the development of innovative and high value-added green sectors that would contribute to promoting entrepreneurship and job creation, especially for youth and women, and achieving stronger and more sustainable growth.

In more detail, the general framework of the approach to the transition towards a green economy is highlighted according to the new growth model according to Vision 2030, which came in a working paper in July 2016 by the Algerian Ministry of Finance. See (People's Democratic Republic of Algeria, Ministry of Finance, July 2016, pp. 1-21). In the field of approaching the transition towards a green economy, Algeria seeks to: (Ministry of Finance: 2016)

- a)** Develop a national system for investment in public utilities, through the following:
 - Improving the efficiency of public investment and the quality of infrastructure by strengthening the National Fund for Equipment for Development (CNED).
 - Diversification of equipment financing sources by giving preference to public-private partnerships when preparing a regulatory mechanism for its management.
 - Develop, along with the public-private partnership, a bond market to finance infrastructure for private and public sector operators. Such a market is designed to issue and exchange so-called infrastructure bonds ("project bonds"), a debt instrument that is now popular for infrastructure financing.
 - Strengthening the work of the National Investment Fund (FNI), which currently manages loans for government equipment, in order to enable it to finance itself in the market through the issuance of infrastructure bonds.

– Develop ambitious creative partnerships with countries such as China, whose mission is to invest sustainably in the country, allowing a strong impact in accelerating the transition to an emerging economy. It is essential to craft these partnerships with the most meticulous expertise.

b) Ensuring the safety and diversification of energy resources: The success of the energy transition will not only help ensure energy security, but will also be a powerful tool for diversifying the national industry. This should be clarified through two successive axes: (1) an energy efficiency program combined with (2) an industrial and technological program for the development of renewable energies and energy security.

– In terms of energy efficiency, make this program operational, (a) developing an energy audit and energy-saving program, (b) by establishing energy efficiency standards and thermal regulations for new buildings as part of real estate development, (c) enforcing an energy performance diagnosis before housing is sold, (d) by supporting the creation of energy service companies (these companies will therefore benefit from the provisions of Section 75 of the 2015 Finance Act) and (e) by creating the Energy Efficiency and Innovation Agency that will administer all energy economy programs as well as grants and other programs based on the facilities granted in this field.

With regard to the development of renewable energies, it is necessary to develop: (a) an accurate knowledge of the country's endowment in renewable energy resources, especially wind potential and solar potential; (b) Continuous monitoring and forecasting of cost trends in various sectors (solar panels, wind technologies, geothermal energy, biomass...) and very rapid technological developments; (c) Knowledge and expectations of development of potential export markets.

In the same context (UNECA, p. 7) confirmed that Algeria has a national environmental strategy, an action plan for environment and sustainable development and physical planning for the period 2010-2030 and a national climate plan which is being finalized for the period 2015-2050. Sectoral policies are being implemented in the areas of environmental education, energy resources, water saving, adaptation of water resources to climate change, ecosystem preservation, rural development and industrial pollution reduction. An integrated national coastal management strategy is being prepared. Measures to improve

energy efficiency. Environmental policies are financed through several instruments such as sovereign funds, ad hoc tax measures and investment lending at preferential rates, see tables 3 and 4.

Table 3: Climate change and the development of renewable energies in Algeria

Objectives of the National Climate Plan (2015-2050)

- To Reduce carbon emissions, particularly through CO₂ sequestration;
- Develop clean energy;
- Reduce the carbon footprint of industrial and domestic activities;
- Adapt infrastructure to climate change: improving the water system, massive reforestation and extension of the green dam to fight desertification;
- Adapt agriculture to climate change

National Renewable Energy Development Programme (PNDER) - 2011 to 2030

Total estimated cost: 80-100 billion dollars (pilot project phase and sector testing underway)

§ Law No. 04-09 (2004) on Renewable Energy (RE)

§ National RE Fund (2009) funded up to 1% from oil royalties

Goals (by 2030):

- 22,000 MW including 12,000 MW for the domestic market (22% of global electricity production);
- To cover 40% of national electricity needs, solar thermal and photovoltaic energy (37%) and wind energy (3%). The share of renewable energy in national electricity consumption will increase from 2% (2011) to 5% in 2015, 14% in 2020 and 40% by 2030.
- Create nearly 200,000 direct and indirect jobs;
- Save nearly 600 billion cubic meters of gas;
- Increase local industry integration rate: 50% by 2020 and 80% by 2030.
- First solar-gas power plant generating 25MW with 150MW from thermal solar (Hassi R'Mel)
- Establish a national renewable energy research programme.
- 2015-2020 : Equipment deployment and manufacturing phase
- 2020-2030: large-scale development phase

Source: UNECA. (n.d.). *THE GREEN ECONOMY IN ALGERIA an Opportunity to Diversify and Stimulate Domestic Production*. P:7. Retrieved 23, 2022, from https://archive.uneca.org/sites/default/files/uploadeddocuments/SROs/NA/AHEG M-ISDGE/egm_ge_algeria.pdf

Table 4: Examples of Financing Instruments

Major Sovereign Funds	Examples of environmental taxes
Environment and pollution control Fund (FEDEP)	Tax on environmentally polluting and hazardous activities;
Energy Management Fund (FNME)	Taxes on air pollution (fuel tax, tax on petroleum products, tax on plastic bags);
Agricultural Investment Fund;	Incentives for disposal of toxic and hazardous industrial waste;
Renewable Energy Fund (FNER)	Additional levy on industrial waste water;
Desertification control fund;	Supplementary levy for industrial air pollution;
Shore and coastline protection Fund.	Tax on household refuse removal.

