

# **The foundations of the green economy relationship in sustainable development in Iraq for the period (2005-2020)**

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## **Savior**

The concept of the green economy emerged after the shift in sustainable development patterns and the human being Its focus is the foundation and the search for alternatives to environmental pollution. The report of the Club of Rome in 1972 came about the limits of growth and a way out of the dilemma facing humanity due to the depletion of economic resources and the rapid growth of the population in the near future, as a result of the world's transition from the stage of the open environment to the stage of the closed environment, as it prevailed in the first decades of In the twentieth century, the belief that more production increases consumption, but after the end of many of the natural resources of the planet Earth approached, scientists discovered the reality of this planet in that it is a closed environment that does not allow economic operations to be exploited permanently, and that this exploitation must have limits and therefore a necessity. The subjection of economic activity to natural controls, and here appears the need to devise new approaches and methods for evaluating these controls and their implications for the future of economic activities.

## **introduction :**

With the rapid development of the global economy and the increasing visibility of environmental constraints, a lot of environmental constraints have developed countries as a concept of the low-carbon economy forward, as it

illustrates the mutual harmony between economics, social and environmental ecology as a goal of the economic development model, and as defined by the General Administration of Environmental Economics, that it is the economy that leads to improving the state of human well-being and social equity, while taking care at the same time to reduce significantly. The green economy is a new model of rapidly growing economic development models, which is based mainly on knowledge of environmental economics, which aims to address the interrelationship between human economies and the environmental system. Natural resources, and the adverse impact of human activities on climate change and global warming, and contain green energy, which is generated on the basis of renewable energy, instead of fossil fuels, and conservation. **A Energy sources on the importance of the green economy model, which lies in its uses as effective energy sources.**

research importanceThe importance of the topic is embodied in the transition from the traditional economy to the green economy It is necessary in light of the efforts of the United Nations through the Sustainable Development Goals (2030), which identified many steps to reduce environmental damage and build an economy based on clean energy and green technology. Research problem Today, the world faces many risks, including the increase in carbon emissions resulting from industries Based on non-renewable energy sources represented in coal, petroleum and fossil fuels, which led to an increase in harmful carbon effects and also a threat to these scarce resources with depletion in the short term, in addition to what humanity faces today from environmental risks from water and dust pollution, and these risks pose a threat to sustainable development This prompted many researchers to reduce these risks by moving to an economy capable of enhancing the possibility of adapting to environmental risks and pressures, as it helps to reduce poverty, to a safe and clean environment. Research hypothesis:The research stems from the hypothesis that the green economy has a positive impact on achieving development goals. Sustainable (2030).

research aimsThe research seeks to achieve a number of objectives, the most important of which are:

Ideas

**First:** Knowing the concept of green economy and the developments of the concept of sustainable development in any economic literature.

**Second:** Standing on the reality and possibilities of the green economy and sustainable development in Iraq.

**Third:** Presenting proposed scenarios for the transition towards a green economy in light of the 2030 Sustainable Development Goals. Research MethodologyThe research used Al-Manah Al-Wafafi in the use of books, fields, periodicals, annual publications, and the analytical method in dealing with the effects of the green economy on indicators of sustainable development.

### **Research structure**

**The research was divided into two main sections. The first dealt with the theoretical and institutional frameworks for the concept of economy Green at the global level The second dealt with the foundations of the green economy relationship in sustainable development in Iraq and concluded with the most important conclusions and deaths.**

**The first topic / theoretical and institutional frameworks for the concept of green economy at the global level:in what light The progress of ideas advocating a green economy, rejecting industrial civilization, its schools, tools, and management that created a kind of unfair human consumption that could lead to major problems such as (global warming - consumption of trees in forests that are the oxygen stores in the globe), in 1989 one of the affiliated researches was published The London Center for Environmental Economics (LEEC) under the title “Outline of the Green Economy”) Blueprint for a Green EconomyWhich is known as the Pierce report, which linked between The concept of the economy and the environment as a means to achieve and understand sustainable development On the other hand, another study appeared in 1991 entitled Green Economy)(Economy The Greenprovided a broader framework for linkage between development and the environment, as revealed by some studies in environmental economics, sustainability, and its political and institutional**

repercussions, and in the fields of environment, economics, environmental policy and economic policy, Michael Jacob wrote this study from the point of view that he described as a commitment to preserving the environment, and this study looked at economics Green through the relationship between the environment and the economy. The aim of the study was not to provide an academic curriculum, but rather to reach a demonstration of the basic elements influencing the relationship between the environment and the economy on the part of the supporters and opponents, and that study presented the green economy as a means or tool that achieves sustainable development through the use of tools of the economy and its indicators(1)

