



**Ministry of Energy & Mineral Resources
The Hashemite Kingdom of Jordan**

**Jordan Energy Strategy Action Plan
2020-2030
Second Edition**

Sector Electricity

PROGRAM 1: DIVERSIFICATION OF ELECTRIC POWER GENERATION SOURCES

1.1. USE NATURAL GAS TO GENERATE ELECTRICITY ALONGSIDE WITH RENEWABLE ENERGY PROJECTS AND OTHER COMMITTED PROJECTS IN THE KINGDOM

<i>Activity</i>	<i>Activity Duration</i>	<i>Key Performance Indicator (KPI)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Follow up the implementation of signed electric power purchase agreements with project developers	2030-2020	<ul style="list-style-type: none"> - Generation stations availability Ratio - Ratio of generating reserve at the time of loads 	National Electric Power Company (NEPCO)	<ul style="list-style-type: none"> - Ministry of Energy & Mineral Resources - Energy & Minerals Regulatory Commission (EMRC) - Developers Project 	Commitment of the contracting parties to energy purchase agreements	
Retired & expired & non-renewal contracts units	2030-2020	<ul style="list-style-type: none"> - Number of expired Units which contracts did not renewal. - Number of Units bought by the government. 	National Electric Power Company (NEPCO)	Generating Electricity Companies	Retired & expired & non-renewal contracts units	
Sustain 10% of generation reserve of the electrical system	2030-2020	Generation reserve Ratio	<ul style="list-style-type: none"> - Electricity Generating Companies - National Electric Power Company (NEPCO) 		Compliance with the adopted methodology for planning the electrical system	

1.2. INCREASE THE CONTRIBUTION OF RENEWABLE ENERGY PROJECTS TO COVER THE KINGDOM'S ELECTRICITY DEMAND						
<i>Activity</i>	<i>Activity Duration</i>	<i>Indicator Performance Key (KPI)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Support to small consumers and National Aid Fund beneficiaries to generate electricity using renewable energy systems	2030-2020	<ul style="list-style-type: none"> - Number of households to benefit from the project - Reduce the energy bill of the target group - Reduce the losses of the National Electric Power Company (NEPCO) resulted from supporting target group. 	<ul style="list-style-type: none"> - Ministry of Energy & Mineral Resources - National Aid Fund - Energy & Minerals Regulatory Commission (EMRC) 	<ul style="list-style-type: none"> - Private Sector & Donors - National Energy Research Center - Electricity Distribution Companies 	of Availability required funding	
Conduct feasibility studies to generate electricity from nuclear energy	Post 2030 given the need of the electric power system	Feasibility Study	<ul style="list-style-type: none"> - Jordan Atomic Energy Commission (JAEC) - National Electric Power Company (NEPCO) 	<ul style="list-style-type: none"> - Ministry of Energy & Mineral Resources - Energy & Minerals Regulatory Commission (EMRC) 	of Availability required funding	

1.3 Build the required Strategy to develop Hydrogen generation in the Kingdome						
Activity	Activity Duration	Performance Key (KPI Indicator)	Responsibility Main	Partners Key	Prerequisites	Related strategies to this action
Map Road Hydrogen Build	2023/1 2023/6	Road the Conduct map	Ministry of Energy & Mineral Resources	Stakeholders Related		Economic Modernization Vision
Finalize the feasibility studies to generate Hydrogen and Green Ammonia in Aqaba Special Economic Zone	2021 2025	- the Conduct .study feasibility - Investment Sign contracts	- Ministry of Energy & Mineral Resources - Aqaba special economic zone authority. - Consultant Company	- Aqaba Development Corporation. - Ministry of water and Irrigation		
Producing Green Ethanol from Hydrogen (AP Moller)	2022 2023	- the Conduct .study feasibility - Sign MOU with the Developer.	- Energy of Ministry Mineral Resources - Developer Project			
Build National Strategy to Production and potential demand of hydrogen.	2023	Certified Officia Strategy	Ministry of Energy & Mineral Resources	Stakeholders Related		
Regulate Hydrogen related sectors.	2023 2024	related the Publish .regulations	Ministry of Energy & Mineral Resources	Energy & Minerals Regulatory Commission (EMRC)		

Electricity

PROGRAM2: ENHANCE SAFETY OF THE ELECTRICITY SYSTEM AND UPSURGE SYSTEM AVAILABILITY AND RELIABILITY

2.1. MAKE NECESSARY EXPANSIONS TO THE POWER SYSTEM

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Deliver electricity to the beneficiaries inside and outside the boundaries of the existing networks according to the qualifications.	-2020 2030	Number of beneficiary households	Ministry of Energy & Mineral Resources	Ministry of Social Development ----- Electricity Distribution Companies per licensed area	Apply the qualified basis of Rural Fils to the beneficiaries	
Enhance transmission networks and the electric power system safety in line with the comprehensive plan of the National Electric Power Company (NEPCO).	-2020 2030	Key Performance Indicators of the master plan of the National Electric Power Company (NEPCO)	- National Electric Power Company (NEPCO) - Electricity Distribution Companies	Energy & Minerals Regulatory Commission (EMRC)		
Enhance and support innovative projects, research and development to enhance the electrical system efficiency and efficacy.	-2020 2030	- Number of projects submitted - Number of implemented projects	Ministry of Energy & Mineral Resources	- Energy & Minerals Regulatory Commission (EMRC) - National Electric Power Company (NEPCO) - Electricity Generating Companies - Electricity Distribution Companies	of Applicability projects submitted	

