

# KAFOU ENERGY

Tomorrow's Energy; Today

VISION رؤية  
2030  
المملكة العربية السعودية  
KINGDOM OF SAUDI ARABIA

## Company Profile



[www.KafouEnergy.com](http://www.KafouEnergy.com)

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# Company Overview

During the 1980's, Saudi Arabia's power needs increased to fuel the growth of the economy. To capitalize on that trend, Kafou Group was established in 1983, and emerged as a key player in the power generation market.

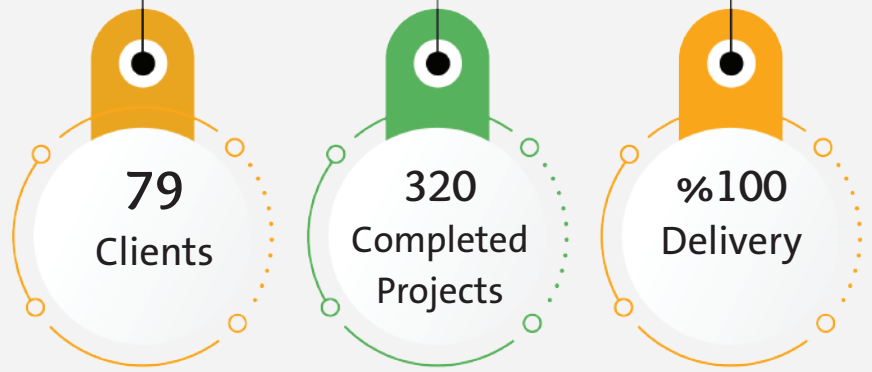
The company has structured itself under a strategic partnership model collaborating with leading international firms in the electricity, power, water treatment, and petrochemicals space. With more than 25 years of specialized experience, Kafou Group has cemented its name as a unique power player in the Kingdom.

To further expand in the energy sector, Kafou Group has established Kafou Energy to become a leading consulting firm in the field of energy and sustainability. Kafou Energy's goal is to improve the overall energy efficiency of the facility as well as ensuring the facility is operating at an optimal level.





Kafou energy specializes in providing a wide range of energy management services. We design and implement energy solutions, energy consulting and photovoltaic (PV) systems that create value, protect the environment and benefit the community.