In October 2008, the United Nations Environment Program launched the Green Economy Initiative, which aims to encourage investment in green sectors (greening non-environmentally friendly sectors), providing the necessary studies for analysis and policy support, and as part of this initiative, the United Nations Environment Program commissioned One of the authors of the Green Economy Action Plan report, who prepared a report entitled “Global Green New Deal” (GGND), which was issued in April 2009 and proposed a set of measures and policies that would work on the sustainability of the global economy and stimulate economic recovery later, Within the framework of the United Nations Climate Change Conference in Copenhagen in June 2009, the United Nations issued an interagency statement in support of the green economy.

As a necessary way to deal with multiple crises. This was followed by the approval of the ministers and heads of delegations of the Global Ministerial Environment Forum of the United Nations Environment Program in a joint declaration that the concept of a green economy “can largely address the current challenges and provide opportunities for economic development and

multiple benefits for all countries,” in February of the year 2010, followed That is the issuance of the United Nations Environment Program (UNEP) of its green economic report in November 2011, which was developed jointly by a number of research centers (think tanks) and international organizations. Active trade, which gave more credibility to the economic analyzes in the report.(1) through the foregoing We can give a set of concepts for the green economy

### **Second - the concept of green economy:**

The United Nations Environment Program defines the green economy in scientific terms as an economy that leads to the improvement of human well-being and social equity, while at the same time taking care to significantly reduce environmental risks. At the field level, the green economy is defined as an economy in which growth in income and employment is directed through investments in the public and private sectors that lead to enhancing the efficiency of resource use, reducing carbon emissions, waste and pollution, and preventing the loss of biodiversity and ecosystem degradation. These investments are also directed by the motives of growing market demand for green goods and services, and technological innovations, by correcting public tax policies, while ensuring that prices are an appropriate reflection of environmental costs. The green economy is also defined as an economy based on the generation of small amounts of carbon, and income and employment growth in it are driven by private and public investment in economic activities, assets and infrastructure that enhance the efficient use of materials and energy, reduce pollution and the amount of carbon emitted, and avoid the loss of biodiversity. (2)

**Chapple defines the green economy as the economy of clean energy and the improvement of environmental quality by reducing greenhouse gas emissions, reducing environmental impact, and improving the use of natural resources.**

**Sustainable .Development and Poverty Eradication. last view: 2020, p.**

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**It consists of several economic sectors, and is not only limited to the ability to produce clean energy, but also**

**Includes technologies that allow cleaner production processes(1).**

**In addition to creating what is known as green job opportunities, ensuring sustainable and real economic growth, and preventing**

**environmental pollution, global warming, resource depletion and environmental regression.(1)**

**Third - Requirements for the transition to a green economyAfter we have settled on the emergence and concept of the green economy, it is necessary to know the steps that can be taken to accomplish the transformation, as there are many steps that must be followed to reach the green economy, including:(2):**

**1- Preparing a comprehensive strategy for the transition towards a green economy with the participation of the private sector and community organizations**

**with clear and specific objectives and measurable indicators.**

**2- Achieving the goals of sustainable development by paying attention to the development of rural areas and achieving balanced development between**

**Cities and peripheries and create job opportunities in those areas.**

**3- Reconsidering and revising economic policies in order to achieve the transition to sustainable patterns in the economy in order to achieve**

**Transformation to sustainable patterns of production, investment and consumption.**



**4- Developing administrative, economic and financial mechanisms and procedures in line with the implementation of priority programmes Such as rationalization in the use of water, raising energy sources, switching to clean energy, sustainable transportation, green buildings, and combating desertification.**

**5- Work to establish partnerships with the private sector and the local community in order to mobilize and direct investments**

**To green sectors, encourage national competencies and support green initiatives.**

**The transition towards a green economy through the basic steps used can achieve an importance that will be reflected in the economy through the following.**

**Yazeed Decisions, Green Economy, Sustainable Development, Combating Pollution, Journal of Financial, Accounting and Administrative Studies, No. 8, 2017, p. 565.**

**1 - Dr. Aed Radi Khanfar, Environmental Economics 'Green Economy', Assiut Journal of Environmental Studies, Issue Thirty-ninth, 2014, pg. 54.**

**2- Abdullah Ibn Muhammad Al-Maliki, Trying Towards a Green Economy, International Experiences, The Arab Journal of Management, fourth edition, 2017, p. 171**



**١-١ Stimulating economic growth:** Green investments are expected to accelerate the pace of global economic growth, if it is long-term, to outperform the growth rate that may result from the prevailing scenario.