2.1. MAKE NECESSARY EXPANSIONS TO THE POWER SYSTEM						
Activity	Activity Duration	- Performance Key (KPI's) Indicator	Responsibility Main	- Partners Key	Prerequisites	Related strategies to this action
Create a Cooperation Committee from researchers and public sector representatives to develop studies related to Electricity sector.	2020-2030	- Number of Partnership Committee meetings - Number of decisions taken	Ministry of Energy & Mineral Resources	- Electric power sector institutions - Public and private universities. - Scientific research centers		
Conduct the development of electricity grid study.	2023 - 2024	Finalize the study	- NEPCO - Consultant company - EMRC	Ministry of Energy & Mineral Resources		Economic Modernization Vision
Develop Renewable Energy system for 100 Municipalities.	2023 - 2025	- RE systems developed	- JREEEF/ MEMR - Project Developer		Funding Availability	
Study the best options of waste-to-energy projects	2024 - 2025	Finalize the study	Ministry of Energy & Mineral Resources	- Ministry of Environment - Ministry of Local Administration		

2.2. ENHANCE THE CURRENT INTERCONNECTION PROJECTS AND CONSTRUCT NEW PROJECTS						
Activity	Activity Duration	Key Performance Indicator (KPI)	Main Responsibility	Key Partners	Prerequisites	Related strategies to this action
<p>Renew the electricity energy exchange contract between Egypt and Jordan</p> <p>-----</p> <p>Increase the capacity of the electricity interconnection line between Jordan and Egypt to 1100 MW</p>	<p>going On</p> <p>2026 2023</p>	<p>Renew the electricity energy exchange contract annually</p> <p>-----</p> <p>Increase the capacity of interconnection networks</p>	<p>National Electric Power Company (NEPCO)</p>	<p>Ministry of Energy & Mineral Resources</p> <p>-----</p> <p>Egyptian Electricity Transmission Company (EETC)</p>	<p>Technical & economic Feasibility achieved</p> <p>-----</p> <p>Availability of required funding</p>	<p>Economic Modernization Vision</p> <p>Economic Modernization Vision</p>
<p>Re-operate Jordan-Syria interconnection line</p> <p>-----</p> <p>The expansion of the Jordanian-Syrian electrical interconnection project</p>	<p>2020</p> <p>2030-2025</p>	<p>Operate the interconnecting line</p> <p>-----</p> <p>Increase the capacity of interconnection networks</p>	<p>National Electric Power Company (NEPCO)</p>	<p>Ministry of Energy & Mineral Resources</p> <p>-----</p> <p>Syrian Electricity Transmission Company</p>	<p>Political willpower</p> <p>-----</p> <p>Parties agreement</p> <p>-----</p> <p>Feasibility achieved</p>	
<p>Increase the capacity of the electrical interconnection line between Jordan and Palestine to 80 MW</p> <p>-----</p>	<p>2020-2021</p> <p>2027 2024</p>	<p>Supply Jerusalem District Electricity Company with 80 MW service available 24/7</p> <p>-----</p>	<p>National Electric Power Company (NEPCO)</p>	<p>Ministry of Energy & Mineral Resources</p> <p>-----</p> <p>District Jerusalem Electricity Company</p>	<p>Completion of all approvals required by the Palestinian side</p>	

<p>Construct a 400 kV interconnection line from Jordan to Palestine</p>		<p>Operate the line ----- ----- Amount of electricity sold annually</p>				
<p>Implement the two phases of the Jordanian-Iraqi interconnection project (East Corridor) 400 kV. P1- 123 KV P2- 400 KV</p>	<p>2023 2022 2022- 2024</p>	<p>Operate project Phase 1 ----- ----- Prepare Project Phase 2 feasibility studies ----- ----- Sign Project Phase 2 agreements ----- ----- Operate project Phase 2 ----- ----- Amount of electricity sold per year</p>	<p>National Electric Power Company (NEPCO)</p>	<p>Ministry of Energy & Mineral Resources ----- Company Electricity Iraqi ----- Funders</p>	<p>Sign Project Phase 1 agreements ----- ----- Achieve Project Phase 2 feasibility ----- ----- ----Availability of required funding required</p>	
<p>Implement the Jordanian-Saudi 400 kV Project. P1- 500 MW P2- 1000 MW</p>	<p>2021 - 2024</p>	<p>Sign MOU ----- ----- Sign interconnection agreements ----- -----</p>	<p>Ministry of Energy & Mineral Resources ----- ----- - National Electric Power Company (NEPCO)</p>	<p>Ministry of Energy, Industry and Mineral Resources of Saudi Arabia ----- ----- Electricity Saudi Company ----- Funders</p>	<p>Parties agreement ----- ----- Availability of required funding</p>	

