


# ACHIEVEMENTS OF THE JORDAN RENEWABLE ENERGY AND ENERGY EFFICIENCY FUND

2015 - 2023



LEADING NATIONAL EFFORTS TO ACHIEVE AN ENERGY TRANSITION IN ALL SECTORS AND FULFILL JORDAN'S INTERNATIONAL COMMITMENTS TO CLIMATE CHANGE.



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# INTRODUCTION

The Jordan Renewable Energy and Energy Efficiency Fund (JREEEF) was established under Law No. (49) of 2015, issued pursuant to the Renewable Energy and Energy Efficiency Law No. (13) of 2012, as an executive arm of the Ministry of Energy and Mineral Resources. JREEEF aims to provide the necessary financing to contribute to utilizing renewable energy sources and rationalizing energy consumption. This is achieved through the design, supervision, implementation, and development of programs and projects, as well as the evaluation of their impact.

Based on that, JREEEF has conducted studies and designs for the financing windows of programs and projects aimed at utilizing renewable energy and energy efficiency across various sectors in the Kingdom. The strategic plan of JREEEF is derived from its bylaw of 2015 and the general strategic plan of the Ministry of Energy and Mineral Resources. Its strategic objectives include increasing the contribution of renewable energy sources to 31% of electricity generation in the Kingdom by 2030, rationalizing energy consumption and improving its efficiency in all sectors by 9% by 2030 and reducing carbon dioxide emissions by 31% by 2030. Additionally, JREEEF aims to expand the deployment of solar water heaters at national level. JREEEF also contributes to the initiatives and priorities of the Kingdom's Economic Modernization Vision through various projects and programs in the field of renewable energy and energy efficiency directly.

In line with the priorities and pillars of the Economic Modernization Vision, the strategic plan of JREEEF includes several programs and projects to support key sectors that have a direct impact on the national economy. These initiatives aim to reduce energy costs for productive sectors, enhance competitiveness in the service sector, and directly benefit citizens. These sectors include the household sector, small and medium enterprises sector (SMEs) including the industrial sector and the tourism sector, government and public buildings sector, including schools, municipalities, health centers, worship places and associations, and public benefit institutions, as well as the agricultural sector. Additionally, the plan encompasses areas of training, development, and capacity building in the field of renewable energy and energy efficiency.

To achieve the strategic objectives of JREEEF, strong partnerships have been established with various national institutions operating in the sector. Additionally, partnerships have been formed with international donor institutions and programs operating in Jordan. Furthermore, strong partnerships have been built with international organizations and the Jordanian private sector.

We are pleased to present to you in this report the achievements of the Jordan Renewable Energy and Energy Efficiency Fund's programs and projects during the years 2015-2023. The report highlights JREEEF's economic, social and environmental impacts, which contribute to fulfilling Jordan's commitments related to the Paris Agreement of 2015. Additionally, it emphasizes the economic and social impacts on the Jordanian citizens and the overall green economy of Jordan.

## THE BOOKLET CONTAINS

- JREEEF in Figures
- Adopted Policies
- JREEEF's Working & Financing Mechanism
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- SMEs Sector / Industrial - Factories
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- Energy Services Companies ESCOs
- Government & Public Buildings Sector / Schools
- Government & Public Buildings Sector / Energy Audit for Governmental Buildings
- Government & Public Buildings Sector / Municipalities and Health Centers
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- Government & Public Buildings Sector / Public Benefit Institutions
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# JREEEF IN FIGURES 2015-2023

Citizens benefiting from JREEEF's applications and programs in energy efficiency and renewable energy between 2015 and 2023.

**2,017,900**

17.5% of Jordan's population

**BENEFICIARIES**

The expected decrease in the final energy consumption from JREEEF's energy efficiency projects between 2015 and 2023.

**75.3**

**GIGAWATT-HOURS ANNUALLY**

The generation of photovoltaic cell projects implemented by JREEEF between 2015 and 2023.

**86.7**

**GIGAWATT-HOURS ANNUALLY**

The expected emission reduction of CO2 resulting from JREEEF's projects between 2015 and 2023.

**97,225**

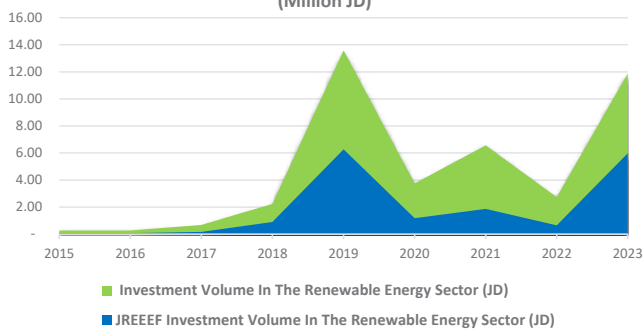
1.1% of Jordan targeted NDCs by 2030  
**TONS OF CO2 ANNUALLY**

The expected savings in the total energy bill resulting from JREEEF's projects between 2015 and 2023.

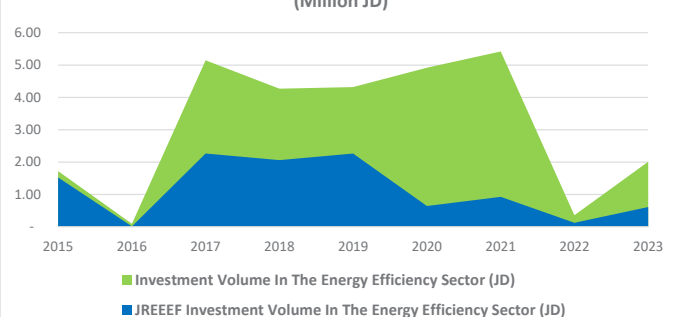
**16.8**

**MILLION JORDANIAN DINARS ANNUALLY**

Size Of The Fund's Investments In Renewable Energy (Million JD)



Size Of The Fund's Investments In Energy Efficiency (Million JD)



# JREEEF IN FIGURES 2015-2023



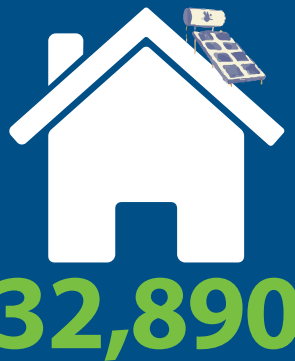
Facilities implemented renewable energy solutions as part of JREEEF's projects.



Facilities implemented energy efficiency solutions as part of JREEEF's projects.



Houses installed a renewable energy solution.



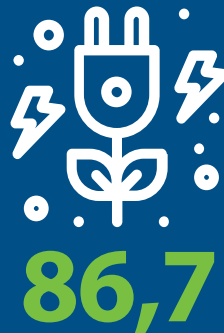
Houses installed a solar water heater.



Houses installed energy-efficient LED lighting.



Solar water heaters installed.



Generation of photovoltaic cells (GWh) annually.



Capacity of photovoltaic systems (MW).



Energy Audit Studies Conducted.



Energy-efficient lighting units (LED) distributed.

# POLICIES ADOPTED BY JREEEF

JREEEF has adopted several public policies that contribute to organizing and clarifying JREEEF's commitments towards the local and international community in various important international and climate issues. To date, five policies have been adopted: the Gender Policy, Evaluation Policy within the evaluation and monitoring system, Environmental and Social Risk Management Policy, Communication Policy, and Transparency Policy.