**٢-Poverty eradication and job creation:** The transition to a green economy creates huge opportunities for green jobs in various economic sectors. It is expected that investments in the agricultural sector to make it more environmentally friendly will reduce rural poverty and reduce the migration of rural residents to the city, which will contribute positively. On the other hand, the green economy is expected to contribute to reducing water poverty and energy poverty through strategies aimed at rationalizing consumption of natural resources and reducing investment in green infrastructure, renewable energy services, drinking water and sanitation.

**Addressing environmental challenges:** by reducing GHG emissions, improving the management and efficiency of resource use, reducing the volume of waste and better managing it, protecting biodiversity and stopping forest depletion and fisheries.(1)

The green economy is also concerned with the possibility of making the economy more efficient in the long term by increasing the productivity of resources to the maximum extent possible, reducing pollution, reducing waste and used resources, and directing investments in order to sustainably manage natural resources with the aim of increasing their economic and environmental productivity and capacity.

on creating job opportunities.(2)

**Fourth: The policies to be adopted to promote the transition towards a green economy:** Policies and measures that are successful in promoting a green economy are those that help us reduce our energy use, protect the environment, and promote renewable energy. Although the transition to a green economy will involve many actors, the following points should be specifically taken into consideration by national governments and policy makers. These include: These enabling conditions. The main comes:

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**1 - Issa Al-Mazoz, Jihad bin Othman, Green Economy and Sustainable Development: Examination Umm Takamal, Journal of Accident Studies**

**Finance and Economics, first issue, 2018, p. 132.**

**2 - Eman Abdel-Rahim Kazem, Green Economy: A Path to Economic Growth Evaluation, Master Thesis, submitted to Karbala University**

**College of Administration and Economics, 2013, p. 11.**

**1- To establish an appropriate legislative framework, you need to consider things such as the role of government, and how to enact**

**Laws, and what rights do people have?**

**2- The government decides which projects to invest in to help the economy become more environmentally**

**friendly. 3- Reducing spending in areas that consume natural capital.**

**4- Employing taxes and tools based on the market to transform consumer tastes and encourage investment Green and innovation.**

**5- Investing in training, capacity building and strengthening international management**

**The second topic: the foundations of the green economy relationship in sustainable development in Iraq**

**First: the green economy and education in Iraq:We find that the "green economy" is a new scientific paradigm,**

**It is a practice-oriented model that represents a logical continuation of the concept of "sustainable development". It is the only possible scenario capable of ensuring not only the physical preservation of our current generation, but also helps to preserve the base of future generations. To achieve the transition towards a "green economy", this requires a new group. A complete set of entrances for the upbringing and education of the emerging generations, as well as the cognitive and professional development of people in their middle years and adult education and training. Hence, it is necessary to reshape the current systems, and transform them into systems that promote harmony and joint development of society and the changing environmental systems in Iraq according to the various changes that it is exposed to. This cannot be measured except through the amount of spending on education in that country, and Iraq is one of the countries that do not allocate sufficient funds for the educational sector and for all stages, despite the change in the amount of spending on education according to changes in the size of the gross product and to varying degrees.If we look at the international dimension in this field, we find that Sierra Leone is the first country in terms of public spending on education in the world, according to 2019 data. Public spending on education in Sierra Leone reached 33.9%, and the first five countries also include (Guatemala, Turkmenistan, Hong Kong, South Africa)(1),We note from table**

**(1) that the volume of spending on education in Iraq reached 6,372,198 million dinars in 2005, while in 2006 the volume of spending on education increased to 6,743,700 million, with a growth rate of 0.06%, which is a better rate than previous years, while it decreased by 13% In 2007, compared to the previous year, and in 2008, the volume of spending on education increased to 6,063,120 million dinars and achieved a growth rate of 0.03%, while the growth rate decreased in 2009 to 0.02%, as a result of the impact of the financial crisis and the drop in international oil prices, while It increased from 2010 to 2013 from 0.07% in 2010, then to 0.09% in 2011, then to 0.17% in 2012, to decline slightly to 0.08% in 2013, then with the occurrence of the high financial crisis and the negative shock in crude oil prices that affected the The size of the gross domestic product, the share of the educational sector in general decreased to 0.01%, and after the end of the impact of the financial crisis and the return of oil prices to rise again, The volume of spending on education achieved a good increase amounting to 9,774,128 million dinars in 2015, with a growth rate**