		Operate project ----- ----- Amount of electricity exchanged				
The GCC Interconnection Authority Project- GCC, Egypt, Jordan Interconnection	2022 - 2030	Prepare Feasibility Study Sign agreement ----- Operate project	Ministry of Energy & Mineral Resources ----- National Electric Power Company (NEPCO)	The GCC Interconnection Authority ----- Egyptian Electricity Transmission Company (EETC)	Achieve technical and economic feasibility ----- Parties agreement ----- Availability of required funding	
Study Jordan Grid Interconnection with MENA and Europe countries.	2023 - 2025	Conduct required studies	Ministry of Energy & Mineral Resources	National Electric Power Company (NEPCO)		Economic Modernization Vision

2.3. INTRODUCE STORAGE PROJECTS INTO THE ELECTRIC POWER SYSTEM (BATTERIES, WATER DAMS)						
Activity	Activity Duration	Performance Key (KPI Indicator)	Responsibility Main	Partners Key	Prerequisites	Related strategies to this action
Review the net metering and wheeling bylaw number (13) for 2012, and related instruction.	2024 2023	Issued instructions	Energy & Minerals Regulatory Commission (EMRC) ----- National Electric Power Company (NEPCO)	Ministry of Energy & Mineral Resources ----- Companies Distribution	Prepare the required studies to determine the optimal alternative	Economic Modernization Vision
electricity Issuing bylaw number (64) for 2002.	2020	Issued bylaw	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC)	National Electric Power Company (NEPCO) ----- Distribution Electricity Companies		

Construct an energy storage station using dam water in Wadi Mujib with a capacity of 450 MW	2023 2020	- Finalize Feasibility studies of the project.	Ministry of Water & Irrigation ----- Jordan Valley Authority (JVA) -----	Energy & Minerals Regulatory Commission (EMRC) ----- Investors Donors	Achieve project Feasibility taking the needs of the electric power system ----- ----- Availability of funding or grant	Economic Modernization Vision
A-Prepare a detailed feasibility study for the project	2029 2024	- Project completion rates.	National Electric Power Company (NEPCO) -----			
Project-B implementation			Ministry of Energy & Mineral Resources			

2.4. REDUCE ELECTRIC POWER SYSTEM LOSSES and RETAIN GLOBAL PRACTICES

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Execution of required plans to reduce grid losses by DISCO's	2026 2023	0.75% annually	Energy & Minerals Regulatory Commission (EMRC) -----	National Electric Power Company (NEPCO) ----- Companies Distribution		Economic Modernization Vision
Conduct required planes to reduce operation cost of electric system by DISCO's	2026 2023	3 million annually	Energy & Minerals Regulatory Commission (EMRC) ----- Distribution Companies	National Electric Power Company (NEPCO)	Feasibility achieved ----- ----- Availability of funding	Economic Modernization Vision
Emphasize the law enforcement and disconnect an illegal electricity usage	2030 2020	ratio of Non-technical losses	Energy & Minerals Regulatory Commission (EMRC) ----- Distribution Companies			

2.5. GRADUAL TRANSFORMATION INTO SMART GRID NETWORKS

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Coerce Electricity Distribution Companies with clear indication to gradually change into smart metering systems	2025-2020	%35 by 2023 %72 by 2024 %100 by 2025	Energy & Minerals Regulatory Commission (EMRC)	Distribution Electricity Companies	Availability required of funding	Economic Modernization Vision
Update electricity tariffs to stimulate switching to smart meters-(TOD) tariff meters	2025-2020	Updated Tarrif	Energy & Minerals Regulatory Commission (EMRC)	Ministry of Energy & Mineral Resources ----- National Electric Power Company (NEPCO) ----- Electricity Distribution Companies		Economic Modernization Vision
2.6. ENHANCE USING E-MOBILITY IN THE KINGDOME						
<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Conduct the Study of converting towards E-mobility	2022 - 2023	study the Finalize	Ministry of Energy & Mineral Resources	Energy & Minerals Regulatory Commission (EMRC) NEPCO DISCO's		Economic Modernization Vision
Sufficient number of electric charging stations	2030-2020	Number of chargingstations	Energy & Minerals Regulatory Commission (EMRC)	Ministry of Energy & Mineral Resources ----- Ministry of Transport ----- Private Sector		

Set mechanisms of stimulating citizens to use electric buses and vehicles	2030-2020	Number of electric vehicles ----- ----- Number of electric buses	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC)	Transport of Ministry		
The adoption of electric buses and vehicles in public transport	2030-2020	Number of electric public transport	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC)	Ministry of Transport ----- Ministry of Finance	Availability required of funding	
Encourage the use of electric buses by replacing old buses with electric buses	2025 2023	Ratio of replacing old buses to electric buses	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC)	Ministry of Transport ----- Ministry of Finance ----- Land Transport Regulatory Commission ----- Drivers and Vehicles License Department ----- Public transport companies	Availability required of funding	

