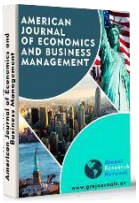

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Article

Employing Green Value Chain Technology to Determine Added Value Based on Renewable Resources and Clean Energy Standards - an Applied Study of The Iraqi Ministry of Electricity

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Abstract: The research aims to determine the sustainable added value (economic, social and environmental) according to the standard of renewable resources and clean energy using a chain technology for the activities of the electric power production company stations and the secondary activities of the transmission and distribution companies and to reduce pollution by reducing financial costs that can be excluded and calculated quantitatively for traditional expenditure classifications such as salaries, wages, maintenance expenses and gas emissions costs (black pollution) within financial and non-financial indicators, where the value chain was employed to reveal aspects and topics of the reduced costs that can be avoided by investing and designing a clean solar energy system according to the topics of the clean energy standard of the International Sustainability Standards Council and the United Nations program to achieve the level of zero emissions gradually from the year 2030, to reduce 45% of toxic and polluting emissions resulting from the burning of fossil fuels and their derivatives to produce energy, reaching zero emissions in the year 2050 for the companies of the Iraqi Ministry of Electricity. The study concluded with a set of conclusions and recommendations, the most important of which is that the design of solar systems Based on inexhaustible, clean renewable resources, it enhances the capacity of Iraq's electricity generation system for consumer centers by applying the green value chain, which reflects aspects and topics that add sustainable green value to the primary generation companies' stations and the secondary transmission and distribution companies' activities.

Keywords: : Green value chain, value added, sustainability accounting, renewable resources and clean energy standard, power plants, and transmission and distribution companies.

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1. Introduction

It seeks to achieve green added value to eliminate pollution and black toxic emissions that cause diseases and health problems, reduce financial expenditures allocated in each annual budget for state ministries, provide huge job opportunities, and absorb and reduce unemployment rates [1], [2]. This is calculated from the expenses of burning consumed fossil fuels (oil, natural gas, coal), maintenance, salaries, wages, purchases, and imports of natural gas. This is calculated by applying green cost management techniques to determine the added value, as in the green value chain technique, with two axes: the first is the primary activities of the companies' stations for producing electricity, and the second is the secondary activities of the transmission and distribution companies [3], [4].

Based on what was reviewed by the researcher about the necessity of eliminating toxic pollution and the black environment and gradually transforming it into a sustainable green environment by investing in clean renewable resources (solar energy) that achieve green added value by applying green value chain technology to the primary and secondary activities of Iraqi electricity generation companies, the research dealt with its first axis in two sections, the first of which is the research methodology and previous studies, while the second axis dealt with the theoretical concepts of green value chain technology and the renewable resources standard - clean energy and green added value, and concluded with important and indispensable conclusions and recommendations and sources in the fourth chapter [5], [6].

2. Materials and Methods

The first axis - research methodology and previous studies:

First - Research methodology:

Iraqi electricity production companies consume non-exhaustible, unclean resources to produce electricity, which are characterized by their high cost and black polluting emissions on the environment and humans, represented by (oil - natural gas - coal - diesel), as their consumption is required by exploratory, extractive and import operations that lead to emissions of gases that pollute the environment and financial costs that can be dispensed with and replaced with non-exhaustible, renewable and clean resources. This introduction places us in front of a set of inquiries:

1. Can we design a photovoltaic system based on solar energy and use it to produce a kilowatt of electricity instead of the same amount of kilowatts produced by consuming fossil fuels and their derivatives, and at a lower cost?
2. Does using clean energy to generate electricity and deliver it to consumer centers provide green added value?
3. Does applying green value chain technology to power generation companies as primary activities, transmission and distribution as secondary activities, and investing in renewable resources reduce the financial expenses of power generation companies?