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It increased by 0.10% from the previous year. It also continued to increase in the volume of spending on the educational sector until it reached 13.24 (2.23%) in 2005. After that, it rose to (13.24%) in 2016, to decline after that to 2.32 the following year. The growth rate is 0. 16) The year 2012, and the year 2007 is the least for the length of the study period, as it reached (-0.13).(1)

Table (1) The volume of spending on education and its rate to the gross domestic product in Iraq for the period (2005 -2020) million Iraqi dinars

the details	sizeunlessHypocrisy on education	an average sleepspending And on education	ratea Skip the education because fromsize local production agma % for me
the year	In thepRA million dinars Iraqi		
2005	6,372,198	-	2.23
2006	6,743,700	0.06	4.32
2007	5,895,762	0.13-	6.54
2008	6,063,120	0.03	5.35
2009	6,158,220	0.02	9.27
2010	6,569,640	0.07	6.14
2011	7,130,552	0.09	8.31
2012	8,375,769	0.17	10.42
2013	9,007,152	0.08	8.23



2014	8,893,764	-0.01	0.00
2015	9,774,128	0.10	5.19
2016	10,937,437	0.12	13.24
2017	10,781,060	-0.01	2.32-
2018	10,634,364	-0.01	3.26

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<b>2019</b>	<b>11,146,720</b>	<b>0.05</b>	<b>6.29</b>
<b>2020</b>	<b>11,934,014</b>	<b>0.07</b>	<b>3.18</b>

1. Karim Muhammad Hamza, *The Problem of Poverty and Its Social Repercussions in Iraq*, ed1, Baghdad, House of Wisdom, 2011, p.

Source: Ministry of Planning, Central Bureau of Statistics, Directorate of National Accounts, annual reports for years different.

We conclude from the foregoing that the national education sector and the preparation of human resources in terms of training and education constitute a strategic basis that determines the specificity of the national socio-economic development in Iraq. However, despite this, we find low education indicators that should shift towards the developmental direction and strengthen it, while working to avoid any scenarios. It is disastrous for the development of society and the economy in general, and it is necessary that Iraq, with the global transformation from development based on waste of resources to effective development in terms of resources, based on knowledge and its creative use, be possible through the coordination and transformation of national education systems, which involves a shift in Focusing on learning from centralization to environmental centrality, and this is done by directing educational systems and education systems in particular to provide education to the public and prepare future human resources to work in an economy that is compatible with the concept of green economy and environmental responsibility (1).

Second: the green economy and the health and environmental sector in Iraq: After the global economy has quadrupled over the course of a quarter of a century, it will benefit hundreds of millions of people, but on the contrary, 60% of ecological services and commodities\*, which are darkened, have deteriorated. They have to live or use their services in an unsustainable way, and this is due, of course, to the fact that the growth of the economy in recent decades has achieved the basis of

gender-equitable and human rights-based green green economic development, UN Sustainable Development and Poverty Eradication The case for community-based .

Ecological commodities: They are commodities made from natural materials, excluding petroleum and its derivatives, and other materials that pollute the environment. Through the use of natural materials that are not thrown away after consumption, but are recycled to be used again, and therefore the accurate

translation of the term is (eco-city) based on its meaning is “natural balance” or “environmental balance”, and the exact translation of the English term

By withdrawing from natural resources, without allowing stocks to be recycled, and by allowing a large-scale loss and degradation of the ecological system, which prompted governments to agree at the Rio+20 conference that the green economy is an important tool for sustainable development. As it is inclusive for all and can push towards achieving a healthy and safe environment for all in various countries of the world, it will also enhance economic growth, employment and poverty eradication, while preserving the healthy functioning of the Earth's ecosystems.