2.7. ENHANCE INTEGRATION BETWEEN ENERGY AND WATER SECTORS

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Prepare a study on demand side management for the water sector	2022	Number of water pumping stations where loads can be managed	Ministry of Energy & Mineral Resources ----- National Electric Power Company (NEPCO)	Supporters	Availability of data required ----- -----	

		-----Electric load management ----- Effects of load management	----- Ministry of Water & Irrigation/Water Authority of Jordan ----- Jordan Valley Authority (JVA) ----- Energy & Minerals Regulatory Commission (EMRC)		Feasibility achieved	
Electricity generated from wastewater treatment plants	2030-2020	Produced electricity	Ministry of Water & Irrigation	Ministry of Energy & Mineral Resources ----- National Electric Power Company (NEPCO)	Electric power system need ----- ----- Available funding	

ELECTRICITY

PROGRAM 3: SUSTAIN THE FINANCIAL SITUATION OF THE ELECTRICITY SECTOR

3.1. MOVE FROM A SINGLE PURCHASE MODEL TO A COMPETITIVE SYSTEM

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	
Prepare a study on sector development to achieve a competitive structural system	2022-2021	Study and results	Energy & Minerals Regulatory Commission (EMRC) ----- Ministry Prime	Ministry of Energy & Mineral Resources ----- companies Electricity		

3.2. IMPLEMENT THE ROADMAP FOR THE FINANCIAL SUSTAINABILITY OF THE ELECTRICITY SECTOR

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Implement the measures outlined in the roadmap for financial sustainability	2030-2020	Implementation rate	National Power Company (NEPCO)		of Availability required funding	Economic Modernization Vision

OIL SECTOR						
PROGRAM 1: DIVERSIFICATION OF CRUDE OIL SOURCES						
1.1. DIVERSIFICATION OF SOURCES OF CRUDE OIL IMPORTS						
1.1.1. CONSTRUCT AN OIL PIPELINE TO EXPORT IRAQI OIL VIA AQABA						
<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Complete the required Activities from all parties involved in the project and start implementation.	2020 -2030	<ul style="list-style-type: none"> - Project Progress rate - Transfer a million barrels a day 	Ministry of Energy & Mineral Resources Ministry of Oil-IRAQ Project Developer	State Company for Oil Projects-Iraq (SCOP) Iraqi State Oil Marketing Company (SOMO) Energy & Minerals Regulatory Commission (EMRC) Aqaba Special Economic Zone Authority Aqaba Development Corporation Jordan Customs Department of Land and Survey Ministry of Environment	Sign Framework Agreement Sign two Host Government Agreements Sign Interface Agreement Availability of funding Reach successful financial closure Environmental Approvals Permit to build an oil pipeline in Jordanian territory	
project Operate	2023 - 2024	Sign required MOU	Iraqi Government Ministry of Energy			

1.2. DEVELOP OIL PRODUCTION OF HAMZA OIL FIELD						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI/Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Improve the field infrastructure	2018 - 2020	Termination	Ministry of Energy & Mineral Resources National Oil Company	Contractor/National Petroleum Company		Economic Modernization Vision
Sign development agreement to extract oil from previously drilled wells	2020 - 2022	Quantities of oil produced	Ministry of Energy & Mineral Resources National Oil Company	Private Sector	Availability of required funding	
Sign development agreement to extract operate and manage the field	2022 - 2023	Quantities of oil produced	Ministry of Energy & Mineral Resources National Oil Company	Private Sector	Availability of required funding	
Develop TOR for drilling 4 new wells and assess the availability of working with predefined companies.	2023 - 2023	Start drilling the first well	Ministry of Energy & Mineral Resources	National Oil Company		
1.3. ATTRACT GLOBAL COMPANIES TO INVEST IN OIL EXPLORATION IN OPEN AREAS						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Issue the legislation of direct offer for	First Quarter/2020	Issuance of the system	Ministry of Energy & Mineral Resources	Private Sector ----- -----		

utilization of oil, oil shale and strategic minerals				Energy & Minerals Regulatory Commission (EMRC)		
Promotion of oil projects over direct offers, conferences and related events.	Second Quarter/2020 Ongoing	Number of expression of requests	Ministry of Energy & Mineral Resources	Private Sector Jordan Investment Commission (JIC)	Private corporate interest	
Sign exploration and development agreements	2020-2030	Number of contracts ----- ----- Quantities of oil produced	Ministry of Energy & Mineral Resources	Energy & Minerals Regulatory Commission (EMRC) ----- ----- Sector Private	Private corporate interest	
Build a Data base for reports and brochures about the available Investments in crude oil, N. Gas and oil shale extraction fields	2022 - 2023	A published Data-Base Upload data on the investments platform.	National oil company Ministry of Energy & Mineral Resources			
Continue the development of Sarhan oil field	2022 - 2023	Oil wells drilled	Ministry of Energy & Mineral Resources	National oil company Private Sector		