The Gender Policy Document aims to ensure gender equality and its dissemination to JREEEF's energy efficiency and renewable energy programs and projects. JREEEF affirms its commitment to the basic principles in this area, in addition to evaluating and monitoring its work plan from a gender perspective.

Followed by JREEEF's evaluation policy for assessing and measuring the impact of JREEEF's projects. It aims to define the evaluation framework for establishing independent assessments in accordance with the principles, standards, and practices provided by the Development Assistance Committee (DAC) under the Organization for Economic Co-operation and Development (OECD) in 1991. Independent evaluation plays a key role in measuring the efforts made and improving the quality of provided services, as well as helping to make correct future decisions.

The Environmental and Social Risk Management Policy speaks of JREEEF's methodology of avoiding, preventing, or mitigating negative risks and impacts on the environment, health, and safety caused by the implementation of energy efficiency and renewable energy projects, and how to maintain their positive impacts.

In order to adhere to best practices of transparency and disclosure in its operations, JREEEF has developed a Transparency Policy document. This document establishes the frameworks, rules, and best transparency standards for the design, implementation, and evaluation of JREEEF's programs, in accordance with international best practices.

To ensure effective communication with all partners, JREEEF has been dedicated to implementing a balanced communication approach within its adopted Communication Policy. This approach guarantees the dissemination of information regarding JREEEF's programs and projects to the targeted groups, with the ultimate goal of facilitating their access to the services provided by JREEEF. Additionally, it involves engaging with various media outlets to provide concise media briefs on the accomplishments of JREEEF's programs and projects.









# JREEEF's WORKING & FINANCING MECHANISM

## THE WORK MECHANISM

JREEEF has undertaken the task of designing appropriate financing mechanisms for the targeted groups based on different sectors in the Kingdom in order to achieve the strategic goals of JREEEF and in accordance with JREEEF Regulation No. 49 of 2015, which aims to provide the necessary funding to encourage investments in renewable energy and energy efficiency projects. This has been achieved through collaboration and coordination with representative Community Based Organizations, commercial banks, microfinance institutions, and other relevant channels that allow beneficiaries to access renewable energy and energy efficiency services.

## FUNDING

JREEEF has created several funding mechanisms and windows in accordance with programs such as the full direct grant, the partial grant ranging from 30% - 50% «as needed», or through revolving loans issued to various institutions to support these programs and projects. JREEEF has been able to agree on various forms of co-financing with external funds and has implemented initiatives in many sectors with international development partners.

## COMMUNITY BASED ORGANIZATIONS.

Based on paragraph (-1A) of Article 5 of the Renewable Energy and Energy Efficiency Fund No. 49 of 2015, which states, «Developing programs and mechanisms to assist the targeted groups... from banks and institutions», JREEEF has entered into agreements with 204 local associations distributed across all governates of the Kingdom, as well as 8 branches of civil society institutions. These agreements target various groups such as military personnel, retirees, professional unions, and industrial and commercial chambers. These associations were selected based on criteria and conditions approved by the Renewable Energy and Energy Efficiency Fund Management Committee. These associations provide services for requesting and monitoring the installation of photovoltaic cell systems and solar water heaters, and they directly interact with citizens.

To ensure the participation of all targeted groups in JREEEF's programs and projects, JREEEF has been proactive in involving several civil society institutions that serve various segments, including military personnel, retirees, professional unions, industrial and commercial chambers. These institutions are as follows:

1. Jordan Engineers Association
2. Jordan Agricultural Engineers Association
3. Jordan Press Association
4. Economic and Social Institution for Military Retirees and Veterans
5. Civil Consumer Institution
6. Ajloun Chamber of Commerce
7. Zarqa Chamber of Commerce

## NUMBER OF ORGANIZATIONS HEADED BY WOMEN IN THE REGIONS

Region	Number of CBOs
Middle	14
North	25
South	8
<b>Total</b>	<b>47</b>





# HOUSEHOLD SECTOR





# HOUSEHOLD SECTOR

## INTRODUCTION

According to the Ministry of Energy and Mineral Resources energy balance publication, the residential sector is the second-largest consumer of final energy consumption, accounting for approximately 1,520 thousand metric tons of oil equivalent, representing 25% of the total for the year 2021. JREEEF's strategic plan includes a program to support the household sector, which is in accordance with the organization's strategic objectives and contributes to the use of renewable energy sources and energy efficiency. This program includes providing the necessary funds for implementing renewable energy and energy efficiency applications, with the goal of reducing the sector's final energy consumption.

## ACHIEVED OUTCOME INDICATORS FOR HOUSEHOLD SECTOR PROJECTS 2015-2023



410,209

Estimated number of citizens benefiting from energy efficiency and renewable energy applications



9,480,820

Expected savings in household bill (JD) per year



68,785

Expected reduction in CO2 emissions (Ton) annually



117,350

Expected reduction in electricity consumption (MWh) per year

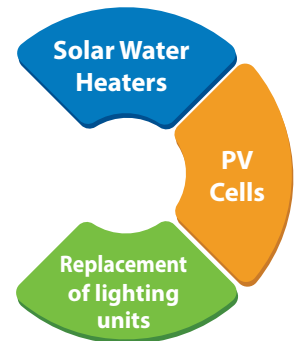
## GENERAL ACHIEVEMENTS

The number of households using renewable energy and energy efficiency applications is 81,694.

## ACHIEVED OUTPUT INDICATORS FOR THE HOUSEHOLD SECTOR 2015 - 2023

Indicator	Output
PV systems (KW) Capacity	29,623
Generation of PV (MWh) annually	47,820
# LED units replaced	205,837
# Of SWH installed	31,387

## JREEEF PROGRAMS FOR THE HOUSEHOLD SECTOR



## PARTNERS

- Royal Scientific Society (RSS), specifically the National Energy Research Centre (NERC)
- Energy and Minerals Regulatory Commission (EMRC)
- Ministry of Digital Economy and Entrepreneurship
- Ministry of social Development
- Jordan Electric Power Company (JEPCO)
- Irbid District Electricity Distribution Company (IDECO)
- Electricity Distribution Company (EDCO)
- Jordan River Foundation
- Community Based Organizations distributed in all regions of the Kingdom. The number of associations that have signed agreements with JREEEF has reached 212 associations and institutions to date
- Jordanian Engineers Association

## FINANCIERS

- Ministry of Planning and International Cooperation
- USAID
- European Union (EU)
- IKEA Jordan
- Mercy Corps organization
- Banking institutions such as banks and microfinance institutions
- The Jordanian company Bautak



# HOUSEHOLD SECTOR

## Solar Water Heater Installation Program for Households

JREEEF designed the following projects to support the program of installing solar water heaters in households:

1. Installation of solar water heater systems in households with a total of 3,513 solar heaters. This project was fully funded by JREEEF in collaboration with the Jordan River Foundation through revolving loans. The project was implemented in 2015.
2. Installation of solar water heater systems in households with a total of 20,000 solar heaters. This project received 50% funding from JREEEF in collaboration with Community Based Organizations. The project was implemented from 2017 to 2019.
3. Installation of solar water heater systems in low-income households with a total of 2,645 solar water heaters. This project was fully funded by JREEEF in collaboration with the Ministry of Planning and International Cooperation and the Ministry of Social Development. The project is still ongoing.
4. Support program for the installation of solar water heaters in households with a %30 funding partnership with commercial banks, CBOs, and local associations distributed across all governorates. A total of 4,613 solar water heaters have been installed since 2020 until the end of 2023.
5. Installation of 200 solar water heaters in collaboration with the International Union for Conservation of Nature (IUCN) for 200 households in the Sahab area (Al-Khashafiyah and Al-Manaheer/Sahab). The selection of these households was done in collaboration with the National Aid Fund. The project received %100 grant funding shared equally between JREEEF and IUCN. This project was implemented in 2020.