Second: The importance of the research:

Having a clean, green environment free of black pollution is one of the most important basic requirements for human life. This can be achieved by employing and investing in renewable clean energy resources to reduce costs, eliminate black polluting emissions, provide greater job opportunities, and absorb the volume of unemployment. Therefore, the researcher sought to measure the impact of designing a photovoltaic system within the research sample for companies of the Iraqi Ministry of Electricity according to the systemOff Grid to produce kilowatts of electrical energy and replace it with energy produced from fossil fuels according to the International Sustainability Standards Board and the United Nations Program to reach a zero emission level and by 2030 achieve 45% of the zero emission level and reduce the costs of electrical energy production and determine the added value by applying the green value chain technology to manage the cost and reduce the expenses incurred by the research sample for the primary and secondary activities of the Iraqi Ministry of Electricity.

Third: Research objectives:

The research aims to reveal:

1. Presenting the theoretical concepts of cost management and its techniques, explaining the nature of renewable resources and international sustainability standards in accordance with the guidelines and directives of the United Nations, revealing the concepts of depletable non-renewable resources, and presenting the nature of the added value of economic units.
2. Demonstrating the possibility of reducing costs by relying on electrical energy generated by a photovoltaic system designed to rely on sunlight to reduce and

minimize costs and achieve green added value by eliminating toxic emissions by reducing the equivalent of 45% of the emission level, reaching zero emission levels, to create a clean environment and planet suitable for us and future generations.

3. Demonstrating the impact of the cost implications of a photovoltaic system designed to achieve green added value by employing green value chain technology for primary and secondary activities, by comparing the costs of this system with the equivalent of 45% of the total traditional costs of production, transmission, and distribution companies for the Iraqi Ministry of Electricity.

Fourth: Research hypothesis:

The research was conducted with its theoretical and applied axes based on hypotheses that may be proven or disproved, as follows:

1. Designing a photovoltaic system based on solar energy and exploiting it to produce one kilowatt of electricity instead of the same amount of kilowatts produced by consuming fossil fuels and their derivatives, and at a lower cost of electricity production.
2. The value chain application achieves green added value for the primary and secondary activities of power generation companies by investing in renewable resources.
3. Using clean energy to generate electricity and deliver it to consumer centers by employing green value chain activities within solar energy topics to reduce unmet and burdensome costs and achieve green added value.

Axis II - Theoretical foundations for the role of the green value chain in determining added value according to the clean solar energy standard:

3. Results and Discussion

First - Theoretical concepts about the green value chain:

Before discussing the nature of the green value chain technology, let us explain the roots of the concept of this technology according to the input flow approach in the production of the final product, as its concept dates back to the year 1960, focusing its attention on profit, after which cameWaller introduced the concept of product chains of convenience, but here the focus was on human resource activities as supporting activities [7]. During the study periods by researchers, Porter presented the concept of value chain technology in the mid-1980s, with its distinction and inclusion of primary and secondary activities. In 1990, he presented Gereffi The concept of global convenience chains according to the input-output structure, the institutional framework of the unit, the international regional structure, and the governance structure of the economic unit, he sees Blocherand . A Others say that the value chain is a tool for analyzing the activities of economic units to determine the steps of operations.operationalAndProductivity from providing raw materials to delivering a competitive product or service to the customer.Blocheret al. FIt is a sequence of linking activity steps, meaning that each link in the value chain represents a specific activity, and the sum of all activities is the ideal cost. ,FYDuring the production phase, processes are carefully monitored to achieve efficiency and reduce waste [8]. Good environmental practices are identified and implemented to ensure the least possible impact on the environment. This includes selecting low-impact materials and adopting clean business management techniques. During the transportation and distribution phase,A balance between cost efficiency and environmental impact is considered. Transportation is optimized and environmentally efficient distribution methods are identified [9]. The unit encourages the promotion of its products as an environmentally friendly alternative, thus enhancing customers' environmental awareness. At the final waste recycling stage, efforts are made to maximize recycling and minimize final disposal. Products are designed to be easy to disassemble and reuse.

Environmental practices at this stage encourage waste reduction and the exploitation of recycling opportunities [10].