1.4. ATTRACT GLOBAL COMPANIES TO INVEST IN OIL SHALE RETORTING AND EXPLORATION IN OPEN AREAS						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Key Partners</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Issue the legislation of direct offer for utilization of oil, oil shale and strategic minerals	2020 - 2021	Issuance of the legislation	Ministry of Energy & Mineral Resources	Private Sector ----- Energy & Minerals Regulatory Commission (EMRC)		
Divide open areas into marketable areas and prepare marketing packages	2020 - 2023	Production of the final map of open areas and marketing packages	Ministry of Energy & Mineral Resources		Purchase raw material evaluation software	
Promotion of open areas through conferences	2020 - 2030	Number of expression of requests	Ministry of Energy & Mineral Resources	Jordan Investment Commission (JIC) ----- Private Sector		
Sign with companies interested in utilizing oil shale	2020 - 2030	Number of contracts	Ministry of Energy & Mineral Resources	Sector Private	Private corporate interest	
Implement operating projects through contractual documents	2020 - 2030	Quantities of produced oil	Private Sector	Ministry of Energy & Mineral Resources Ministry of Finance	Availability of required funding by operating companies	

				Ministry of Labor Ministry of Interior		
1.5. ESTABLISH AND CONSTRUCT CRUDE OIL AND OIL PRODUCTS PIPELINES (PPP)						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Key Partners</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Open the way to investment in the construction of crude oil pipelines and oil products	2030-2020	Number of projects implemented	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC)	Private Sector ----- -----Ministry of Environment ----- ----- Jordan Petroleum Refinery Company and/or new refineries Aqaba Special Economic Zone Authority ----- ----- Aqaba Development Corporation	Private Sector interest	

OIL SECTOR

PROGRAM 2: IMPROVE THE PERFORMANCE OF THE OIL SECTOR

2.1. OPEN NEW MARKETS FOR OIL PRODUCTS

<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Key Partners</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
License Marketing Companies for petroleum products according to the market need	2030-2020	Number of licenses granted according to market need	Energy & Minerals Regulatory Commission (EMRC).	Ministry of Energy & Mineral Resources ----- Sector Private	Private Sector interest ----- Study the market need for new Marketing Companies every 3 years ----- license the Fulfill requirements	

2.2. ADOPT THE LATEST INTERNATIONAL SPECIFICATIONS OF OIL PRODUCTS TO THE JORDANIAN MARKET REQUIREMENT

<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Key Partners</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Adopt specifications that serve the national interest and the national economy	2030 2020	Approved specifications for oil products	Jordan Sanders & Metrology Organization (JSMO) ----- Energy & Minerals Regulatory Commission (EMRC)	Marketing Companies ----- Public and private bodies represented in the Permanent Petroleum Committee		
Import petroleum products in accordance with	2030 2020	Number of shipments corresponding to	Jordan Sanders & Metrology Organization (JSMO)	Marketing Companies	Jordan Sanders & Metrology	

international specifications		international specifications	----- Energy & Minerals Regulatory Commission (EMRC)	----- Public and private bodies represented in the Permanent Petroleum Committee	Organization (JSMO) accreditation for international specifications	
Produce petroleum products by Jordan Petroleum Refinery Company with international specifications after the completion of the Fourth Expansion Project.	2023 2020	Progress rate of the Fourth Expansion Project ----- Ratio of the refinery's commitment to the specifications of international oil products	Petroleum Jordan Company Refinery	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC) ----- Jordan Sanders & Metrology Organization (JSMO)	Complete project designs ----- Reach successful financial closure ----- Hire EPC Contractor ----- Operate project.	
2.3. OPEN THE WAY FOR REFINING ACTIVITY BASED ON THE PRINCIPLES OF THE MARKET						
Activity	Duration Activity	Performance Key (KPI Indicator)	Main Responsibility	Key Partners	Prerequisites	Related strategies to this action
Open the way to create new refineries in line with the needs of the market.	2030-2020	Number of expression of requests ----- -----	Ministry of Energy & Mineral Resources -----	Sector Private	Private Sector interest ----- Economic feasibility achieved -----	

		Number of implemented projects to construct new oil refineries in the Kingdom under the licenses granted.	Energy & Minerals Regulatory Commission (EMRC)		Commitment to the mechanism approved by the Council of Ministers regarding investment in refining activity ----- the Complete regulatory requirements	
2.4. INCREASE STORAGE CAPACITIES OF OIL PRODUCTS TO MEET THE INTERNATIONAL STANDARDS AND IMPROVE THE DOMESTIC LOGISTICS SERVICES						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Key Partners</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Issue a strategic inventory system for crude oil and petroleum products	First Half/ 2020	System version	Ministry of Energy & Mineral Resources	Energy & Minerals Regulatory Commission (EMRC) ----- ----- Jordan Oil Terminals Company (JOTC) ----- ----- of Ministry Finance		
Increase the storage capacities of LPG in El-Madhoona by 6 thousand tons.	Second Half/ 2021	Progress rate	Jordan Oil Terminals Company (JOTC) ----- -----	Contractor ----- ----- Aqaba Special		