Iraq seeks to achieve the foregoing according to its plans to achieve the 2030 Sustainable Development Goals, which give the health aspect a modest importance and it needs more spending on this sector to upgrade it, as the Iraqi Ministry of Health, which assumes this responsibility, aims to achieve its activities and tasks by improving health. Public services, improving the quality and level of services, primary health care, protection from risks, improving the quality of human resources, securing medicine and medical supplies, immunizing against infectious diseases, working on monitoring various disease cases and controlling communicable diseases, as well as improving management in the health system in Iraq in general.(1)

The reflection of the effects of the application of the green economy in the health aspect in Iraq is not achieved and its results are seen only in the medium and long term, which Iraq still has not reached, and among the desired results to be achieved is access to a healthy and safe environment free from various types of diseases, and that individuals will be able to work and be able to Physical stress as long as there is a healthy environment free of diseases, and this will also withdraw towards learning and a good awareness of children and youth, which increases skills and knowledge and eliminates the knowledge gap that widens whenever the health and

educational level in society declines, and Iraq has already begun to cooperate with international organizations in order to enhance The health reality based on the green economy and its principles that enhance the health aspect of Iraq(2)

And through the foregoing, there must be an effective plan to address the problems and the increasing pollution significantly, in particular that Iraq is exposed to the problem of water scarcity, which is a development dilemma that must be addressed, and even if the problem is somewhat deferred and not apparent at the present time, but it has become necessary

1. An evaluation study of the federal general budget of the Republic of Iraq for the years 2006-2010, 1st edition, Baghdad, Statements of Wisdom 2011, p.

2 . See: United Nations reportfor the environmentPaths towards a green economy to achieve sustainable economic development and eradicate poverty, 2011, p. 10.

Intensifying efforts to achieve a sustainable use of water resources(2) , illustrated by the same table dip

The water revenues of the Euphrates River from (320 m<sup>3</sup> / sec) in the years 2016-2017, with a deficit rate of (-33) to (300 m<sup>3</sup> / sec) in the years 2019-2020, with a deficit rate of (-10), which affects the development reality and environmental sustainability in the country unless There was no rational management of water resources and at the external level with the upstream or internal countries of the state's policy and users(1)

**Table (2) The amount of water revenue for the Tigris and Euphrates rivers m<sup>3</sup>/s measured from the Mosul Dam hydrological station**

water year	an average insist F waterAgeAndj for a riverTigris m <sup>3</sup> /second	an average insist F water Agewee to the Euphrates River3/ m second	disability Fj discharg e MHey Degla river	disability in discharge Myah Euphrates River
2017-2016	365	320	7	33
2018-2017	330	300	30	20
2019-2018	315	310	15	10
	300	300	15	10

2020-2019				
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Source: Ministry of Water Resources, Annual Water Report, various reports for the period 2017-2021.

### 3- Waste management and recycling in Iraq

The waste problem, especially solid waste, is one of the major environmental problems that the state is currently paying increasing attention to, not only because of its harmful effects on public health and the environment and its distortion of the civilized face, but also because of its social and economic effects. She can save her or her expenses that she could have avoided, despite the increasing quantities of solid waste that is produced annually, which includes municipal waste (garbage), household waste, shops and commercial markets, service institutions such as schools, institutes and universities, hospitals, Administrative facilities, street cleaning, gardens, hotels, etc.

2. Issa Mazouri, Jihad Bin Othman, Green Economy and Sustainable Development, T Taaram Tech Talabat, Al-Lada Journal for Financial and Economic Studies, Issue 1, 2018, p. 140

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transport, sorting, treatment, recycling and final disposal), did not keep up with the global development in this field, and our lack of strategies and plans with clear standards to deal with these wastes and the resulting environmental pollution. Therefore, it led to the loss of opportunities to employ it as a resource that can be benefited from, (1) as large amounts accumulated of waste in most of the governorates in random collection sites and transformational stations that do not conform to the environmental determinants, and the open and deliberate burning of waste has become a way to get rid of it, which constitutes another source of air pollution, in addition to the establishment of random and irregular landfill sites in several places. Weh. With regard to the sanitary landfill sites, most of them are irregular sites and are not landfilled in a systematic manner and are used as landfills for waste and many negative phenomena are spread in them, including burning operations. This is in addition to the presence of groups of different ages who are selecting materials of economic benefit for them. Below is a table showing the number of sanitary landfill sites that obtained and did not obtain environmental **approvals:**

**Table (3) Number of landfill sites that obtained and did not obtain environmental approvals for the period (2010-2020)**

Year	Number of sites that obtained environmental approvals	Number of sites that did not obtain environmental approvals	Percentage of sites that obtained environmental approvals	Total number of landfill sites	Ratio of sites that obtained approvals to total sites
2010	46	128	35.9	174	-
2015	49	134	36.5	183	0.05
2018	54	138	39.1	192	0.05
2020	57	141	40.4	197	0.03