**Our Success metrics in power sector**



**Energy Services**



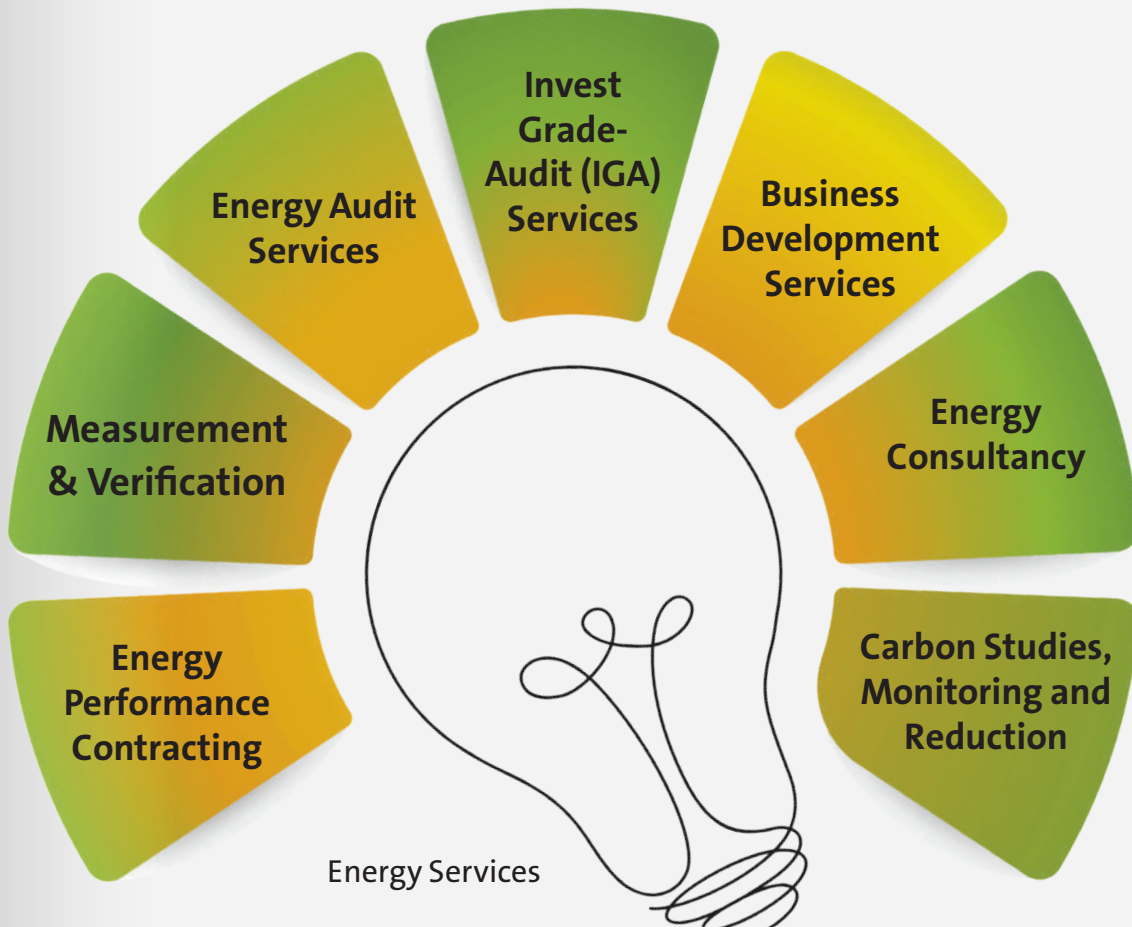
**Energy Saving**



**Renewable Energy:  
Photovoltaic Systems**

KE General Services

## **Facility Continuous Growth and Development**



# Vision

We are creating a future where energy efficiency is the norm to help our customers achieve their sustainability goals.

# Mission

Develop and demonstrate state-of-the-art know-how in renewable energy and energy efficiency projects by actively monitoring trends and best practices that the company accumulates to help its clients and partners identify and then carry out renewable energy and energy efficiency projects that have a strong positive impact.

Partnership with our clients enables providing high-value engineering solutions and ensures compliance with regulations and standards.

- **B**etter working environment.
- **I**mproved sustainability and environmental performance.
- **M**ore profitability and lower operating costs.
- **R**educed OPEX costs by optimizing energy efficiency.
- **I**mproved stability and quality of the power grid.





# Values



**Integrity:** At Kafou Energy, we value honesty and openness, showing patience and flexibility even when unexpected obstacles arise.



**Innovation:** With a clear focus on growth, we are constantly transforming and adapting to find innovative solutions.



**Effectiveness:** Get things perfectly done, achieve the best results, display professional integrity in our day-to-day working, being agile in our responses to continually change conditions affecting our business.



**Adherence:** we always have solid references for technical and managerial cases.



**Governance:** rules, procedures, controls, policies and resolutions put in place to dictate corporate behaviour.



**Collaboration:** Team up, down & across, be a trustworthy partner, respect everyone in the company, and help each other become effective.



**At Kafou Energy** we investigate the complete electrical and mechanical systems; heating, ventilation and air conditioning (HVAC) systems, perform power quality studies and solutions, provide high efficiency LED lighting systems, their design, control and retrofit, and many other services and products to reduce monthly energy bills.

# 1



## Monitoring and Automation

## Energy Saving Products


# 2



## LED Lighting

- LED lighting Audit and Consultancy.
- LED lighting Design, Supply, and Installation.
- Lighting Control.
- Lighting System Power Quality.

# 3



## Power Quality Study and Solutions

- Harmonics Filters.
- Power Factor.
- Correction.
- Voltage Optimizers.


# 4



## HVAC Products

- Split Units.
- VRF systems.
- Chillers.
- Package Units.
- Heat Pumps.

# 5



## Other Energy Saving Products

- VFDs and Drives.
- Motors and Pumps.
- Compressed Air System.
- Pipes Thermal Insulation.
- Fans and Blowers.

Energy Saving Products



At Kafou Energy we committed to renewable energy by offering full Solar PV systems services:

## Solar Systems Services



Solar System Services







Our highly qualified, certified and capable engineers are empowered with top Our Team notch energy entities in the international and local market and licensed as ESCO in Energy Efficiency (EE) and Contractor in REPDO and SEC in Renewable Energy.



# Our Team

## Team Key Metrics



-  **Certified Energy Manager (CEM):** accreditation from the association of Energy Engineers (Atlanta, USA).
-  **Renewable Energy Professional (REP):** accreditation from the association of Energy Engineers (Atlanta, USA).
-  **Certified Energy Auditors (CEAs):** accreditation from the association of Energy Engineers (Atlanta, USA).
-  **Carbon Reduction Manager (C.R.M):** accreditation from the association of Energy Engineers (Atlanta, USA).