Source: Ibid. P:08

IV. Concluding Remarks

Algeria needs to develop a new industrial model that respects the environment and is more competitive, capable of creating more job opportunities and contributing to local development. Achieving the energy transition and developing green sectors fall within this objective. However, the efforts exerted must be strengthened and linked together within the framework of a national strategy to advance the green economy. Finally, the following recommendations may be included (UNECA, p. 11):

- Adopting a strategy with specific and measurable goals and indicators, centered around employment opportunities in the field of green economy, technological innovation, research and development through the development and access to environmentally sound technology;
- Develop a glossary or guide for the green economy professions and include them in the lists of economic activities;
- Adapting the educational system and the structures of vocational and continuing training to new professions and strengthening partnerships between the university, research centers, companies, chambers of commerce and industry, and professional organizations;
- Develop a national system for innovation that is more effective and based on public policies to support innovation, especially for the benefit of

small and medium-sized companies with limited financial resources and competencies;

- Industrial policy reform to encourage green investment;
- Strengthening the measures for tracking and evaluating, especially through the preparation of green economy indicators;
- Building capacity to seize the opportunity of a green economy, as well as strengthening the ability of governments to analyze challenges, identify opportunities, prioritize intervention, mobilize resources, implement public policies, and assess progress;

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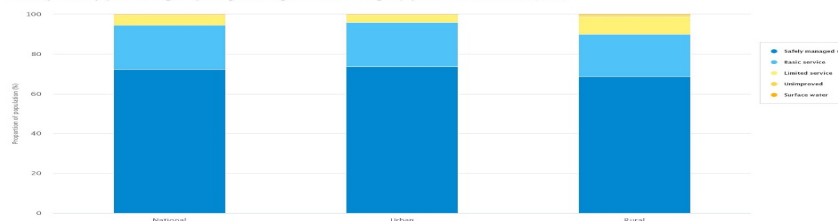
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Annex.1. Overview of the characteristics of the ecosystem in Algeria and Sustainable Development Report 2021

6.1.3 Proportion of population using safely managed drinking water services in Algeria, by service level and location (2020)



Data provider: WHO, UNICEF
Exported from the Water <https://sdqdata.org> on 21 January 2022

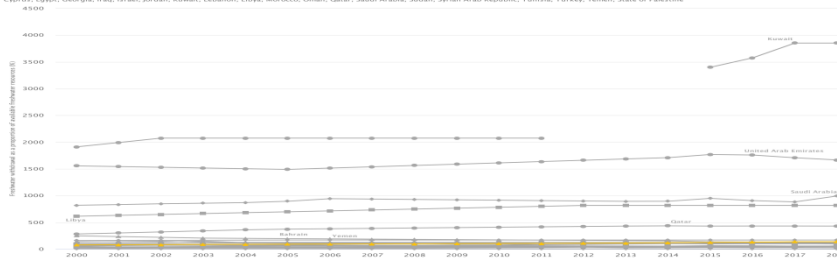
6.2.1a Proportion of population using safely managed sanitation services in Algeria, by service level and location (2020)



Data provider: WHO, UNICEF
Exported from UH-Water <https://sdg6data.org> on 21 January 2022

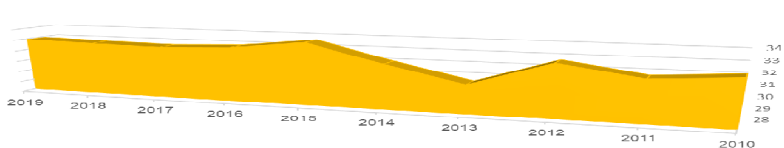
6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources in Algeria, change over time, compared to other countries (and areas) in the region

In the below chart, the value of Algeria is displayed in present colour. The values of the following countries (or areas) in the same region are displayed in grey: United Arab Emirates, Armenia, Azerbaijan, Bahrain, Cyprus, Egypt, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syrian Arab Republic, Tunisia, Turkey, Yemen, State of Palestine.



Data provider: FAO
Exported from UH-Water <https://www.sdg6data.org> on 21 January 2022

PM2.5 air pollution, mean annual exposure (micrograms per cubic meter) - Algeria



Land cover Algeria 2019 - percent of total country area

Inland water	0.064
Bare area	89.966
Artificial surfaces	0.131
Cropland	4.592
Sparse vegetation	3.654
Shrubland	0.713
Wetland	0.001
Grassland	0.004
Tree cover	0.875

Source:

- https://www.sdg6data.org/country-or-area/Algeria#anchor_6.6.1
- https://stats.oecd.org/Index.aspx?DataSetCode=EXP_PM2_5

ALGERIA

Middle East and North Africa

OVERALL PERFORMANCE

COUNTRY RANKING

Algeria
66 / 165

COUNTRY SCORE

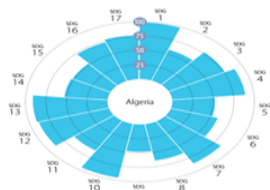
70.9

REGIONAL AVERAGE: 67.1

STATISTICAL PERFORMANCE INDEX
0 (WORST) TO 100 (BEST)



AVERAGE PERFORMANCE BY SDG



SDG DASHBOARDS AND TRENDS



Major challenges: Decreasing, Significant challenges: Stagnating, Challenges remain: Moderately improving, SDG achieved: On track or maintaining SDG achievement, Information unavailable: Information unavailable

Notes: The full title of Goal 2 "Zero Hunger" is "End hunger, achieve food security and improved nutrition and promote sustainable agriculture". The full title of each SDG is available here: <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>

INTERNATIONAL SPILLOVER INDEX



Sustainable Development Report 2021 The Decade of Action for the Sustainable Development Goals