Table (3) above shows that the number of sites that obtain environmental approvals increases with each passing year, reaching 46 sites, while the number of sites that did not obtain environmental approvals was 128 sites, and the ratio of the first to the second was only 35.93%, with a total of 174 landfill sites throughout Iraq. With the exception of the governorates within the Kurdistan region of Iraq, this percentage also increased to 36.56% after five years, which is a good indicator towards achieving

**1. Ministry of Peace and Environment, Report of the Environment in Iraq, 2017, p. 139.**

Environmental goals in Iraq, as we find that the number of sites increased to 183 sites in 2015, and the number of these sites increased in 2018 to 54 sites that obtained official approvals, while there were 138 unauthorized sites, and we note a slight increase in the number of licensed sites to the number Unlicensed websites by 39.13%. In general, we note the stability of the growth rate in relation to the number of official and unofficial websites in Iraq, while it decreased to a growth rate of only 0.03% in 2020, despite the increase in the number of websites that obtained environmental approvals in relation to the number of unauthorized websites. Until it reached 40.42%, this can be attributed to a large number of obstacles, including financing and political ones, in addition to Iraq's exposure to harsh economic conditions as a result of the significant decline in crude oil prices as a result of the global economies' exposure to the crisis (19-covid) and how to divert attention towards getting rid of This epidemic.(1)

And we conclude that there is no efficient system for managing solid waste in all its classifications, as the current system cannot meet the needs of society, and waste is collected by specialized vehicles and dumped in conversion sites and compressed and sent to sanitary landfill sites spread in all Iraqi governorates .

Third: Income Level and Job Opportunities in the Green Economy: Since Iraq is taking slow steps towards achieving the goals of sustainable development 2030 and is seeking to achieve them in one way or another, the impact of the green economy on raising the level of income in Iraq is still elusive, as we note that Iraq does not depend on the composition of the gross domestic product

The total oil resources are largely affected by the export of crude oil to global markets(2) , so that

The level of income is determined only by what Iraq produces, which is represented in the export of crude oil, and not by those long-term goals that bear fruit within a year or years, even if it is until 2030. When looking at the components of Iraq's GDP, we find that there is the agricultural sector and the Industrial and service production and community, but despite its contribution in terms of volume, its financial revenues are very modest, meaning that all of them do not achieve real financial revenues for Iraq except by 1~2% of the size of the total budget for Iraq, and from this we conclude that the level of income and job opportunities are still not Check through Iraq's green economy.

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**1- Hamza Al-Jabali, Environmental Security and Environmental Waste Management, 1st Edition, Dar Alam Al-Thaqafa Publishing House, Amman**

**2016, p. 158 2- Ministry of Planning, Central Bureau of Statistics, National Accounts Directorate, Gross Domestic Product Report for the year 2019,**

**p3.**

Fourth: Electricity production in Iraq and the green economy: The process of producing electric energy varies between countries of the world depending on the different sources of its production, as well as in Iraq, electric energy has been produced from different sources, such as through the use of primary fuel (oil and gas), which represents steam and gas stations, or through the use of water energy, which represents hydroelectric stations, that is, through the use of water falls to operate and rotate turbines, and Iraq is unable to calculate the amount of environmental pollution that results from these stations only

It increases with the increase in the volume of electrical production in Iraq(1)

Table (4) shows that the gas stations occupy

The large part of the volume of participation in the total production, and interest has also increased in gas stations in Iraq as well as in most countries, as they are considered one of the most successful types in generating electric power, and the reason for this is due to the speed and ease of their operation, in addition to that they are used to feed the maximum demands at An increase in the demand for electric power, and one of the advantages that characterize this type of station is that it is represented by the speed of operation, low maintenance expenses, wages, and the percentage of its fuel consumption, in addition to the low cost of construction and production compared to the other type, and also it is characterized by the fact that it does not need water, which made it It is very suitable for areas that suffer from water scarcity, and this type is better than the first type in terms of the environment, so Iraq was interested in this type of stations at the beginning, as it reached 146 stations in 2010, the number of operating stations was 115 stations, by 78.7%, while the number of gas stations increased to 198 in 2019, but the operating ones were actually 164, i.e. 82% only, and we note from the foregoing