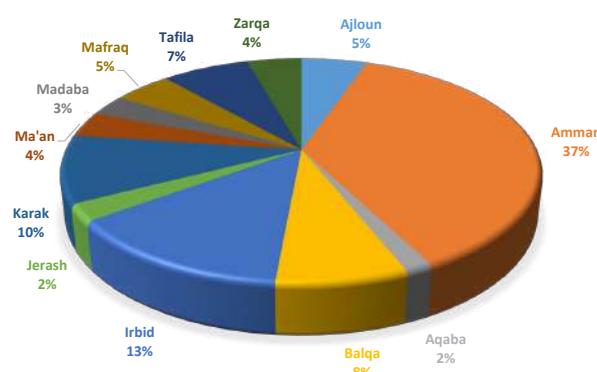
6. Installation of 314 solar water heaters in collaboration with USAID for a total of 1200 households. The selection of these households was done in collaboration with the Ministry of Social Development. The project received 100% grant funding by USAID. This project is still ongoing.
7. Installation of 102 solar water heaters out of a total of 300 solar water heaters through a support agreement signed with the Jordanian Engineers Association for the installation of solar water heaters in homes that have been renovated as part of the «Fazaat Ahel» initiative with the Jordanian Engineers Association.



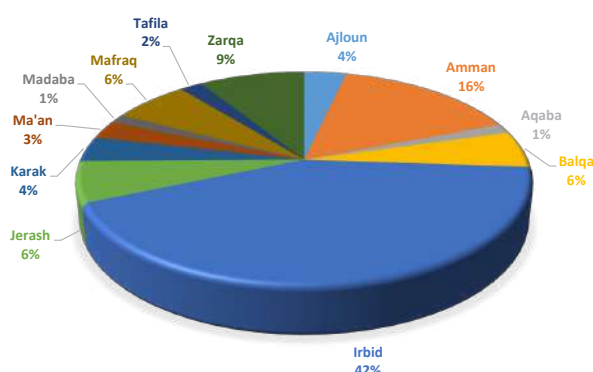
## PV SYSTEM INSTALLATION PROGRAM FOR HOUSEHOLDS

1. JREEEF designed the following projects to finance the installation of photovoltaic systems for households: Installing 400 photovoltaic systems for households with a capacity of 1.5 kW and 30% support in the northern region. The project duration was from 2015 to 2016.
2. Installing 261 photovoltaic systems for households with a capacity of 3 kW with 30% support. The project was completed by the end of 2018.
3. Support program for installing photovoltaic systems for households with a 30% subsidy, in collaboration with commercial banks, civil institutions, and CBO's, distributed across all regions. A total of 7,779 photovoltaic systems have been installed from 2020 until the end of 2023.

GOVERNORATES SWH DISTRIBUTION



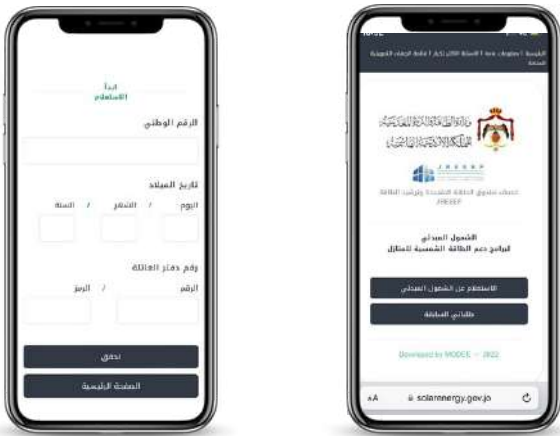
GOVERNORATES PV DISTRIBUTION



# HOUSEHOLD SECTOR

## PLATFORM FOR HOUSEHOLDS PROGRAM SOLARENERGY.GOV.JO

In recognition of the Jordan Renewable Energy and Energy Efficiency Fund's belief in the importance of automating the services provided to citizens who want to benefit from JREEEF's programs, particularly the Households program for installing SWH and solar cells, JREEEF has created a comprehensive electronic platform in collaboration with the Ministry of Digital Economy. This platform connects key government institutions, citizens interested in participating in the program, the business sector represented by energy service firms, and local community organizations involved in delivering SWH and solar cell installation services. These organizations have entered into joint cooperation agreements with JREEEF. The electronic platform allows various groups to work together and coordinate their efforts to serve citizens who are interested in participating in the program. It also improves collaboration between the public and private sectors while increasing the role of the local community through their involvement.



### INQUIRY ABOUT ELIGIBILITY

The electronic platform provides a service for querying the initial eligibility of citizens, which means verifying the compliance of the adopted criteria and standards with the targeted category. The platform electronically verifies the criteria and standards by linking it with various government entities such as the Civil Status Department, Social Security, and Civil/Military Retirement, Vehicle Licensing Department, Land and Survey Department, and the Energy and Minerals Regulatory Commission.

### Local Banks & Community Based Organizations

The mentioned electronic platform includes a dedicated electronic screen for local banks and CBO's that have signed joint cooperation agreements with JREEEF. These banks and CBO's receive applications from citizens interested in benefiting from the project. The purpose is to achieve rapid and systematic communication between them and the Ministry of Energy and Mineral Resources to expedite the necessary procedures. The entities receive the applications, verify the initial eligibility approval, electronically enter the applications, and upload the technical and financial documents.



### MONITORING AND EVALUATION OF THE PROGRAM

JREEEF monitors the program, evaluates the applications submitted through the financing windows, verifies them, approves them, and disburses the dues electronically through the platform. A dedicated screen has been designed for this purpose for the management and finance departments in JREEEF in the Ministry of Energy and Mineral Resources. JREEEF performs the following tasks through the platform:

- Monitoring the progress and verifying the achievement rates for each financing window.
- Electronically auditing the submitted applications and accompanying documents, then issuing approvals for the disbursement of eligible support.
- Electronically archiving the applications.
- Addressing the challenges and difficulties associated with the program.





# HOUSEHOLD SECTOR

## DEVELOPING THE LOCAL MARKET FOR SOLAR WATER HEATER SYSTEMS

Building on JREEEF's role in developing the private sector in renewable energy and energy efficiency, including the use of solar water heater systems, JREEEF is constantly studying and updating the technical specifications of locally manufactured and imported SWH systems, including both Flat Plate and Evacuated Tube types. This is done in collaboration and partnership with all relevant entities, including the Royal Scientific Society's National Energy Research Center (NERC), the Standards and Metrology Organization, and the private sector represented by solar water heater system companies.



JREEEF has engaged in the establishment of a special quality mark for solar water heaters called «Shamsi» in partnership with the necessary entities. Shamsi is based on a variety of standards and criteria for companies in this industry.



As part of JREEEF's commitment to activating partnerships with the private sector, JREEEF has held several consultative sessions with specialized companies operating in the field of SWH systems. These sessions were characterized by transparency in discussing all the challenges and obstacles facing the SWH market, as well as how to address, reduce, overcome, and develop local manufacturing processes for these systems. JREEEF also discussed the conditions, criteria, and standards for accrediting and qualifying companies for its programs and projects, as well as the mechanism for accreditation application and the discussion of all required models and specifications.

A list of qualified companies has been approved in preparation for the launch of the second phase of the solar water heating installation support program in collaboration with local banks and CBO's partnering in the project.