Secondly-Green value chain activities: The value chain technique includes a set of primary and secondary activities, which we will discuss below:

1. **Sustainable research and development:**Sustainable research and development is defined as a set of principles, tests, and foundations necessary to help engineers design sustainable products and sustainable technologies represented by the development and testing of products throughout their life cycle. Environmental problems represented by climate change, ozone layer depletion, and air and water pollution also require long-term strategies.,Urgent and effective measures to find socially acceptable solutions.Economically.Environmentally.
2. **Sustainable design and planning:**Sustainable design varies depending on the type of activity an economic unit engages in. Sustainability is not a single area of business.,Sustainable design is a term used to describe the use of sustainability principles in the design and development of industrial and commercial products. Sustainable design is defined as the creation and management of a healthy environment based on the efficient use of resources. There is a set of principles upon which sustainable environmental design is based.Okunuga,[11].
3. **Green production (manufacturing) processes:**Green manufacturing emerged as a new concept in the 1990s from Germany, rooted in the principles of waste reduction in lean manufacturing. It aims to address the growing environmental awareness in markets by enhancing resource efficiency, reducing waste and pollution, and addressing health and environmental issues. This is reflected in legal legislation in various countries to promote sustainable practices in various industries.
4. **Sustainable transportation systems:**It is a type of management process that identifies, anticipates and meets the requirements of consumers and society. This process can be profitable and sustainable. Sustainable transportation represents a new trend that leads to sustainable development: Whereas the transportation process is based on a commitment to integrate economic, social and environmental development goals into marketing strategies to deliver a sustainable product.,And its pricing,And its distribution,And promote it in a sustainable manner that works to achieve a balance between the interests of the individual and the economic unit.,and future generations,Through innovation and value creation processes in partnership with the customer, in order to gain a sustainable competitive advantage in the markets [12].
5. **MarketingAGreens:**Green marketing, also known as environmental marketing, social marketing, economic marketing, or sustainable marketing, was coined in the early 1970s by the American Marketing Association. It involves promoting products that are supposedly safe and environmentally friendly. Green marketing has evolved over the years, and has various names, all of which emphasize its focus on environmentally responsible and sustainable practices in the marketing and promotion of products.
6. **sustainable distribution:**Among the actions that can be taken in the sustainable value chain regarding the sustainable distribution policy to protect the environment, where the necessary measures must be taken to ensure that the product is distributed using less fuel, and the points of sale are placed in a way that makes customers consume as little time and fuel as possible, Sustainable distribution measures such as environmental sensitivity, lower carbon emissions with less fuel and highlighting micro-mobility are important.,For this purpose, the unit that prioritizes green marketing either implements its own environmental distribution activities, works with environmentally sensitive distribution companies, or gives importance to online marketing. Sustainable

distribution aims to reduce gas emissions from the means of transportation involved in transporting products.

7. **Green services:**Green services form an essential part of the green value chain, focusing on providing environmentally friendly and sustainable solutions to customers. They have gained importance due to the rise in economic activity, which has led to increased resource consumption and emissions.TTherefore, it has become urgent to develop green services after delivering the product to the customer. Most economic units still believe that there is a positive relationship between sustainability and costs, as their competitive advantage increases by providing green services. This means that services achieve value when they provide benefits to customers and enable a reduction in costs.F After-sales services typically include maintenance, repair, and replacement of green products. This also includes providing technical support and training to customers on the proper and environmentally friendly use of the product. Economic units can enhance the efficiency of green after-sales services by adopting preventive maintenance methods and other preventive measures that reduce maintenance and repair costs while improving the quality of green products [13], [14]. The increasing environmental focus has led to increased responsibility of economic units towards the environment, and they have invested in this direction to achieve competitive advantages [15].
8. **ERecycling habitAKhader:**The practice of buying instead of repairing has a negative impact on environmental resources, as it causes serious environmental pollution if disposed of haphazardly. Despite the current rapid turnover of electronic and electrical products and the willingness of many consumers to pay for new features, according to survey studies, it has been observed that many customers prefer repairing over buying to conserve resources and protect the environment. According to figures published by the Swedish Association for Waste Management and Recycling, the production of a 210 kg computer, a new laptop, and a new mobile phone results in 110 kg of carbon emissions, in addition to containing a large amount of heavy metals. Recent studies confirm that nearly 80% of European consumers support economic units that manufacture designer products, and this was confirmed by a study.AEnabling customers to repair products themselves is a highly desirable goal. To promote the "repair rather than buy" principle, the European Commission adopted in October 2019 implementing regulations on eco-design for ten types of electrical equipment. The detailed regulations specify design, production, and maintenance standards for electrical appliances, such as refrigerators, washing machines, and monitors. The regulations stipulate a minimum service life for these appliances, such as 7 years for refrigerators and 10 years for washing machines [16].