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-  **Certified Measurement and Verification Professional (CMVP):** accreditation from the association of Energy Engineers (Atlanta, USA).
-  **Project Management Professional (PMPs):** accreditation from the Project Management Institute (Pennsylvania, USA).
-  **Risk Management Professional (RMP-PMIs):** accreditation from the Project Management Institute (Pennsylvania, USA).

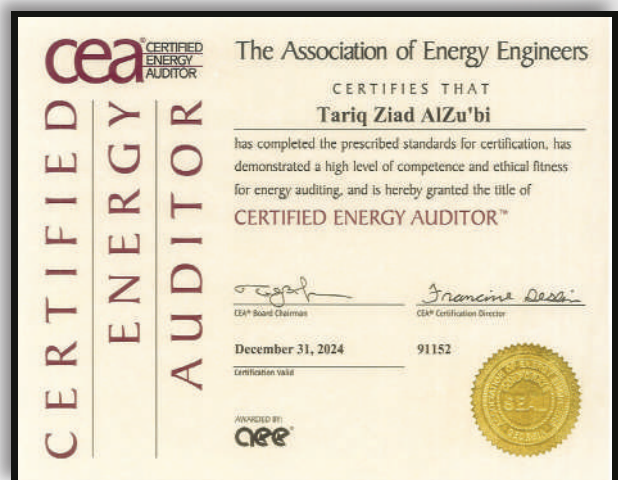
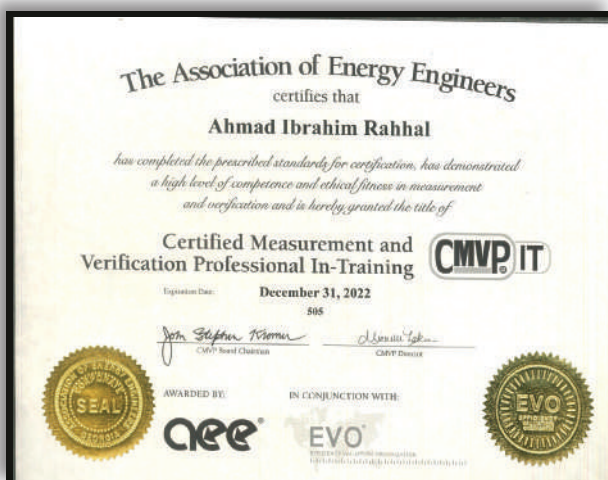
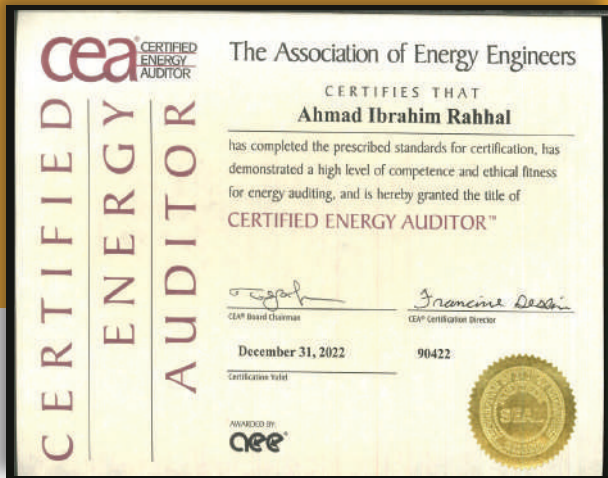
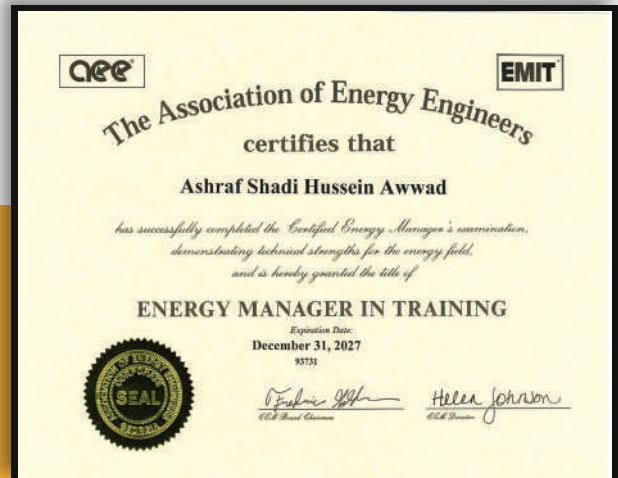
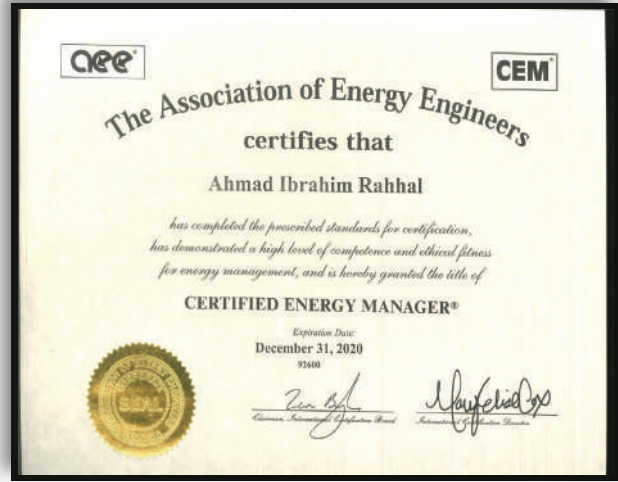
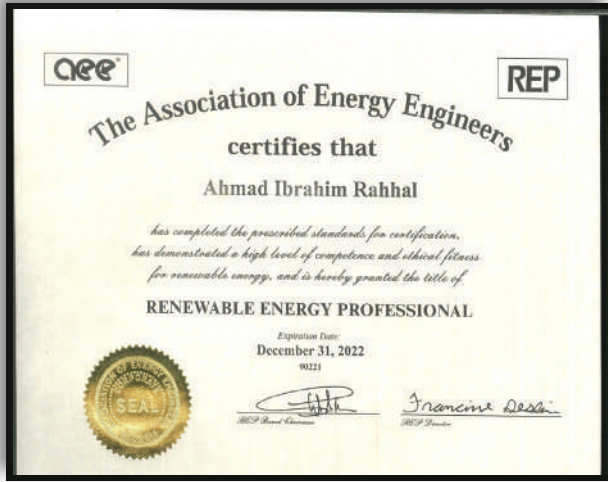