The approved list is continuously updated, which means that the door is open for companies interested in working with JREEEF to apply for accreditation.



# HOUSEHOLD SECTOR

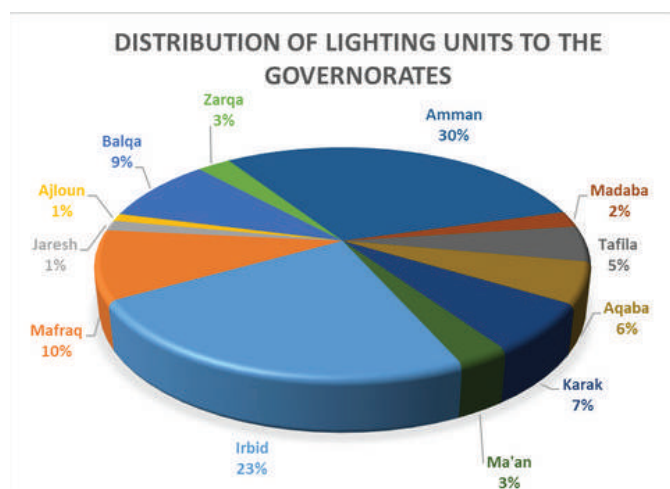
## ENERGY-EFFICIENT LIGHTING UNITS (LED) FOR THE HOUSEHOLD PROGRAM

Lighting accounts for 30% of residential energy use, making energy efficiency in this sector extremely beneficial and having a direct impact on citizen's monthly electricity bills. JREEEF developed a scheme to replace outdated lightbulbs with energy-efficient LED lighting units in homes. This project is being developed under the Demand Side Management framework, which requires approval from the Energy and Minerals Regulatory Commission and direct implementation by Jordan's three distribution companies.

The lighting unit replacement program includes the following projects:

1. Distribution of 50,000 LED lighting units for households. The project ran from 2016 to 2018 and was fully funded by IKEA through the Ministry of Planning and International Cooperation.
2. Demand Side Management (DSM) project: Replacement of 150,000 LED lighting units in homes in collaboration with the three distribution companies. The project was completed in 2021.
3. Distribution of 10,000 LED lighting units for households. The project was completed in 2022 and was fully funded by the Jordanian company Bautak, as part of CSR projects.

## DISTRIBUTION RATIOS OF HOUSEHOLD LIGHTING UNITS ACROSS THE KINGDOM'S GOVERNORATES





# SMEs SECTOR



# SME's SECTOR

## Industrial Energy Efficiency Program for Factories

According to the energy balance in the Ministry of Energy and Mineral Resources Publication of 2021, the industrial sector is the third sector in final energy consumption, consuming around 1,017 thousand tons of oil equivalent, up to 16% in 2021. In terms of electricity consumption, the industrial sector consumes up to 21% of total electricity consumption after the domestic sector. In order to achieve JREEEF's strategic objectives of providing the necessary funding to contribute to the exploitation of renewable energy sources and the rationalization of energy consumption, its strategic plan included supporting and financing the industrial sector with the implementation of renewable energy technologies and energy efficiency measures. This was done through providing a grant that finances 50% of an energy audit study, the payback of bank interest on a 350,000JD loan to the factory to follow the methods indicated in the above-mentioned energy audit research, and a guarantee of this loan with the Jordan Loan Guarantee Corp.

### ACHIEVED OUTCOME INDICATORS FOR THE FACTORIES PROGRAM 2015 - 2023



524,180

Expected savings in the final invoice for factories (JD) per year



2,836

Expected reduction in CO2 emissions (Ton) annually



4,653

Expected reduction in electricity consumption (MWh) per year

### GENERAL ACHIEVEMENTS

From the start of the project until 2023, 46 energy audit studies for 46 factories were conducted. These were accepted based on JREEEF's formal authorizations provided to banks and factories for energy efficiency and renewable energy procedures approved by JREEEF and the factory. Based on the energy audit studies accepted by JREEEF and the factory, the technical team at JREEEF calculated the expected savings of these operations.

### ACHIEVED OUTPUT INDICATORS FOR THE FACTORIES PROGRAM 2015-2023

Indicator	Output
Energy audit studies conducted	46
Responded to energy audit study and started implementing their outputs	8
Installations implementing energy efficiency measures	8
Implemented renewable energy measures	3
PV System capacity (kW)	1,487
Generation of PV (MWh) annually	2,320



### Distribution of Factories Participating in the Program Depending on Industrial Sectors

Industrial sector	Number of factories
Plastic and rubber industries	25
Therapeutic Industries and Medical Supplies Sector	10
Food and catering industries	21
Chemical and cosmetics industries	13
Textile industries	8
Engineering industries and information technology	5
Printing, packing, and packaging	7
Construction industries	10
Wood and furniture sector	1
<b>Total</b>	<b>100</b>

JREEEF is always working to enhance and update the program's foundations, standards, conditions, and methods. Through field inspections and consulting sessions with factory owners, technical staff, and energy auditing service providers, JREEEF also examines and monitors the benefiting factories.

JREEEF is devoted to discussing issues and obstacles and establishing appropriate solutions, as well as developing chances for program advancement in a participative manner for each factory.

JREEEF also works with interested development partners. It has signed two joint cooperation agreements with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) through the Green Action In Enterprises (GAIN) project. This agreement aims to provide support to JREEEF's staff in implementing the program within the project's activities to support the green economy in the industrial sector.

### STRATEGIC PARTNERS

- Jordan Loan Guarantee Corp.
- Commercial Banks.
- Jordan Chambers of Industry.
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) through the Green Action in Enterprises (GAIN) project.



# SME's SECTOR

## Energy Efficiency Program for Hotels

According to the energy balance in the Ministry of Energy and Mineral Resources Publication of 2021, the Services Sector is the fourth in final energy consumption, consuming roughly 1,008 thousand tons of oil equivalent, which is equivalent to 16% in 2021. It is also a consumer of electricity, accounting for 15% of total consumption in 2021. As a result, JREEEF prioritized this sector in developing its operational plan, so that a program to rationalize energy consumption and improve efficiency is designed for hotels with four stars and less in various areas of the Kingdom, beginning with the Petra region in Wadi Musa in Ma'an governorate, then Madaba governorate, and finally the Aqaba governorate. JREEEF's objective is to support these hotels to provide better services for tourism in Jordan, increase the sector's competitiveness, and sustain existing employment opportunities and develop new ones.

### ACHIEVED OUTCOME INDICATORS FOR THE HOTELS PROGRAM 2015-2023



108,267

Estimated number of beneficiaries (employees and hotel visitors) from energy efficiency applications



174,325

Expected savings on the final hotel bill (JD) per year



718

Expected reduction in CO2 emissions (Ton) annually



1,818.7

Expected reduction in electricity consumption (MWh) per year

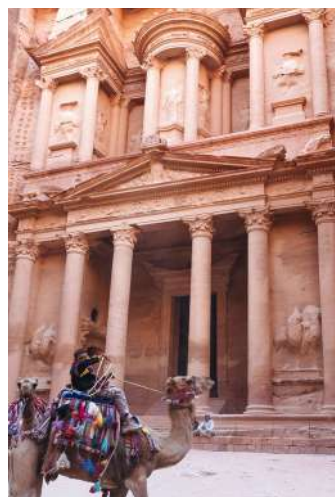
### PROGRAMS/PROJECTS

JREEEF has designed an energy efficiency program for hotels categorized as four stars or below. The program will be implemented in four stages until 2024 as follows:

- 1. Stage One:** Implementing energy efficiency measures for hotels categorized as four stars or below, including eight hotels in the Petra region of Ma'an Governorate.
- 2. Stage Two:** Implementing energy efficiency measures for hotels categorized as four stars or below, including four hotels in the Petra region of Ma'an Governorate.
- 3. Stage Three:** Conducting an energy audit study for hotels categorized as four stars or below, including four hotels in Madaba Governorate.
- 4. Stage Four:** Conducting an energy audit study and implementing energy efficiency measures for hotels categorized as four stars or below, including ten hotels in Aqaba Governorate.