Green recycling is a step towards achieving long-term environmental sustainability in manufacturing operations. This activity offers diverse opportunities by reducing the consumption of natural resources and minimizing environmental pressure as much as possible. Furthermore, waste has been recognized as a resource for recycling efforts, as this issue impacts the use of natural resources in the manufacturing process through waste, pollution, and carbon emissions. All environmentally conscious businesses, stakeholders, and consumers are encouraged to participate in proper waste management through recycling.

Third - Sustainability accounting concepts according to the solar energy standard:

In recent decades, the economic unit has been deliberately applying green cost management techniques to facilitate the management of the economic unit, enhance green sustainability and environmental systems, and contribute to achieving both organizational and global sustainability. Therefore, the economic unit is currently required, when formulating its vision, to rely on the concept of green sustainability. The

economic unit with a green sustainable vision, based on green added value, takes a path that contributes to improving its environmental and developmental community activities for society. To maintain these activities, sustainability factors must be taken into account and the added value determined [17].

IndicatesPetel argues that today's global community cannot achieve environmental, social, and economic sustainability without focusing on sustainable green value-added topics for companies. The goal of the sustainability concept is to encourage the economic unit to demonstrate the impact of sustainability topics on the current and future situation - a positive impact on society that does not harm the main consumption centers [18].

1. **Sustainability Accounting Board Standards:**

The Sustainability Accounting Standards Board for Businesses has standards that define sustainability topics and added value for applying companies, representing eleven sectors with77Industry, which includes consumer goods, healthcare, services, mining and infrastructure, technology, communications, finance, renewable resources, alternative energy, transportation, food and beverages, and resource transformation. These standards can be used by investors, analysts, auditors, and the economic unit, through which investors can compare important sustainability issues on business performance according to the business unit or industry level and the sustainability of capital. They can also assess sustainability risks and opportunities at the industry level. The economic unit uses sustainability accounting standards to interpret key sustainability information, improve performance, and reduce risks [19]. Companies can measure, manage, and demonstrate the impact of sustainability through indicators of industrial services, and compare performance with competitors in the same industry.https://www.sasb.org.

The Council's sustainability dimensions standards were developed through a series of steps aimed at identifying indicators that are likely to have a significant impact on the performance of the economic unit, as each measure has a different impact or outcome depending on the way in which it was created. Therefore, the activities of the economic unit will differ from other industries, which means that each industry has its own sustainability characteristics, as the reporting topics included in the standards for the industrial sector are specifically designed for the specific context of the industry. It has been shown that the economic unit that discloses information related to its environmental, social and governance performance enjoys value-added advantages if it adheres to the application of the issued standards (SAS) Table (3) Shows the distribution of sector industries within green and blue sustainability themes [20], [21].

2. Clean Energy Standard - Solar EnergyRR–ST (DeveloperstheSolar energy technology and projects :

Countries must reduce emissions to zero by 45% by 2030 to maintain a temperature of 1.5°C on Earth, according to the United Nations program and in agreement with the International Sustainability Standards Board.ISSB, All the guidance and directions of the International Sustainability Standards Board resulting from the FASB and SASB simulation indicate that renewable resources, clean energy - a more secure future.At the heart of the climate challenge – and the key to a green planethttps://www.un.org/ar/climatechange/net-zero-coalitionA large part of the greenhouse gases that surround the Earth and form what is called the sun's global warming are generated by burning fossil fuels to generate electricity and heat. Fossil fuels are...forCoal, oil, and gas are the largest contributors to global climate change, accounting for more than 75 percent of global greenhouse gas emissions and about 90 percent of all carbon dioxide emissions from burning fossil fuels. To avoid the effects of climate change, emissions must be cut by nearly half by 2030 and reach net zero by 2050.https://www.un.org/ar/climatechange/raising-ambition/renewable-energyTo achieve this, we need to eliminate our dependence on fossil fuels and invest in alternative energy sources that are clean, available, affordable, and sustainable. These sources are abundantly available all around us through the sun, wind, water, waste, and geothermal