-  **Professional in Business analysis (PMI-PBA):** accreditation from the Project Management Institute (Pennsylvania, USA).
-  **Agile Certified Professional (PMI-ACP):** accreditation from the Project Management Institute (Pennsylvania, USA).
-  **ISO 50001 in Energy Management:** IRCA form UK.
-  **Leadership in Energy and Environmental Design (LEED GA):** accreditation from USGBC (Atlanta, USA).
-  **Certified RETScreen<sup>®</sup> Expert (CRE):** accreditation from Canadian Institute for Energy and Technology (CIET).
-  **Certified Solar PV Designer:** Accreditation from the Saudi Electricity Company.
-  **Certified Solar PV Installer:** Accreditation from The Saudi Electricity Company.



# Certifications







## KSA Primary Energy Consumption

### Industrial Sector

**47 %**

KSA consumption from the primary energy.

### Buildings Sector

**29 %**

Cooling AC, White Goods, Lighting and Others.

### transportation sector's

**21 %**

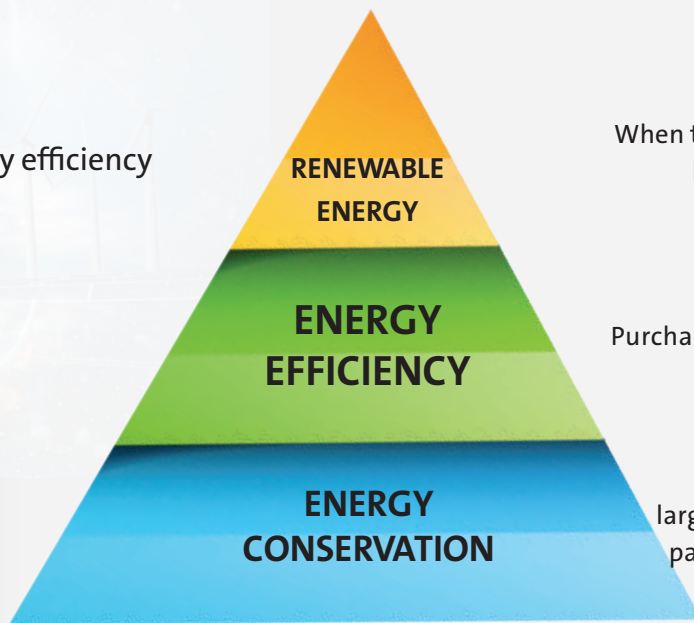
Increase in transportation sector

# Services in Energy Management

Energy cost is the main cost of any facility. In the past few years, energy prices have skyrocketed, presenting a new and serious challenge to governments, developers, industries, and individuals. This has made energy conservation a necessity, not only to reduce costs, but also for environmental reasons and to reduce carbon emissions.

# KSA Primary Energy Consumption

Steps to energy efficiency



### Tier 3

When the system is modified to use efficiency, less renewable energy is needed.