### STAGE FOUR

JREEEF has signed a joint cooperation and financing agreement with the Aqaba Special Economic Zone Authority to support the Energy Efficiency Program for Aqaba hotels. Under this agreement, JREEEF and the Authority will jointly fund 50% of the implementation cost of energy efficiency measures. Additionally, the United Nations Development Programme (UNDP) will provide a grant to conduct energy audit studies for the twelve hotels participating in the program.



### GENERAL ACHIEVEMENTS

Since the start of the program until the end of 2020, the first, second, and third stage have been implemented, including the preparation of energy audit studies for hotels categorized as four stars or below in the Petra region of Ma'an Governorate. Additionally, energy audit studies have been completed for four hotels categorized as four stars or below in Madaba Governorate.

Currently, the fourth stage of the project is being implemented for hotels in Aqaba Governorate.

### ACHIEVED OUTPUT INDICATORS FOR THE HOTELS PROGRAM 2015-2023

Indicator	Output
Number of hotels implemented energy efficiency applications	12
Number of energy audit studies conducted.	30
Number of replaced LED lighting units.	5,908
No. of SWH installed	7

### STRATEGIC PARTNERS

- Agence Française de Développement (AFD)
- Petra Hotels Association
- Petra Region Authority
- Heritage and archeological sites preservation in Madaba
- Aqaba Special Economic Zone Authority

### FINANCIERS

Phase 1 and Phase 2:

- 100% of the cost of the energy audit study is granted by the French Agency for International Development (AFD) to each hotel.
- 25% of the value of implementing the outputs of the energy audit study is granted by JREEEF to each hotel.
- 50% of the value of implementing the outputs of the energy audit studies is granted by the French Agency for International Development (ADF) to each hotel.

### Phase 3

- 100% of the cost of the energy audit study is granted by JREEEF in Madaba

### Phase 4

- 100% of the cost of the energy audit study is granted by UNDP.
- 25% of the value of implementing the outputs of the energy audit study is granted by JREEEF to each hotel.
- 25% of the value of implementing the outputs of the energy audit studies is granted by the Aqaba Special Economic Zone Authority.

# THE ENERGY SERVICE COMPANIES MODEL (ESCOs)

## INTRODUCTION

The Energy Service Companies (ESCOs) Model aims to establish and develop a sustainable financial and operational model for energy service companies. These companies enter into Energy Performance Contracting agreements with beneficiary facilities, wherein the company implements energy efficiency solutions in the facility in exchange for a specified share of the achieved annual savings over a defined period. This contract includes a method for calculating the annual savings based on an internationally recognized Measurement and Verification Protocol known as IPMVP (International Performance Measurement and Verification Protocol).



Because of the importance of adopting this model in terms of predicted energy savings, cost-effectiveness, and promotion of the local Jordanian market, JREEEF supports the application of this model in Jordan through the following:

1. JREEEF participates in the development of necessary government legislation and institutional frameworks required for the implementation of this model in Jordan.
2. Preparations were made for preliminary studies to apply the model in Jordan. These studies include assessing the investment risks in energy efficiency projects and their financing, as well as the general tools and methods used in energy efficiency projects. They also identify the investment needs for energy efficiency in the public sector, with support from the Sustainable Urbanization and Resource Efficiency (SURE) project funded by the United Nations Development Programme (UNDP).
3. JREEEF supported the preparation of the national program for energy efficiency in buildings and public facilities.



4. JREEEF plays a key role in the development of the National Energy Efficiency Program in critical production sectors such as hotels, industries, and hospitals using the Energy Service Companies (ESCOs) business model. This includes the signing of five agreements between JREEEF, banking associations, hospitals, hotels, the Jordan Chamber of Industry, and UNDP to collaborate and support the program's implementation, which will represent a qualitative leap in long-term energy efficiency work in the targeted sectors.



5. JREEEF conducted the implementation of the first phase of the National Energy Efficiency Program through the Energy Service Companies (ESCOs) model in the Aqaba region. This is for the energy efficiency project in Aqaba's 4-star and below hotels, in collaboration and partnership with the Aqaba Special Economic Zone Authority, the Aqaba Hotels Association, and with the support of UNDP.

## STRATEGIC PARTNERS

- Petra Hotels Association
- Aqaba Special Economic Zone Authority
- Jordanian Banks Association
- Jordanian Hospitals Association
- Jordan Chamber of Industry

## FINANCIERS

- Aqaba Special Economic Zone Authority
- United Nations Development Programme (UNDP)



# PUBLIC BUILDINGS





# GOVERNMENT & PUBLIC BUILDINGS SECTOR

## Installing Photovoltaic Systems for Schools

The education sector is one of the most important sectors that can be targeted for energy efficiency and renewable energy initiatives, given its direct impact on the student's educational environment and academic performance. According to the statistical report for the academic year 2017-2018 issued by the Ministry of Education, there are a total of 3,835 schools under the Ministry's supervision. Among these, there are 1,391 boy's schools, 496 girl's schools, and the remaining are mixed-gender schools. These schools accommodate a total of 1,378,841 students, including 733,686 female students.

In line with the Royal Initiative of His Majesty King Abdullah II to provide heating and cooling systems for schools across the Kingdom, JREEEF developed a program specifically aimed at heating and cooling for schools under the Ministry of Education. The objective of this program is to create a conducive learning environment within the classrooms. JREEEF is working in collaboration with all relevant stakeholders and interested partners to implement this initiative.

### ACHIEVED OUTCOME INDICATORS FOR THE SCHOOLS PROJECT 2015-2023



67,950

Estimated number of beneficiaries (staff and students) from energy efficiency and renewable energy applications



494,840

Expected savings on the electricity bill (JD) per year



2,101

The expected decrease in CO2 emissions (Ton) annually



3,299

The expected reduction in electrical energy consumption (MWh) annually

### PROGRAMS / PROJECTS

As part of the Royal Initiative to provide heating and cooling systems for schools, JREEEF developed a specific program called Heating and Cooling Program for Governmental Schools in the Kingdom. This program involves implementing energy efficiency and renewable energy measures in governmental schools, with full support from JREEEF or in partnership with institutions and financing entities. Through this program, various measures are implemented, including energy efficiency initiatives, installation of cooling and heating systems, general maintenance of buildings and classrooms, replacement of windows and doors, installation of solar water heaters to meet the school's hot water needs, and the installation of photovoltaic cells to cover the school's entire electricity consumption. Additionally, an awareness campaign was launched to educate students, teachers, and the local community about energy efficiency and renewable energy applications.

### GENERAL ACHIEVEMENTS

Energy efficiency measures and renewable energy applications have been implemented in 136 governmental schools, comprising a total of 2,378 classrooms. This includes the replacement of old lighting units with energy-efficient LED lighting units, installation of solar water heaters, installation of photovoltaic cells, as well as other necessary works for the school such as installation of air conditioning and heating systems, boiler maintenance, maintenance of buildings, windows, and doors, and installation of monitoring systems for the cells, etc.