regarding this paragraph that there is a real decline in the number of gas stations operating in reality, while there is an increase in the number of purchases This shows the amount of waste in the financial resources allocated to the electricity sector and the mismanagement and planning that led to a decrease in the percentage of participation and dependence on gas stations from 55% in 2010 to only 41% in 2019. The aforementioned table also shows that the steam stations that depend on fuel have lost It ranked second with regard to the volume of participation in the production of electricity for Iraq, as it reached 31% in 2010, but it declined to 21% in 2019, which is another indicator that shows the extent of waste, loss and mismanagement, which necessitates opening investigation files and imposing a legal penalty on anyone who proves his negligence in this vital file. ,The participation rate of hydroelectric stations came with a participation rate of 10% in 2010, while it decreased to only 4%, as a result of the decline in water releases from Turkey and Iran and their water retention, which weakened the production capacity. There is also another factor, which is the decline in the number of stations.

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**1- Ministry of Planning, Central Statistical Organization, Department of Environment Statistics, Air Pollutants Report 2019, pg. 7.**

From 37 stations in 2010 to 23 stations in 2019. The percentage of operating hydroelectric stations actually declined from 97.2% in 2010 to 79.3% in 2019, which reflects a true picture of the decline in the amount of national electricity produced inside Iraq, and this has led to an increase in voltage on generators. The large diesel stations present in most of the stations that work as support for the main stations, the total number of employed decreased from 100% in 2010 to only 20.4% in 2019, as a result of the overload and the lack of maintenance operations on them, as the number of large, supporting generators operating decreased from 253 operating generators in 2010 To 66 generators only in 2019 throughout Iraq, and as indicated in the annual reports of the Iraqi Ministry of Electricity, Hence, Iraq, instead of reforming this sector and increasing the ratio of operating stations to non-working stations, we have noticed that it has begun to import electricity from abroad (Iran has three import lines to the stations of Diyala, Wasit, Amarah and Basra) and from Turkey one line with a very modest capacity to Zakho only) has The participation rate was 29% in 2019, which made the total participation rate 100% and in a way that is not commensurate with the actual need of Iraq because it is a necessary need upon which the



**Table (4) The number of production stations, the stations operating thereof, and the total participation rate in the production of electric power in Iraq**

**For the years (2010-2019) (M.S.H)**

the details	p Dr				Percentage of operating stations to the number		n Participation of the operating stations	
	for me		Occupat		total		course	
	Alk		ion					
	0120	2019	2010	9 012	2010	2019	0120	2019
B stations xArya	62	31	24	52	3.92%	80.6 %	13 %	21%
stations n Azia	641	198	115	461	7.78%	82.8 %	55 %	41%
stationsElk Rand watermark	73	29	36	32	2.97%	79.3 %	01 %	4%
Diesels are great and chock	352	322	253	66	001%	20.4 %	4 %	5%
touched energy Rose + Maria East stations w	-	24	-	42	-	100%	-	29%
<b>Total all j</b>	<b>264</b>	<b>604</b>	<b>428</b>	<b>872</b>	<b>6.92%</b>	<b>46.2 %</b>	<b>001%</b>	<b>100%</b>

**1 . The Ministry of Electricity, Department of Planning and Studies, Division of Al-Salah, annual reports 2010-2019.**

Source: Prepared by the researcher based on the Ministry of Electricity, Planning and Studies Department, Statistics Division, annual reports 2010-2019.

The foregoing shows that Iraq relies on specific types in the production or generation of electric power, and it is not

environmentally friendly in general. Therefore, it requires an increase in the supply of energy through renewable sources that reduce the risks of high and unstable fossil fuel prices, in addition to providing benefits that indicate that Renewable energy represents major economic opportunities. It also requires the development of sustainable solutions to address the types of pollutants and waste in the energy sector, and the replacement of investments in energy sources that depend heavily on carbon with clean energy investments and improving efficiency. With this policy, the government has a major role in improving and supporting investment in renewable energy, by issuing Laws and legislation in this regard, as well as providing financial and administrative facilities, allowances for tax deductions, incentives for renewable energy supplies and direct support can make the risk model for investing in