			Energy & Minerals Regulatory Commission (EMRC)	Economic Zone Authority ----- ----- Aqaba Development Corporation ----- -----Ministry of Environment		
The new refineries' commitment to the requirements of storing crude oil and petroleum products according to the license to be granted	2030-2020	Increase in storage capacity	Energy & Minerals Regulatory Commission (EMRC)	Private Sector ----- ----- Ministry of Energy & Mineral Resources	License from Energy & Minerals Regulatory Commission (EMRC) ----- funding of Availability	
Open the way for investment to establish storage capacities	2020-2030	Number of implemented projects ----- ----- Quantity increased in storage capacity	Ministry of Energy & Mineral Resources ----- Energy & Minerals Regulatory Commission (EMRC)	Private Sector	Companies interested in investment ----- Feasibility achieved	

2.5. Review Oil products pricing method and move from define fixed prices towards defining prices upper limits.						
<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Key Partners</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Conduct a preliminary study on moving from define fixed prices towards defining prices upper limits, and pass it to economic development committee.	2023 2022	Finishing the study	Energy & Minerals Regulatory Commission (EMRC)	Ministry of Energy & Mineral Resources Marketing Companies		Economic Modernization vision
Prepare the legal instruction of defining oil products prices upper limits including any required commission or tariff by the service provider.	2022 - 2023	Issue the instructions	Energy & Minerals Regulatory Commission (EMRC)	Ministry of Energy & Mineral Resources Marketing Companies		Economic Modernization vision

GAS NATURAL						
PROGRAM 1: DIVERSIFICATION OF NATURAL GAS SUPPLY SOURCES						
1.1. COVER THE KINGDOM'S NATURAL GAS NEEDS OF AVAILABLE NATURAL GAS SUPPLY FROM CURRENT SOURCES						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Follow up the implementation of natural gas sale and purchase agreements signed between the National Electric Power Company (NEPCO), Egypt, Noble Energy and Shell.	2030 2020	(Received quantities / committed quantities) ≤ 1 for each supply agreement	National Electric Power Company (NEPCO)	Ministry of Energy & Mineral Resources ----- Ministry of Petroleum & Mineral Resources-EGYPT ----- Jordanian Egyptian Fajr for Natural Gas Transmission and Supply ----- Egyptian Natural Gas Holding Co. EGAS ----- Egyptian East Gas Company ----- Noble Energy ----- Shell	The buyer and seller abide by the terms of agreement	

Competitive bidding by the National Electric Power Company (NEPCO) for LNG purchase from the Market SPOT	2030 2020	Number of spot cargoes	National Electric Power Company (NEPCO)	supplier LNG companies	Cargoes need	
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1.2. DEVELOP PRODUCTION OF RISHA GAS FIELD

<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
implement the National Petroleum Company Strategic Plan	2023 2020	Increase productivity to 50 million cubic feet	National Petroleum Company	Ministry of Energy & Mineral Resources	Availability of required funding	
	2030 2024	Increase productivity to 200 million cubic feet		National Electric Power Company (NEPCO) or any potential consumers	Successful wells	
				Sector Private	Market for gas consumption	
					Infrastructure to deliver gas to end consumers.	

1.3. ATTRACT INTERNATIONAL COMPANIES TO INVEST IN TRADITIONAL AND NON-TRADITIONAL GAS EXPLORATION IN OPEN AREAS

<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Issue the instructions of direct offer for utilization of oil, oil shale and strategic minerals	2020 - 2021	Issuance of the instructions	Ministry of Energy & Mineral Resources	Private Sector Energy & Minerals Regulatory Commission (EMRC)		
Promotion of natural gas projects over	2020 - 2030	Number of companies interested	Ministry of Energy & Mineral Resources	Private Sector		

direct offers, conferences and related events.				Jordan Investment Commission (JIC)		
Sign exploration and development agreements	2020 - 2030	Number of contracts ----- ----- Gas quantities produced	Ministry of Energy & Mineral Resources	Sector Private	Interest of Private Sector ----- Feasibility achieved	
1.4. ASSESS POSSIBLE ALTERNATIVES TO REPLACE THE (FSRU) WITH LESS EXPENSIVE SUBSTITUTES						
<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Adopt the optimal alternative to substitute the FSRU	2020 - 2021	Adopt the optimal alternative	Ministry of Energy & Mineral Resources National Electric Power Company (NEPCO)	Development Aqaba Corporation		Economic Modernization Vision
Project implementation	2021 - 2025	Progress rate	Aqaba Development Corporation Ministry of Energy & Mineral Resources NEPCO	Ministry of Finance Private Sector	Availability of required funding	
Rent the Floating Storage Unit as an alternative of FSRU.	2022 - 2025	Finishing the renting process			Obtain the required regulatory and environmental approvals	