### ACHIEVED OUTPUT INDICATORS FOR THE SCHOOLS PROJECTS 2015 - 2023

Indicator	Outputs
Number of buildings that used energy efficiency and renewable energy applications	136
Number of energy audit studies conducted	136
Photovoltaic systems capacity (kW)	2,115
Generation of PV (MWh) annually	3,299
Number of installed solar water heaters	46
Number of LEDs replaced	45,097

#### STRATEGIC PARTNERS

- Royal Scientific Society and National Energy Research Center (NERC)
- Jordanian Ministry of Education
- Princess Alia Foundation (PAF)
- Norwegian Refugee Council (NRC)
- Global Affairs Canada / Canadian Government within Jordan's Sustainable Energy and Economic Development (SEED) Project
- Mercy Corps
- Al-Wasatia Municipality

#### FINANCIERS

- Norwegian Refugee Council (NRC)
- Global Affairs Canada / Canadian Government within Jordan's Sustainable Energy and Economic Development (SEED) Project
- Mercy Corps
- Al-Wasatia Municipality
- Jordan Wind Project Company within the Community Responsibility Program



# GOVERNMENT & PUBLIC BUILDINGS SECTOR

## Energy Audits for Governmental Buildings

### INTRODUCTION

In compliance with the government directives to rationalize and control expenses, which include the implementation of energy efficiency and alternative energy measures in ministries and official departments, JREEEF has taken the initiative to establish a financial window to support energy audit studies for governmental buildings. This support entails covering 50% of the cost of energy audit studies for governmental buildings and public institutions, with the remaining 50% to be covered by the respective institution.

### PROGRAMS/PROJECTS

This program includes one main project to date, which is the project to support energy audit studies for governmental buildings.

### ACHIEVED OUTCOME INDICATORS FOR GOVERNMENTAL BUILDINGS 2015-2023



# 24

Number of government institutions benefiting from the program

### GENERAL ACHIEVEMENTS

The energy audit study was conducted under the supervision of JREEEF for 24 government institutions, JREEEF manages and supervises the energy audit project for government institutions in terms of conducting energy audit studies, revising them for modification, follow-up, issuing final approvals, and financing.



### INSTITUTIONS THAT CONDUCTED AN ENERGY AUDIT STUDY

Ministry of Social Development
Energy and Minerals Regulatory Commission
Ministry of Energy and Mineral Resources
Ministry of Industry, Trade and Supply
Ministry Of Digital Economy And Entrepreneurship
Jordanian Ministry of Foreign Affairs and Expatriates
Jordan Loan Guarantee Corp
Higher Council for the Rights of Persons with Disabilities (HCD)
Civil Consumer Foundation
Zarqa Municipality
Agricultural Credit Corporation
Electricity Distribution Company
Irbid District Electricity Distribution Company (IDECO)
Jordan Petroleum Refinery
National Petroleum Company
King Abdullah University Hospital
Princess Sumaya University of Technology
Central Electricity Generation Company (CEGCO)
Central Electricity Generation Company (CEGCO)
Hashemite University
Directorate General of Civil Defence
Ministry of Health
Housing and Urban Development Corporation (HUDCO)
Ministry of Transport

#### STRATEGIC PARTNERS

- Royal Scientific Society and National Energy Research Center (NERC)

#### FINANCIERS

- European Union (EU)  
- United State Agency for International Development (USAID)

# GOVERNMENT & PUBLIC BUILDINGS SECTOR

## Installation of Photovoltaic Systems for Municipalities

### INTRODUCTION

To achieve JREEEF's strategic objectives and contribute to the use of renewable energy sources and energy efficiency in buildings and public facilities, in line with Jordan's vision of economic modernization, JREEEF has designed a program to support the installation of solar panels on all municipal buildings, totaling the 100 municipalities. This program is funded jointly by the Italian government, represented by the Italian Ministry of Environment and Energy Security, and JREEEF, in collaboration and coordination with the Ministry of Local Administration, which is responsible for the municipalities that will benefit from the program. The goal of the project is to reduce the energy consumption in these buildings and use the savings to benefit the targeted local regions

### ACHIEVED OUTCOME INDICATORS FOR THE MUNICIPALITIES PROJECT 2023



14,500

Estimated beneficiaries of energy efficiency and renewable energy applications



197,765

Expected savings on the electricity bill (JD) per year



468

Expected reduction in CO2 emissions (Ton) annually



1,020

Expected reduction in electricity consumption (MWh) per year

### ACHIEVED OUTPUT INDICATORS FOR THE MUNICIPALITIES PROJECT 2023

Indicator	Outputs
Number of MP using renewable energy	29
PV system capacity (KW)	654
Generation of PV (MWh) annually	1,020



### PROGRAMS/PROJECTS

JREEEF designed the program for the installation of solar panels for municipalities to be implemented in two phases. The first phase involves installing solar panels for municipal buildings in 30 municipalities distributed across the three regions of the Kingdom. The second phase includes installing solar panels for municipal buildings in 70 municipalities



### GENERAL ACHIEVEMENTS

JREEEF signed a cooperation and joint financing agreement with the Italian Ministry of Environment and Energy Security in 2018 to support renewable energy and energy efficiency projects in Jordan. As a result of this agreement, the project for installing solar panels for the hundred municipalities in Jordan emerged.

Several training courses were also conducted for the targeted municipalities in the first phase. The aim was to train municipal employees on the installation of solar photovoltaic systems and to raise awareness about energy efficiency concepts.



### PARTNERS AND FINANCIERS

- Ministry of Local Administration
- Municipalities
- The Italian Ministry of Environment and Energy Security



# GOVERNMENT & PUBLIC BUILDINGS SECTOR

## Installation of Photovoltaic Systems for Health Centers

### INTRODUCTION

According to the sectoral distribution of final energy consumption, the service sector ranked fourth in consumption, consuming approximately 1,008 thousand metric tons of oil equivalent, accounting for 16% of total consumption in 2021, according to the Ministry of Energy and Mineral Resources energy balance for the year 2021. It is also one of the sectors that consumes electricity, accounting for 15% of overall electricity consumption in 2021. The healthcare industry is regarded as one of the most essential service industries. As a result, JREEEF has created a proposal to install solar panels for Jordan's health centers. The project's goal is to provide the required financing for health centers to install solar panels, which will lower their electricity bills. It will also create a suitable and comfortable atmosphere for the health centers beneficiaries by guaranteeing proper cooling, heating, and hot water supply through the installation of solar water heaters. This initiative is being implemented in close collaboration and coordination with the Ministry of Health.

### ACHIEVED OUTCOME INDICATORS FOR THE HEALTH CENTERS PROJECT 2023



**433,433**

Estimated beneficiaries of energy efficiency and renewable energy applications



**121,590**

Expected savings on the electricity bill (JD) per year



**256**

Expected reduction in CO2 emissions (Ton) annually



**560**

Expected reduction in electricity consumption (MWh) per year

### ACHIEVED OUTPUT INDICATORS FOR THE HEALTH CENTERS PROJECT 2023

Indicator	Outputs
Number of HC using renewable energy	14
PV system capacity (KW)	358
Generation of PV (MWh) annually	560



### GENERAL ACHIEVEMENTS

The project installed PV systems for 14 health centers distributed across three regions in Jordan.

Several training courses have also been conducted for the targeted health centers with the aim of training employees on the installed solar panel system, as well as raising awareness about energy efficiency concepts within the facility.