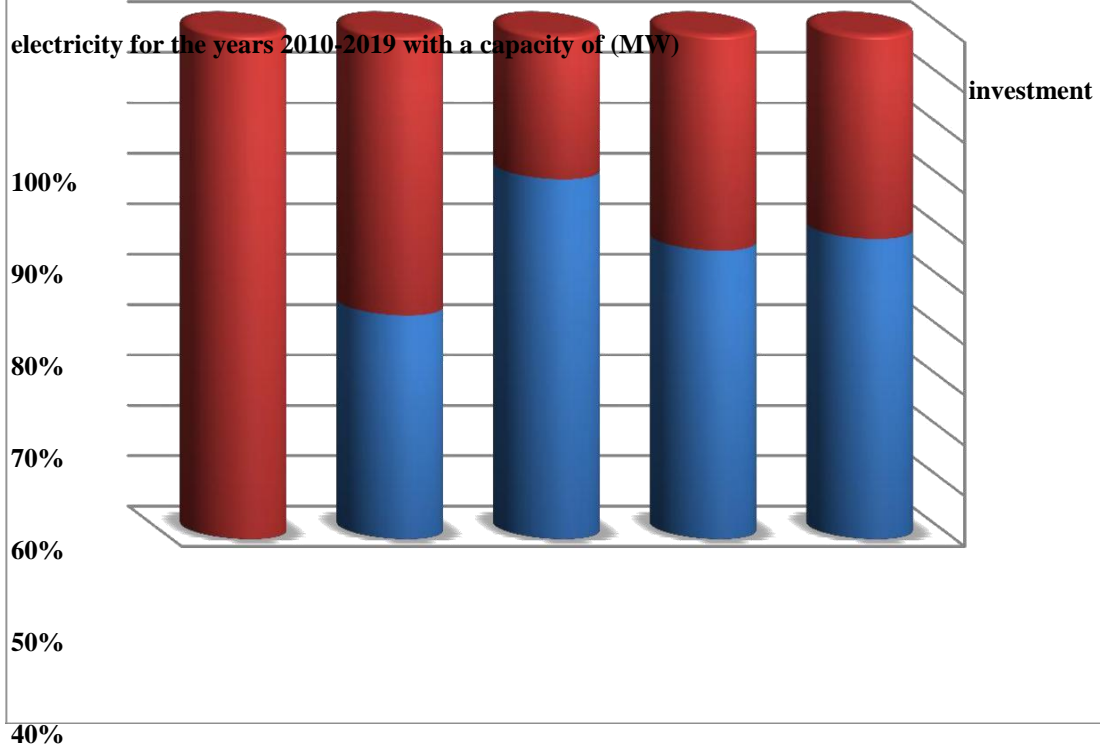
**1. For the advantage of the fashion trend and the view of the study, the study of the student,  
“The importance of renewable energy in protecting the environment in favor of development**

**, p. 26 sustainable ”, Majal Al-Bala, No6,  
2008**

**Economic and Social Council, Green Economy: Opportunities to Create Wealth and Job Positions,  
Abrij 2014, p. 45.**

appearance (3)

The number of electrical stations in Iraq and the percentage of their participation in energy production



40%

30%

20%

10%

0%

stations

stations

stations

Diesels are great energy

steam

invasive

hydroelectric

and chock

imported

+

stations

2019■

2010■

**Source: prepared by the researcher based on table (4)**

## **conclusions**

- 1. The green economy is viewed through the relationship between the environment and the economy, and TOEFL provides basic evidence on the relationship and how to provide a means and a tool to achieve sustainable development through the use and management of the tools green economy.**
- 2. One of the benefits of increasing the spread of renewable energy types is the increase in job opportunities and the decrease pollution in air inside the country, in addition to its need for less water. Indeed, renewable energy technologies are almost dependent on the use of domestic resources, which in turn protects our economies from external shocks in terms of energy security.**
- 3. Among the phenomena that threaten the achievement of a sustainable green economy in Iraq is the high rate of**  
**air pollution resulting from several problems, such as the wars that Iraq waged, and the low level of rainfall, which in turn led to increased desertification, in addition to the production of fossil fuels and the lack of use of technology Modern extraction process, which led to increased air pollution.**

## **Recommendations**

- 1. Holding scientific seminars and conferences and conducting scientific and survey studies in Iraq to give a broader concept of the green economy and to introduce the seventeen sustainable development goals after greatly increasing their importance as one of the most important policies used by countries to achieve sustainable growth.**
- 2. Urging that more efforts be made by the concerned state ministries in applying the concept of green economy in order to achieve sustainable economic growth and preserve the environment from pollution and its various elements, taking into account social dimensions, ensuring social justice, and reducing poverty and unemployment.**
- 3. - Enhancing national efforts to follow the green economy model and to face challenges, whether economic, environmental or social at the national level, and to respond to international requirements, especially those related to the goals of sustainable development and climate change.**