NATURAL GAS

PROGRAM 2: USE OF NATURAL GAS IN VARIOUS SECTORS

2.1. CONSTRUCT THE DISTRIBUTION OF NATURAL GAS NETWORKS IN MAJOR CITIES (PPP)

<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Prepare economic feasibility study to establish Natural Gas Distribution Networks Project in Amman and Zarqa Project implementation	2022 2024	Define the suitable companies for investing in this field	Ministry of Energy & Mineral Resources Private Sector Energy & Minerals Regulatory Commission (EMRC)	Department of Statistics Greater Amman Municipality (GAM) Municipality Zarqa	Availability of data required to prepare the economic feasibility study Availability of required funding	Economic Modernization Vision
Supply N.Gas to industrial areas (Muaqer Industrial area, Alrawdah Industrial area)	2022 - 2025	Progress rate	Ministry of Energy & Mineral Resources	Private sector	Fund availability	
Supply N.Gas to the industrial area meant to be established in Alqirah	2023 - 2025	Progress rate	Aqaba Development Corporation Aqaba Economic special zone authority	Project developer	The industrial in Alqirah to be established	

2.2. SUPPORT AND ENCOURAGE THE USE OF NATURAL GAS AND COMPRESSED NATURAL GAS IN THE INDUSTRY AND TRANSPORT SECTORS

<i>Activity</i>	<i>Duration Activity</i>	<i>Performance Key (KPI Indicator)</i>	<i>Main Responsibility</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Develop the legislative environment to encourage	2025 2020	Number of gas sector legislations	Energy & Minerals Regulatory	National Electric Power Company (NEPCO)	Prepare required studies to determine the legislative needs	Economic Modernization Vision

industries switching to natural gas			Commission (EMRC)			
Open the way for the Private Sector to invest in the mother-daughter refuelling system (PPP)	2030 2020	Number of interested parties ----- -----Number of industries supplied with gas	Ministry of Energy & Mineral Resources	Private Sector	Economic feasibility achieved	
Receive expression of requests from companies interested in supplying the transportation sector with the compressed natural gas (PPP)	2030 2020	Number of interested parties ----- ----- Number of implemented projects ----- ----- Ratio of public vehicles operated on compressed gas	Energy & Minerals Regulatory Commission (EMRC) ----- Ministry of Energy & Mineral Resources Private Sector	Private Sector ----- Ministry of Transport	Economic feasibility achieved ----- Availability of the required infrastructure: gas distribution networks, compressed gas sales stations	
Provide the required infrastructure to convert N.gas to a compressed Gas, that could support Industries.	2024 2022		Uni-Gas co. Clurine co. Jordan Liquid Gas co.			Economic Modernization Vision

ENERGY EFFICIENCY

PROGRAM 1: IMPROVE THE USE OF ENERGY EFFICIENCY IN VARIOUS SECTORS TO RANGE (9%) BY 2030 COMPARED TO THE AVERAGE ENERGY CONSUMPTION IN 2018

1.1. UPDATE AND FOLLOW-UP THE LEGISLATIONS AND THE NATIONAL ENERGY EFFICIENCY ACTION PLANS

<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Follow up and update the implementation of the National Energy Efficiency Action Plans (NEEAP)	2030 2020	Progress rate	Ministry of Energy & Mineral Resources	Related Stakeholders	Complete all Activity's required	
Issue an amendment to the current bylaw on regulating Activity's and means of conserving energy and improving its efficiency	2023 - 2024	System version	Ministry of Energy & Mineral Resources ----- - Energy & Minerals Regulatory Commission (EMRC)	Private Sector ----- --- Government agencies concerned		Economic Modernization Vision
Create a partnership committee between the public and the academic sectors to study issues related to renewable energy and energy efficiency	2020 - 2030	Number of Partnership Committee meetings ----- ---- Number of decisions taken	Ministry of Energy & Mineral Resources	Electric power sector institutions ----- --- Public and private universities. ----- ---		

				Scientific research centers		
Enhance and support innovative projects, research and development to enhance energy efficiency and conservation.	2020 - 2030	Number of projects submitted ----- Number of implemented projects	Ministry of Energy & Mineral Resources	Energy & Minerals Regulatory Commission (EMRC) ----- Electricity companies ----- Private Sector ----- Public and private universities	Availability of required funding	
1.2. IMPROVE ENERGY EFFICIENCY OF THE DOMESTIC, INDUSTRIAL, GOVERNMENT, COMMERCIAL AND SERVICE SECTORS						
Activity	Activity Duration	Performance Key (KPI Indicator)	Responsibility Main	Partners Key	Prerequisites	Related strategies to this action
Mandatory activation of energy building codes	2020	Regular mechanisms for construction codes	Ministry of Public Works & Housing/National Construction Council	Ministry of Energy & Mineral Resources ----- Municipalities -----	Response of responsible parties to apply energy building codes	