heat thanks to nature, and emit little to no gases or pollutants. Fossil fuels still account for more than 80 percent of global energy production, but cleaner energy sources are gaining traction, with about 29 percent of electricity now coming from renewable sources. We will present the topics and metrics of the solar energy standard as shown in the table 1 below.**https://sasb.ifrs.org/standards/download**

Table 1. Solar Energy Standard Topics, Metrics and Indicators

Scale symbol		Accounting standards	The topic
RR-ST 130a.1	Quantitative KW	- Total energy consumption - Traditional electricity ratio - Percentage of renewable electricity	Energy management during manufacturing
RR – ST 140 a.1	Quantitative m3	- Total water consumed - Percentage of water consumed in high stress areas	Water management for energy production
Rr – st 150a.1	Amountmetric ton and KW	- Amount of hazardous waste - The amount of toxic gases and polluting emissions	Hazardous waste
Rr – st 160a.1	Discussion and analysis	- Number of times projects are delayed	Environmental impacts of electricity project development
Rr – st 160a.2	Discussion and analysis	- Description of risks and - Opportunities	Effects of integrating solar energy with conventional energy
Rr – st 410a.1	Quantitativemetric ton	- Sold energy - Waste recycling rate	Recycle output

Source: Prepared by the researcher based onhttps://sasb.ifrs.org/standards/download

Clean energy sources are those that economic units and countries have the ability to exploit without depleting their source. Clean energy is electricity generated from the sun, wind, biomass, geothermal heat, and hydropower, as well as biofuels and hydrogen extracted from renewable sources in a periodic and automatic manner.

Fourth -Theoretical concepts of green added value:

1. Value Added Disclosure Concept:

Financial reporting in most countries is limited to the financial position (through the balance sheet), the financial performance of the economic unit (through the income statement), and the financial management of the economic unit (through the cash flow statement). Despite the importance of these reports, they fail to provide important information about the overall productivity of the economic unit and the share of each team of members concerned with managing resources (shareholders, creditors, employees, and the government). The value added statement can play this crucial role.

It also helps the workers in the unit to know the wages and bonuses they received in exchange for their production, in addition to the importance of the information that this statement provides to the executive and tax administration and planning agencies in preparing the national accounts. The greater the added value, the more efficient it is, and

if it is small, the level of efficiency is low. From the point of view of society, the added value statement is more beneficial than the regular profit and loss account.

Value added is both a social and economic indicator, and the two dimensions of value added (social and economic) correspond to two of the three aspects of the concept of sustainability reporting. Value added disclosure emphasizes that the increase in wealth in the unit is the result of the collective effort of all stakeholders (such as shareholders, employees, government and society).

2. **Traditional VAT Disclosure Topics VAT Disclosure Topics**As for style
    a. Horizontal form:Where the form of the VAT statement is in the form of a letter accountt, by placing the value-added formation elements on the credit side and the value-added distribution elements on the debit side.
    b. Vertical shape(Vertical)It takes the form of a report and includes a disclosure in two stages: the first to create the added value and the second to distribute the added value to stakeholders This is what I will follow in the practical aspect of the research

The third axis-The practical side-The added value of Iraqi electricity generation, transmission and distribution companies when designing a solar system according to the renewable energy (solar) standard:

Firstly -The cost of designing a solar system with a capacity of 6280904025kw/h to achieve a 45% reduction in pollutant emissions, reaching the zero emission goal:

I will calculate the costs of designing a solar system to achieve a level of 45% zero emissions by 2030, shown in the table 2:

Table 2. The cost of designing a solar energy system to reduce emissions by 45%

Cost (billion)	Price per product	Number	
257809190450	176500	14606753	Solar panels
5781286659375	405,000	14274782	Battery
206929016000	20,000	10346450	Charging organizer
1570222500	750,000	209363	Inverter
80337147000	54,000	14606753(The tablets)	Panel structure
4891185600	35700	14606753 (The tablets)	Wire cost
59230387470	41650	14606753(The tablets)	Installation cost
6392053808395 Billion dirhams			The cost of establishing a solar energy system
7726601915407 billion IQD			The true cost of reducing emissions by 45%

We note from the table 2 the cost of designing and building a solar energy system is 6392053808395 to produce 6280904025 kw/h, depending on the cost of each component of the system, which proves the first hypothesis which states that:

Designing a photovoltaic system based on solar energy and investing in it to produce a kilowatt of electricity instead of the same amount of kilowatts resulting from the consumption of fossil fuels and their derivatives, at a lower cost.To produceelectricity "

Disclosure of traditional and green value added according to the tabs of the unified accounting system of the Iraqi Ministry of Electricity. The research concluded by extracting the costs incurred by the companies of the Ministry of Electricity within the

expenditure tabs included according to the expense accounts 3, which they could have reduced if they had employed green value chain technology activities and reduced those costs by investing clean energy resources (solar) in a modern technology called solar panels that produce electricity from sunlight and created a clean green environment for current and future generations and determining the effect of that and its reflection on the added value, i.e. achieving green added value as shown in Table 2. Therefore, the traditional added value statement of the actual costs will be presented according to the revenue and expenditure accounts statements and compared to the costs of the designed solar system and the green added value statement resulting from reducing those costs will be presented as shown in Tables 3 and 4:

Traditional value added disclosure according to the unified accounting system tabsFor revenueUses for the Iraqi Ministry of Electricity:The traditional VAT statement (actual accounts) will display the actual costs based on the account statement.For revenueThe uses of the unit of costs, accounts and budget for the Ministry of Electricity, according to the tabulations of the unified accounting system for companies producing, transmitting and distributing electrical energy to consumer centers, as shown in the table 3 :

Table 3. Traditional actual value added statement according to the 2022 revenue and use account statement

	Total amounts in dinars	2022	Detailed account name	account name	Accounting guide number
				Resources	4
	16747028627280			Commodity operating revenues	41
		16747028627280	Electricity revenue	4162	
	1632215928000			Service operating revenues	43
		134600980700	Service transfer revenue		431
		708765123300	Maintenance and repair revenue		433
		297984503100	Revenue from various services		438
				4382 building rentals	
		490865320900	43823 Service Building Rental		
18379244555280				Total revenue	
			Energy production companies	Operational uses	3
	5997072188205	3075316370283 1077531415348 926814241289 917410161285	The middle South EuphratesMiddle Northern	Wages and salaries of production companies	31
	683188810000	137622270000 136919050000 136567440000 136215830000 135864220000	The middle Middle Euphrates Upper Euphrates South Northern	Transport companies' wages and salaries	

	1298572050000	328972620000 321275540000 325124080000 323199810000	Baghdad North The middle South	Distribution companies' wages and salaries	
	340408969425	83541700789 89735068647 85678955124 81453244865	The middle South Middle Euphrates Northern	Commodity requirements for production companies	32
	138909249999	41799749999 28071250000 23042000000 23012750000 22983500000	The middle Middle Euphrates Upper Euphrates South Northern	Commodity requirements for transportation companies	
	138909249999	41070249999 32442000000 32784000000 32613000000	Baghdad North The middle South	Commodity requirements for distribution companies	
	311715896610	101025985844 75781911610 64449115259 70458883897	The middle South Middle Euphrates Northern	Service supplies for production companies	33
	163877430000	44903810000 29812150000 29766320000 29720490000 29674660000	The middle Middle Euphrates Upper Euphrates South Northern	Service supplies for transportation companies	
	135392700000	41594280000 31156760000 31375520000 31266140000	Baghdad North The middle South	Service supplies for distribution companies	
	234051250000	355413700000 505641000000 499396800000 493152600000 486908400000	The middle Middle Euphrates Upper Euphrates South Northern	Purchases for sale For transportation companies	
	242938210 0000	539844220000 622274640000 637417280000 629845960000	Baghdad North The middle South	Purchases for sale distribution companies	351
	4514970000	926990000 909850000 901280000 892710000 884140000	The middle Middle Euphrates Upper Euphrates South Northern	Transfer expenses for transportation companies	38
	1181370065	301660000 291220000 296440000 292050065	Baghdad North The middle South	Transfer expenses for distribution companies	