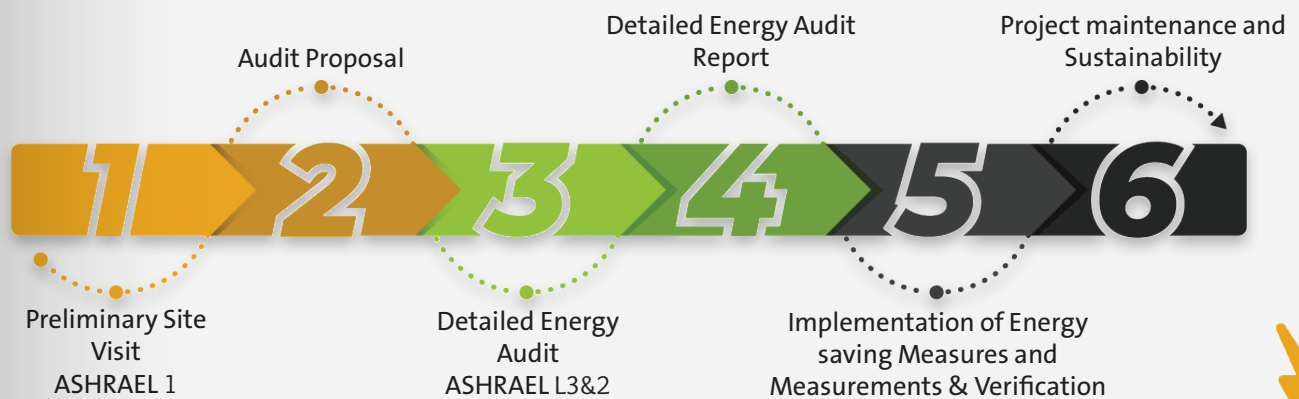
### Tier 2

Purchasing and installing efficient equipment and processes.

### Tier 1

largely based behavioural & operational practices. Best return on investment.

## Path to maximize Energy Efficiency in your facility





# What are we offering?

## Energy Auditing Services:

With energy prices rising in the short term, there is an urgent need to reduce energy consumption and improve the operation and efficiency of facilities. Through energy efficiency projects, KAFOU Energy's experienced engineers and project managers work with clients to develop energy conservation projects that improve facility operations and save energy.



## Implementation of Energy Conservation Measures (ECMs):

KAFOU Energy has experienced engineers who implement ECMs. The implementation would include many systems such as:



- **Motors, pumps, and drives.**
- **Lighting system implementation.**
- **Heating, Ventilation and Air-conditioning (HVAC) system.**
- **Fans and Blowers.**
- **Furnaces and Boilers.**
- **Process lines.**
- **Monitoring and Automations.**
- **Compressed air system.**
- **Pipes Insulation systems, Building Envelopes.**



### Invest Grade-Audit (IGA) Services:

For the selected Energy Conservation Measures (ECMs), in-depth analysis and calculations will be performed to determine accurate results for reducing energy costs and to adjust the action plan for implementation.



### Energy Performance Contracting:

Energy performance contracting is a form of «creative financing» for capital improvements that provides financing for energy improvements through cost reductions. Energy performance contracting is a mechanism for organizing energy efficiency financing. Energy performance contracting involves an energy service company (ESCO) that provides various services such as financing and guaranteed energy savings.



### ENERGY CONSULTANCY:

With our experiences and core expertise, KAFOU Energy can source your business with a wide range of customized solutions. At, Kafou energy, a range of services for clients are customized:



- On/ Off Site Training .
- Value Engineering and Technical Review.
- Project Execution.
- Lead Auditor ISO 500001.
- Water Management Services.
- Environmental & Carbon Emission Studies.
- Third Party M&V.
- Renewable Project consultancy.







### Carbon Studies, Monitoring and Reduction:

Using advance carbon management strategies to monitor and reduce greenhouse gases, such as carbon dioxide (CO<sub>2</sub>) and methane.



### Lighting Upgrades and Solutions:

KAFOU Energy performs a wide range of lighting services for various industries. Our engineers have the experience and resources to address all of our clients' lighting needs and provide the best solutions using specialized lighting simulation programs.



#### Our services include: -

1. LED lighting Audit and Consultancy.
2. LED Lighting Design, Supply, and Installation.
3. Lighting Control.
4. Lighting System Power Quality.

### Thermal Imaging:

An advanced technology for diagnosing hot spots in substations, transmission lines, and distribution networks that plays a key role in detecting, preventing, and correcting accidents in the power industry.