### PROGRAMS/PROJECTS

JREEEF designed a program to support the installation of photovoltaic cells for health centers. The project, in its first phase, includes 14 targeted health centers distributed across the regions in Jordan. This number represents a portion of the total number of health centers in Jordan, which amounts to 78.



### STRATEGIC PARTNERS

- Ministry of Health



# GOVERNMENT & PUBLIC BUILDINGS SECTOR

## Installation of Photovoltaic Systems for Worship Places

### INTRODUCTION

The worship places sector is an important sector in terms of high electricity consumption, as the number of mosques in the Kingdom is more than 6,610 according to the yearbook issued by the Department of General Statistics for 2017. The number of churches was more than 100 nationwide. JREEEF is therefore promoting the use of renewable energy technology applications to reduce electricity consumption in this sector and create a suitable environment for visitors to places of worship.

### PROGRAMS / PROJECTS

Within this sector, there is one main program to date, which is the installation program of photovoltaic cells for worship places, including mosques and churches.

### ACHIEVED OUTCOME INDICATORS FOR THE WORSHIP PLACES PROJECT 2015-2023



602,000

Estimated beneficiaries of energy efficiency and renewable energy applications



3,979,650

Expected savings on the electricity bill (JD) per year



10,036

Expected reduction in CO2 emissions (Ton) annually



15,812

Expected reduction in electricity consumption (MWh) per year

### GENERAL ACHIEVEMENTS

From the beginning of the project until the end of 2023, PV systems were installed and operated for 602 Mosques and Churches.

### ACHIEVED OUTPUT INDICATORS FOR THE WORSHIP PLACES PROJECT 2015-2023

Indicator	Outputs
Number of worship houses using renewable energy	602
PV System capacity (kW)	8,831
Generation of PV (MWh) annually	15,812



### PARTNERS AND FINANCIERS

- The Ministry of Awqaf Islamic Affairs and Holy Places is one of JREEEF's most important strategic partners in this program. The Ministry of Awqaf is supporting 25% of the system cost, JREEEF is also supporting 25%, and the rest is financed by the mosque committee or the representative of the house of worship.
- Local mosque committees, where the remaining funding is provided, which is 50% of the cost of the system.
- Church management entities.





# GOVERNMENT & PUBLIC BUILDINGS SECTOR

## Installation of Photovoltaic Systems for Public Benefit Institutions

### INTRODUCTION

JREEEF designed a program to support renewable energy technology for institutions, associations, and national institutes that serve special parts of society such as orphans, individuals with special needs, the elderly, and others. By assisting with the installation of photovoltaic cells, this program intends to decrease the burden of monthly expenditures on them and enable them to complete their obligations and achieve their goals. The program to promote renewable energy technologies for institutions, associations, and national institutes is regarded as one of the nation's leading programs in assisting institutions with specific missions.

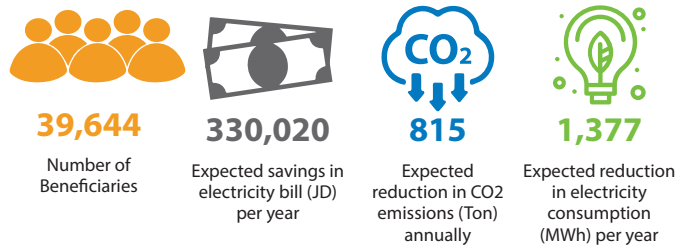
### GENERAL ACHIEVEMENTS

JREEEF has supported the installation and operation of photovoltaic systems for 15 associations and national centers, which are as follows:

1. White Family Association
2. Princess Taghreed Association
3. Stem Cell Therapy Center
4. Dart samir Shamma Associations
5. National Center for Woman's Health Care
6. The Cerebral palsy Care Foundation Association Amman
7. The Cerebral palsy Care Foundation Association Zarqa
8. The Cerebral palsy Care Foundation Association Karak
9. The Cerebral palsy Care Foundation Association Irbid
10. Muslim Young Woman Association
11. King Hussein Charity Fund Association
12. Royal Academy for Natuer Conservation
13. Himmetna Association / Al Bashir Hospital
14. Beit Maryam Al Adhraa umm AlRaja a Association for Children
15. Jordan Media Institute



### ACHIEVED OUTCOME INDICATORS FOR THE PUBLIC BENEFIT INSTITUTIONS PROJECT 2015 -2023



### ACHIEVED OUTPUT INDICATORS FOR THE PUBLIC BENEFIT INSTITUTIONS PROJECT 2015-2023

Indicator	Outputs
The Number of Institutions that use Renewable Energy.	15
System Capacity (kW)	780
Generation of PV (MWh) annually	1,377

# SUSTAINABLE ENERGY AND ECONOMIC DEVELOPMENT PROJECT IN JORDAN - SEED



Based on a joint agreement between Global Affairs Canada and the Ministry of Energy and Mineral Resources (MEMR), represented by JREEEF, the Sustainable Economic and Energy Development (SEED) project was established. The project specifically operated in the Ajloun Governorate and Deir Alla District, with funding shared between JREEEF (10%) and the Canadian government (90%). The project aimed to develop local communities by raising awareness and implementing energy efficiency and renewable energy solutions in the household sector, as well as selected governmental schools, health centers, and municipalities.

## ACHIEVED OUTCOME INDICATORS FOR THE SEED PROJECT 2015-2023



**341,900**

Estimated number of citizens benefiting from energy efficiency and renewable energy applications



**1,125,000**

Expected savings in household bill (JD) per year



**7,900**

Expected reduction in CO2 emissions (Ton) annually



**10,842**

Expected reduction in electricity consumption (MWh) per year

## STRATEGIC PARTNERS & FINANCIERS

Canadian Global Affairs Canada (GAC) is considered a principal partner and funder of the Sustainable Economic and Energy Development (SEED) project in Jordan, which is being implemented by the Canadian company COWATER International Inc.



## PROGRAMS/ PROJECTS

The project aimed to drive sustainable economic growth in the Ajloun Governorate and the Deir Alla District by raising awareness and implementing energy efficiency and renewable energy solutions. This was achieved through three main pillars:

- Enhancing living standards by providing optimal solutions in the areas of energy efficiency and renewable energy.
- Training, employment, supporting companies, and innovation in the field of energy efficiency and renewable energy.
- Establishing a favorable environment to promote the growth of the renewable energy sector in Jordan.

## ACHIEVED OUTPUT INDICATORS FOR THE SEED PROJECT 2015-2023

No. of Buildings that Implemented EE	12
No. of Buildings that Implemented RE	18
No. of Households that Implemented EE	6,440
No. of Households that Implemented RE	1,517
PV Cells Capacity KW	5,710
Solar PV systems Production MWH annually	8,900
LED Units Replaced	28,750
No. of SWH installed	1,515

The project successfully implemented energy efficiency and renewable energy solutions for 11 governmental buildings, including 6 governmental schools and 5 health centers. Additionally, renewable energy solutions were applied to the municipalities of Deir Alla and Al-Mu'addi through the implementation of 2 solar power stations with a capacity of 952 kilowatts each. Furthermore, a photovoltaic system with a capacity of 52 kilowatts was installed for Ajloun Castle, an archaeological site. Separate photovoltaic systems were also installed for four protection towers belonging to Ajloun forests, operating independently from the electrical grid.