				Greater Amman Municipality (GAM) ----- --- Jordan Engineers Association (JEA) ----- --- Distribution Companies		
Replace all lighting units in all the streets of the Kingdom with energy-saving units	2022-2020 2030-2022	Replace (400) thousand bulbs in all municipalities of the Kingdom ----- ---- Number of new bulbs to be installed.	Municipalities ----- ---- Ministry of Public Works & Housing Amman Greater Municipality (GAM)	Ministry of Energy & Mineral Resources	of Availability required funding	
Motivate consumers to replace old bulbs with energy-saving ones in all sectors (industrial, commercial, domestic).	2030-2020	Number of replaceable bulbs (per type)	Ministry of Energy & Mineral Resources	Private Sector ----- --- Jordan Sanders & Metrology Organization (JSMO) ----- --- Electricity Distribution Companies ----- ---	Proper support mechanisms ----- --- Availability of required funding ----- --- Sectors response	

				Donors		
Adopt the approved energy efficiency specifications and apply it on all electric devices (imports, exports, local).	2030-2020	Adherence to the approved standards for energy efficiency	Jordan Sanders & Metrology Organization (JSMO)	Ministry of Finance/ Jordan Customs ----- --- Income & Sales Tax Department ----- --- Chamber of Commerce ----- --- Department of Statistics ----- --- Key Partners ----- --- Jordan Chamber of Industry		
Construct 30 thousand SWH system in residential sector, annually	2022 – 2030	Number of constructed SWH	JREEEF	Ministry of Digital economy Local banks Civil Society Associations	Fund availability	Economic Modernization Vision
Construct 1200 for poor families	2022 – 2024	Number of constructed SWH	JREEEF			
Conduct Energy Audits for 100 industrial entities.	2022 – 2025	Number of Conducted Studies	JREEEF	Jordan Industrial Chamber		
Compel the public sector to conduct energy audit studies and take the	2030-2020	Adherence of government institutions	Ministry of Energy & Mineral Resources	Public institutions	Availability of suitable supports.	

necessary measures to save energy					Fund Availability.	
Encourage the use of solar thermal energy and bioenergy in the industrial sector to obtain the thermal energy required for industrial processes and other thermal uses.	2030-2020	Number of factories converting to renewable energy use for heat generation ----- ---- Energy savings achieved due to transformation	Ministry of Energy & Mineral Resources	Ministry of Industry Trade & Supply ----- --- Chamber of Industry ----- --- Industrial Sector ----- --- Private Sector Donors	Proper support mechanisms ----- --- Availability of required funding ----- --- Industrial sector response	
1.3. IMPLEMENT AND IMPROVE ENERGY EFFICIENCY PROGRAMS IN THE WATER SECTOR TO REDUCE THE ELECTRICITY DEMAND TO 15% BY 2025						
Activity	Activity Duration	Performance Key (KPI Indicator)	Responsibility Main	Partners Key	Prerequisites	Related strategies to this action
Apply required projects to increase Energy Efficiency in Water sector.	2020 – 2025	The reduction of Electricity used in water sector.	Ministry of Water and Irrigation Jordan Valley Authority	Donors	Fund availability	

1.4. ENHANCE AND OPTIMIZE PUBLIC TRANSPORTATION, RAPID BUS AND RAILWAY TRANSIT SYSTEMS						
<i>Activity</i>	<i>Activity Duration</i>	<i>Performance Key (KPI Indicator)</i>	<i>Responsibility Main</i>	<i>Partners Key</i>	<i>Prerequisites</i>	<i>Related strategies to this action</i>
Implement of the study of the urban transport project (Irbid - Zarqa - Madaba - Salt)	2020	Phase one report (preliminary study): 100%	of Ministry Transport	Land Transport Regulatory Commission ----- --- Municipalities Public transport companies	Provide support required	
Upgrade public transport - bus fleet to comply with the gradual implementation of the hierarchical network levels	2021-2020	The expected number of buses and midi-buses by the end of 2020: 210	Transport Land Regulatory Commission	Ministry of Transport ----- --- Public transport companies	Local market capacity to meet the operators needs ----- --- Provide the required funding to purchase new vehicles ----- --- Provide the required incentives for the replacement upgrade	
Public transportation project to connect Amman and Zarqa/ BRT buses	2020-2021	Establish Bus Rapid Transit System	of Ministry Transport	Ministry of Public Works & Housing	Funding continuity required	

	<p>Implement infrastructure works (first package - sixth package)</p>	<p>between Amman & Zarqa by 2021:100%</p>		<p>----- --- Greater Amman Municipality (GAM) ----- --- Land Transport Regulatory Commission ----- --- Social Security Investment Fund ,Zarqa Municipality ----- --- Ministry of Planning & International Cooperation</p>		
<p>Implement Aqaba rail link line project and connect it to El-Madhoona land port and the Saudi borders</p>	<p>2025-2020</p>	<p>Project progress rate</p>	<p>Aqaba Special Economic Zone Authority ----- ---- Aqaba Development Corporation ----- ---- Private Sector</p>	<p>of Ministry Transport</p>	<p>Financing through Aqaba Special Economic Zone Authority ----- --- an Find investor</p>	