## Power Quality study and Solutions: “Bolster the health of your power system and get the most out of the power you’re paying for”:



Improving power quality, energy efficiency, operational performance and environmental performance is our concern. Include:

- Electrical Infrastructure Assessment.
- Harmonic filters: Prevent damage to your equipment and avoid higher operating costs by using harmonic filters.
- Power factor correction: Our experts Study and measure the effectiveness of the power being used in your plant and find optimal solutions.
- Voltage optimizer: Voltage optimizer is an energy-saving technology used to regulate, clean, and condition the incoming power supply to reduce the delivered voltage to the optimal level for on-site electrical equipment and appliances.

## Monitoring and Automation:

With the great development of digital systems, we have entered the era of the Internet of Things (IoT) and it has become very beneficial to use these technologies to save energy and resources.



Significant energy savings can be achieved by controlling the following main energy consumers in commercial or industrial buildings:

- HVAC systems.
- Exterior and interior lighting system.
- Energy, gas, and water supply system.
- Other automatized activities.

## Business Development services:

- Finance Energy Efficiency and Renewable Energy projects.
- Conduct in-depth financial modeling and study for Energy Efficiency and Renewable Energy projects.
- Support wide financing schemes of different financial models (EPC, BOT, PPA, performance contracting).



## Smart Metering:

Smart meters are the backbone of any energy management plan provided by Kafou Energy. Smart meters collect and analyze energy consumption data, allowing relevant energy management and efficiency programs to be implemented.





# Services in Renewables



### Feasibility Study:

A systematic study to optimize the go-to-go decision for a particular project, endeavor, or approach is feasible. Based on the feasibility report, we provide our recommendation to our clients to either go ahead or leave it alone.



### System Design:

Our experienced engineering team will come up with a creative design for the system to find the best solution for our clients as per local and international standards.



### Project Management:

Our accredited project managers coordinate and execute projects according to specific requirements and constraints. We carry out all project activities, from conception to completion, to ensure the best value and delivery for our clients.



### Permits and Approvals:

Throughout your headache of follow-up on us! our project team works closely with clients during the planning stages of a project to identify all necessary permits and approvals needed for timely successful completion and deliver projects in a timely manner.



### Project Supply:

Kafou Energy can provide you with the highest PV System components quality, and that's comply with the national and international standards and regulations.





### System Installation:

Our installation team has the capability and experience to install systems to a high quality and cost effective standard, based on local and international standards.



### System Testing & Commissioning:

Once the system is installed, we will test and commission the system based on local and international standards to ensure that the system has been installed with our high quality criteria.



### Operation & Maintenance:

The story starts all over again now! To achieve and maintain high productivity, reliability and efficiency of the installed system, the system requires continually enhancing its operation and maintenance must be continuously improved, weighing the associated costs and efforts. Our O&M services combine technology-based capabilities, industry knowledge and decades of experience to ensure safe, efficient and reliable operations. Together, we can keep your system running at peak performance and safety.



### Third Party Consultation:

Our experienced team of engineers can assist you with your project to ensure your system is installed in accordance with international and local standards and regulations.



## Turnkey Project Implementation:



Take advantage of our extensive expertise. We deliver turnkey solar power plants on a large scale and take care of everything from project development, including detailed and permit planning, to implementation.

Our experienced project managers ensure that our solar parks meet all quality expectations, are built to last and operate in the most profitable range. And as experts in power purchase agreements, we ensure that the solar energy from your photovoltaic system is purchased by a fixed, long-term partner to guarantee you a quick return on your investment.

## Monitoring Solutions:



Our monitoring services help you evaluate the performance of your PV system. Among other things, it provides you with information about energy consumption and generation, optimization of energy use, and damage to your solar system. It's important to monitor your solar system in some way - without monitoring, it can be difficult to know if your solar panels are performing as they should.

## Technical Study:



Our qualified and certified engineers will provide you with the best and optimal solution for your facility, taking into consideration the local and international standards, with minimum possible cost and maximum efficiency.

## Solar Systems Cleaning:



**%10 to %80** of solar power production losses are due to soiling losses made from dust, soil, and bird dropping. Which could escalate the reduction in production, which is reflected in the form of hot spots on the PV panels, leading to permanent loss of production and a defect in the module.





# Our client focus



**Commercial and Residential Sectors**



**Agricultural Sector**



**Manufacturing and Industrial Sectors**



**Retail Sector**



**Healthcare Sector**

## Commercial and Residential Sectors:



**B**road range of energy solutions and product for all main Consumers:

- Heating, Ventilation and Air-conditioning (HVAC) system.
- Lighting System.
- Pumping System.
- Solar PV system.
- Building Automation and monitoring.
- Building Envelope.
- Smart Metering.
- Energy Consultancy.
- Carbon Studies, Monitoring and Reduction.