# AGRICULTURAL SECTOR





# AGRICULTURAL SECTOR

## Installation of Photovoltaic Systems for Farms

### INTRODUCTION

In line with the government’s efforts to improve the efficiency of natural resource utilization in general, and to increase reliance on clean and alternative solar energy in particular, JREEEF has designed a program to support renewable energy technologies in the agricultural sector. The goal is to reduce the national energy bill, particularly in the agricultural sector, and to keep up with the latest developments in utilizing advanced technology to benefit farmers.

JREEEF has engaged into a joint cooperation agreement with the Agricultural Credit Corporation as part of this program to promote the financing of innovative agricultural projects for small-scale farmers. JREEEF will cover the interest on agricultural loans up to a maximum of 15,000 Jordanian Dinars for the installation, connection, and operation of a solar system under this arrangement. This reduces electricity use and lowers monthly bills for farmers who profit from it.

### PROGRAMS / PROJECTS

Within this sector, there is one primary program to date, which is the program to support renewable energy technologies for small-scale farmers and other agricultural projects, excluding groundwater extraction from artesian wells or natural water sources. The project is nearing completion after the installation of photovoltaic systems for the targeted farms. After conducting an impact assessment of the first stage of the project by studying the results and conducting necessary field visits, JREEEF collaborated with relevant entities to design the second phase. Subsequently, JREEEF signed an agreement with the Agricultural Credit Cooperation for this phase, with a loan cap of 20,000 JD.

### ACHIEVED OUTCOME INDICATORS FOR THE AGRICULTURE PROJECT 2015-2023



328,755

Expected savings on the electricity bill (JD)



3,309

Expected reduction in CO2 emissions (Ton) annually



5,600

Expected reduction in electricity consumption (MWh) per year

### GENERAL ACHIEVEMENTS

From the beginning of the project until the end of 2023, photovoltaic cell systems have been installed and operated for 183 agricultural farms benefiting from the program.

#### PARTNERS AND FINANCIERS

The Agricultural Credit Corporation is the most important strategic partner, financing loans with a maximum of JD 20,000 for farmers wishing to benefit from the project. JREEEF pays the interest on these loans in accordance with the agreement between the two parties.



### ACHIEVED OUTPUT INDICATORS FOR THE AGRICULTURE PROJECT 2015-2023

Indicator	Outputs
Number of agricultural farms using renewable energy	183
System capacity (kW)	3,590
Production of PV (MWh) annually	5,600

### THE ACTIVITIES OF THE FARMS BENEFITING FROM THE PROGRAM



Activities
Cows
Fish
Fruit
Poultry
Poultry and cows
Dairy Factory



# CAPACITY BUILDING IN THE ENERGY SECTOR



# TRAINING

## INTRODUCTION

JREEEF considers this sector as a priority in the preparation of its executive plan, based on the provisions of Article 5, paragraph (a), sub- paragraph (5), and branch (d) for the year 2015. The article states the following: Granting subsidies for the following areas: public campaigns for education, training, and awareness-raising related to renewable energy and energy efficiency. Hence, JREEEF designed training programs aimed at capacity building, raising awareness, and education in the field of energy efficiency, improving its efficiency use, as well as promoting awareness and education in the field of renewable energy for individuals. Additionally, JREEEF aims to enhance awareness among members of the local community in this sector.

## NUMBER OF TRAINEES WHO BENEFITED FROM JREEEF TRAINING PROGRAMS 2015 -2023



As part of its capacity-building and training efforts in the energy sector, JREEEF has signed a Memorandum of Understanding (MOU) with Al- Hussein Technical University (HTU) to support engineers in energy efficiency and renewable energy training programs across various governorates of the Kingdom. The (MOU) entails a collaborative partnership in the scientific and technical field, focusing on renewable energy projects and initiatives, energy efficiency, promoting awareness of responsible energy use, and mutual exchange of expertise and competencies between JREEEF and the university.



## PROJECTS/ PROGRAMS

### Firstly :

JREEEF has actively worked on providing fully-funded training programs for engineers in the field of renewable energy and energy efficiency. These programs have been developed in collaboration with several international grants, such as the Capacity Building Project in the Energy Sector funded by the United States Agency for International Development (ESCB/USAID), the Technical Assistance and Expertise Project (REEEII/EU) funded by the European Union, and the Sustainable Economic and Energy Development (SEED) project funded by the Canadian government.

These training programs have benefited employees from both the public and private sectors, as well as JREEEF's own staff, employees of electricity distribution companies, and individuals working in industrial facilities. Specifically, JREEEF has implemented a support program for the application of energy efficiency and renewable energy in the industrial sector. Through this program, a total of 1,330 trainees have participated in specialized courses focusing on renewable energy and energy efficiency.

### Secondly :

JREEEF entered into a Memorandum of Understanding (MOU) with the Jordanian Engineers Association, encompassing the provision of training courses entitled «Certified Energy Management Professional». These courses are jointly financed by the Jordanian Engineers Association and RCREEE. A total of 298 engineers, including both male and female professionals, have benefited from these courses.

### Thirdly:

JREEEF has been receiving and training engineers interested in benefiting from the experiences and capabilities of JREEEF within its premises, under the supervision of JREEEF's team, on the programs and projects of JREEEF, as part of the Engineers Training Program under the Ministry of Public Works and Jordanian Engineers Association. Additionally, there is a training program designed by JREEEF in collaboration with the Institute of Electrical and Electronics Engineers (IEEE) in a cooperative agreement between the two parties to train engineers within JREEEF. A total of 57 engineers, both male and female, have been trained.

### Fourthly:

JREEEF provided training for 358 employees from municipalities and health centers on the PV systems installed as part of the PV systems installation project across 29 municipalities and 14 health centers. The training was conducted by the contractor under the supervision of JREEEF.

It is worth mentioning that 2,043 trainees, comprising both male and female participants, have benefited from the aforementioned training programs, with a percentage of female trainees reaching 45%, while the percentage of male trainees reaching 55%.



# AWARENESS AND PROMOTION

Recognizing the importance of raising awareness within the community and among stakeholders regarding renewable energy solutions and energy efficiency applications across all sectors, JREEEF has launched various promotional campaigns in line with its strategic objectives. These initiatives aim to inform beneficiaries about JREEEF's programs and projects that promote the use of renewable energy sources and the adoption of energy efficiency solutions. JREEEF regularly participates in educational activities and programs at Jordanian schools and universities, as well as workshops with relevant stakeholders, particularly with regard to renewable energy and energy efficiency. JREEEF also participates in local and international workshops and conferences related to clean energy and climate change actions worldwide.



JREEEF launched its initial campaign in three stages between 2016 and 2017. The campaign featured external advertisements for renewable energy solutions and energy-efficient products, such as solar panels and energy-saving LED lights. It included radio and television ads on various channels, including Jordan's Roya TV, the Jordanian Television Channel, Hala Radio, and Rotana Radio. In addition, the campaign involved a number of television interviews.

According to official figures, this campaign reached an audience of 165 million viewers and had a viewership rate of over 77%.

JREEEF developed its second awareness campaign in 2022, during which it produced several visual materials for television highlighting JREEEF's successes from its creation to the present day, across all the sectors it has operated in. These materials included individual videos for each sector, in addition to a general promotional video highlighting the overall accomplishments of the fund. These visual promotional materials will be broadcasted through Jordanian television channels in 2024.









# JORDAN RENEWABLE ENERGY & ENERGY EFFICIENCY FUND TEAM



MINISTRY OF ENERGY AND MINERAL RESOURCES

# PARTNERS AND AWARDS

JREEEF Fund built important partnerships that contributed to the success of its programs and projects, which included local and international partners. And it won regional and international honors.



## JREEEF'S AWARDS









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