	128911280014	49225671590 28138149566 25547757362 25999701496	The middle South Middle Euphrates Northern	Extinctions of production companies	37
	83708195624	20707475624 19565400000 14521920000 14478440000 14434960000	The middle Middle Euphrates Upper Euphrates South Northern	Extinctions of transportation companies	
	125391965000	6102526000 38722420000 39873840000 40693179000	Baghdad North The middle South	Extinctions of distribution companies	
	360201920000	72632640000 72209600000 71998080000 71786560000 71575040000	The middle Middle Euphrates Upper Euphrates South Northern	Other expenses for transportation companies	39
	154266200000	41089680000 41048560000 41069120000 31089680000	Baghdad North The middle South	Other expenses for distribution companies	
17170226478682	2334078593739			Investment imported energy	
1209018076598				Net value added at the cost of kilowatt-hour for traditional production elements	

We note from the table 4, the traditional net added value amounted to 1 billion, 209 billion, 18 million, and 76 thousand D..A. To calculate revenues and uses according to the tabulations of the unified accounting system as stated. CurseAs follows:

Net value added at cost per kilowatt hour of traditional production elements =

= 18379244555280 -17170226478682

= 1209018076598 billion IQD

Green Value Added Disclosure according to the tabs of the Unified Accounting System for Revenues and Uses of the Iraqi Ministry of Electricity: We infer from all topics of the clean solar energy standard reduced costs as an added value of 18% according to the green value chain activities of the companies producing, transmitting, distributing electricity and supplying it to the final consumer (consumer centers). The green value statement is classified according to the clean energy topics and green value chain activities. We will explain the accounting costs and reduced costs (with added value) green according to the green value added statement:

Table 4. Green Value Disclosure, classified by clean energy topics and green value chain activities for the year 2022

	Total amounts in dinars	2022	Detailed account name	account name	Accounting guide number
				Resources	4

	16747028627280			Commodity operating revenues	41
		16747028627280	Electricity revenue	4162	
	1632215928000			Service operating revenues	43
		134600980700	Service transfer revenue		431
		708765123300	Maintenance and repair revenue		433
		297984503100	Revenue from various services		438
				4382 building rentals	
		490865320900	43823 Service Building Rental		
18379244555280				Total revenue	
		Reduced value added costs	Energy production companies	Operational uses	3
	1079472993877	553556946651 193955654763 165133829031 166826563432	The middle South EuphratesMiddle Northern	Wages and salaries of production companies	31
	122973985800	24772008600 24645429000 24582139200 24518849400 24455559600	The middle Middle Euphrates Upper Euphrates South Northern	Transport companies' wages and salaries	
	233742969000	59215071600 57829597200 58522334400 58175965800	Baghdad North The middle South	Distribution companies' wages and salaries	
	61273614497	15037506142 16152312356 15422211922 14661584076	The middle South Middle Euphrates Northern	Commodity requirements for production companies	32
	25003665000	7523955000 5052825000 4147560000 4142295000 4137030000	The middle Middle Euphrates Upper Euphrates South Northern	Commodity requirements for transportation companies	