## Agricultural Sector:



**B**road range of energy solutions and product in Agricultural Sectors to ensure the sustainability:

- Off Grid Solar System.
- Solar Pumping Systems.
- Solar Pump Inverters.
- Energy Consultancy.
- Carbon Studies, Monitoring and Reduction.





## Manufacturing and Industrial Sectors:



Work with owner and all plant sections to achieve the higher energy savings by Studying all main energy consumers:

- Power Quality issues.
- Heating, Ventilation and Air-conditioning (HVAC) system.
- Billing and benchmarking analysis.
- Automation and monitoring.
- Solar PV system.
- Lighting System.
- Pumping System.
- Fuel System.
- Compressed air system and Misuses.
- Energy Consultancy.
- Carbon Studies, Monitoring and Reduction.

## Retail Sector:



Malls and Retail outlet considered as the sectors that have big opportunity in Energy Saving in many ways:

- Heating, Ventilation and Air-conditioning (HVAC) system.
- Lighting System.
- Refrigeration System.
- Solar PV system.
- Building Envelope.
- Smart Metering.
- Energy Consultancy.
- Carbon Studies, Monitoring and Reduction.

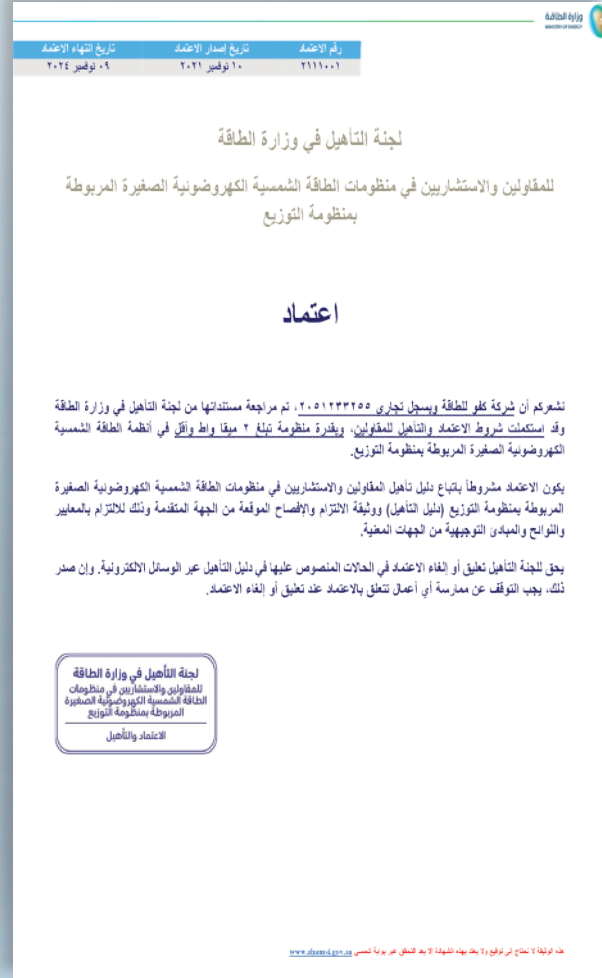
## Healthcare Sector:



The health sector is considered one of the sensitive sectors that contains many international standards.

At Kafou Energy, we provide many services and Energy saving opportunities while maintaining the ideal performance of the facility:

- Heating, Ventilation and Air-conditioning (HVAC) system.
- Lighting System.
- Pumping System.
- Solar PV system.
- Building Automation and monitoring.
- Building Envelope.
- Smart Metering.
- Energy Consultancy.
- Carbon Studies, Monitoring and Reduction





# Our Partners



Danfoss



Jinko Solar



Canadian Solar



Trina solar



SCHLETTER  
The Solar Mounting Group



LONGI



LG



S:FLEX



GRACE SOLAR



STO ENERGY







# Some of our previous projects

## Clients



## Starting Date

06-Jan-15

Kafou was contracted by Saudi Electricity Company (SEC) to Supply and Retrofitting LED Lighting Fixtures and Lamps in Turbine Hall & Generation Room at PP7.

## Clients



## Starting Date

05-Jun-16

Kafou was contracted by Saudi Electricity Company (SEC) to Repair & Maintenance of Air Compressors in COA Power Plants with SEC-COA

## Clients



## Starting Date

2017

Kafou was contracted to replace of existing outdoor and indoor lighting system at Tabarjal Power Plants with SEC-EOA.