	25003665000	7392645000 5839560000 5901120000 5870340000	Baghdad North The middle South	Commodity requirements for distribution companies	
	56108861390	18184677452 13640744090 11600840747 12682599102	The middle South Middle Euphrates Northern	Service supplies for production companies	33
	29497937400	8082685800 5366187000 5357937600 5349688200 5341438800	The middle Middle Euphrates Upper Euphrates South Northern	Service supplies for transportation companies	
	24370686000	7486970400 5608216800 5647593600 5627905200	Baghdad North The middle South	Service supplies for distribution companies	
	421292250000	63974466000 91015380000 89891424000 88767468000 87643512000	The middle Middle Euphrates Upper Euphrates South Northern	Purchases for sale For transportation companies	
	437288778000	97171959600 112009435200 114735110400 113372272800	Baghdad North The middle South	Purchases for sale distribution companies	351
	812694600	166858200 163773000 162230400 160687800 159145200	The middle Middle Euphrates Upper Euphrates South Northern	Transfer expenses for transportation companies	38
	212646612	54298800 52419600 53359200 52569012	Baghdad North The middle South	Transfer expenses for distribution companies	
	23204030403	8860620886 5064866922 4598596325 4679946269	The middle South Middle Euphrates Northern	Extinctions of production companies	37
	15067475212	3727345612 3521772000 2613945600 2606119200 2598292800	The middle Middle Euphrates Upper Euphrates South	Extinctions of transportation companies	

			Northern		
	22570553700	1098454680 6970035600 7177291200 7324772220	Baghdad North The middle South	Extinctions of distribution companies	
	64836345600	13073875200 12997728000 12959654400 12921580800 12883507200	The middle Middle Euphrates Upper Euphrates South Northern	Other expenses for transportation companies	39
	27773467200	7396142400 7388740800 7392441600 5596142400	Baghdad North The middle South	Other expenses for distribution companies	
	420134146873			Investment imported energy	
	278871822000			Value and cost of emissionCO2	
17170226478682				Total costs of traditional uses	
				Net	
	3369512588164			Total green value added costs	
	1209018076598			Net value added at the cost of kilowatt-hour for traditional production elements	
	4327546024962			Total value added	

We note from the table 4 The total green and traditional added value amounted to 4327546024962 resulting from costs with green added value amounting to3369512588164 refers to costs that were eliminated by 18% assuming the design and use of a solar-powered electrical system, as a result of reducing avoidable costs and traditional value-added costs (without adopting a solar energy system) amounting to1209018076598 / Accordingly, it can be concluded that the net green (sustainable) added value amounts to 3369512588164 3 billion 369 billion 512 million 588 thousand.

The total amounts of added value achieved were taken fromTabsThe cost of green uses, such as salaries and wages of production companies, amounted to (1079472993877) billion dirhams..A.

The third hypothesis was proven, which states that "the use of clean energy in generating electricity and delivering it to consumer centers by employing green value

chain activities within solar energy topics to reduce inexhaustible and burdensome costs and achieve green added value."

In this section, the costs and topics of designing a renewable solar energy system were presented, which reduces non-renewable costs by 18% by employing green value chain technology activities within the topics of the renewable solar energy standard. Below, we will present conclusions and recommendations that were achieved based on the applied results of the axes of the practical side..

4. Conclusion

Axis Four-Conclusions, recommendations and sources:

1nor-Conclusions:

1. About 80% of the world's population lives in countries that import fossil fuels. That's about 6 billion people who depend on fossil fuels, making them vulnerable to geopolitical shocks and crises. Conversely, renewable energy sources are available in all countries, but their potential has not been fully exploited.
2. Exhaustible energy resources (fossil fuels) are at the forefront of exploitation and use by the production companies in the Iraqi Ministry of Electricity.
3. Solar energy is considered a renewable, inexhaustible (clean) green energy resource. It is environmentally friendly and whenever it is lost, it is regenerated like wind and water. In addition, its manufacture does not require complex technologies and can be manufactured locally.
4. The value added statement is the statement that measures the wealth added by the company as a result of employing inexhaustible renewable resources and replacing them with traditional resources and reducing the costs of adding and achieving a green added value to live within a clean, green environment (workers, shareholders, creditors, government) and shows how it is distributed among them.
5. Solar energy projects generate economic and financial gains and returns that benefit the Ministry of Electricity, given that the electricity consumed by citizens is a burden on the state's financial budget, reducing costs with a green and sustainable value.
6. We note that the role of the Iraqi Ministry of Electricity is weak in adopting projects to exploit solar energy resources (inexhaustible), represented by the procedures of the government formations represented by the Prime Minister, the Ministry of Finance, the Ministry of Electricity, and the Ministry of Planning as planning and executive committees for clean energy projects.

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