### Clients



### Starting Date

01-Oct-17

Kafou was contracted by MARAFIQ to Install of Plant & Compressed Air System Instrument for Tank Farm, SWRO & BWRO Equipment

### Clients

المؤسسة العامة لتطرية المياه المالحة  
Saline Water Conversion Corporation



### Starting Date

30-Oct-11

Kafou was contracted by Saline Water Conversion Corporation to Replace the old control system and field instrument Fiat TG20B2 Gas Turbine, GT number 7 at Jubail Power Plant.

### Clients



### Starting Date

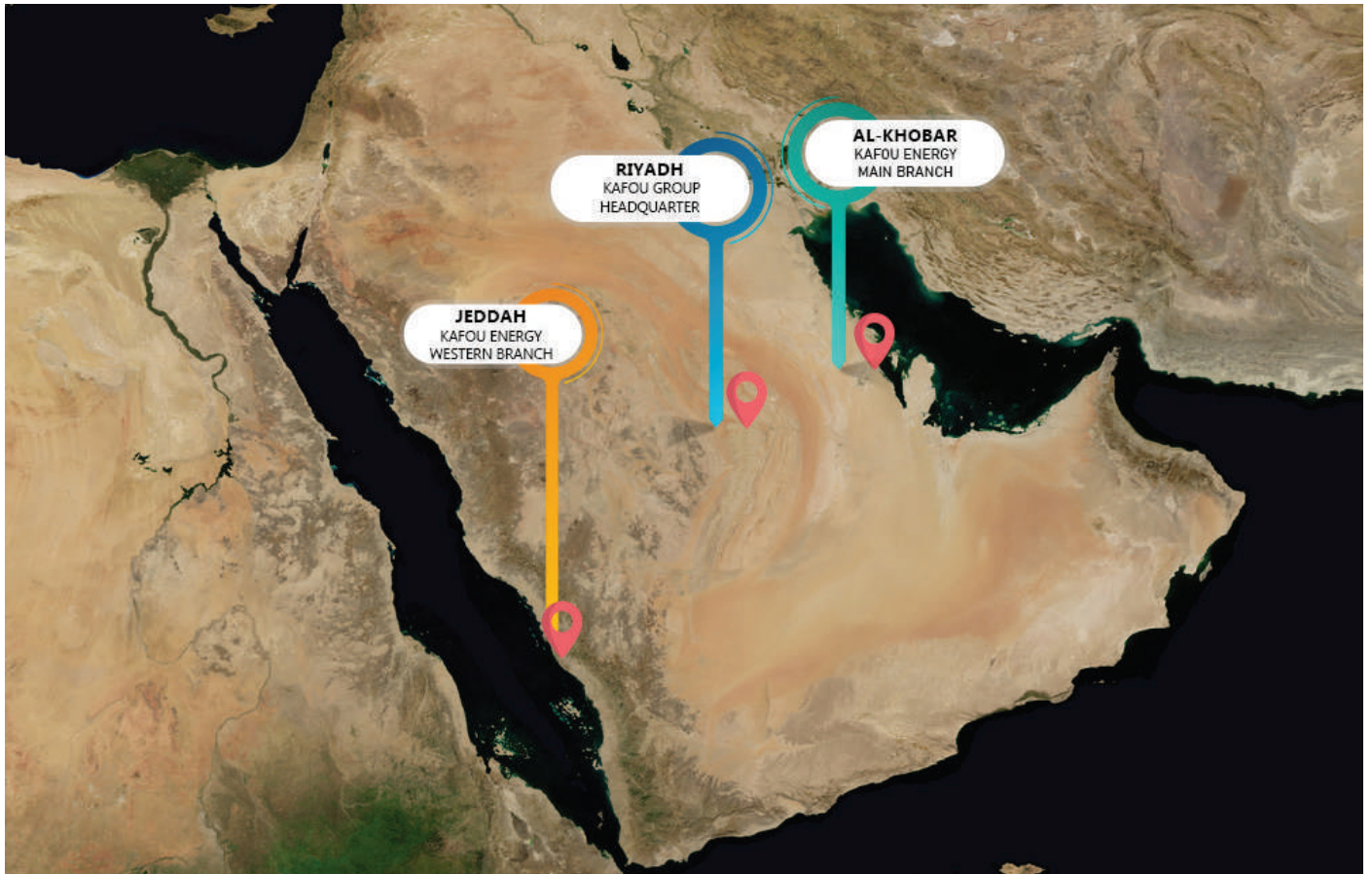
05-Dec-13

Kafou was contracted to replace of air compressor at Shedgum Power Plant with SEC-EOA.



# KAFU ENERGY

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## Contact us



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