

# WHY INVEST IN RENEWABLE ENERGY

استثمر في السعودية

INVEST  
SAUDI





*Windey49/750*

# 5 KEY REASONS TO INVEST IN RENEWABLES IN SAUDI ARABIA

**1 UNLIMITED NATURAL  
ENDOWMENT  
FOR RENEWABLE  
ENERGY PRODUCTION**

**2 GOVERNMENT  
COMMITMENT TO UNLOCK  
THE RENEWABLE ENERGY  
SECTOR**

**3 ACCESS TO LARGE  
REGIONAL MARKET**

**4 ADVANCED KNOWLEDGE-  
BASED MARKET**

**5 INVESTOR-CENTRIC  
ECOSYSTEM**

## RENEWABLE ENERGY SOURCES

SAUDI ARABIA IS NATURALLY ENDOWED WITH RENEWABLE ENERGY SOURCES, PARTICULARLY SOLAR AND WIND

### HISTORICAL AND FORECASTED ENERGY PRODUCTION

Values in TWh

SOLAR	
	Saudi Arabia lies in the middle of the "sun belt"
	Average of 8.9 hr/day of sunshine; and an average horizontal solar radiation of 5,600 Wh/m <sup>2</sup>
	Solar irradiation is well above average irradiation of high potential solar areas globally 250 w/m <sup>2</sup> vs. 100-200 w/m
WIND	
	Annual average onshore wind speeds is around 6.0 and 8.0 m/s
	Wide areas enjoy onshore wind speed (7+ m/s) well above a standard economic viability speed



# SOLAR ENERGY PRODUCTION

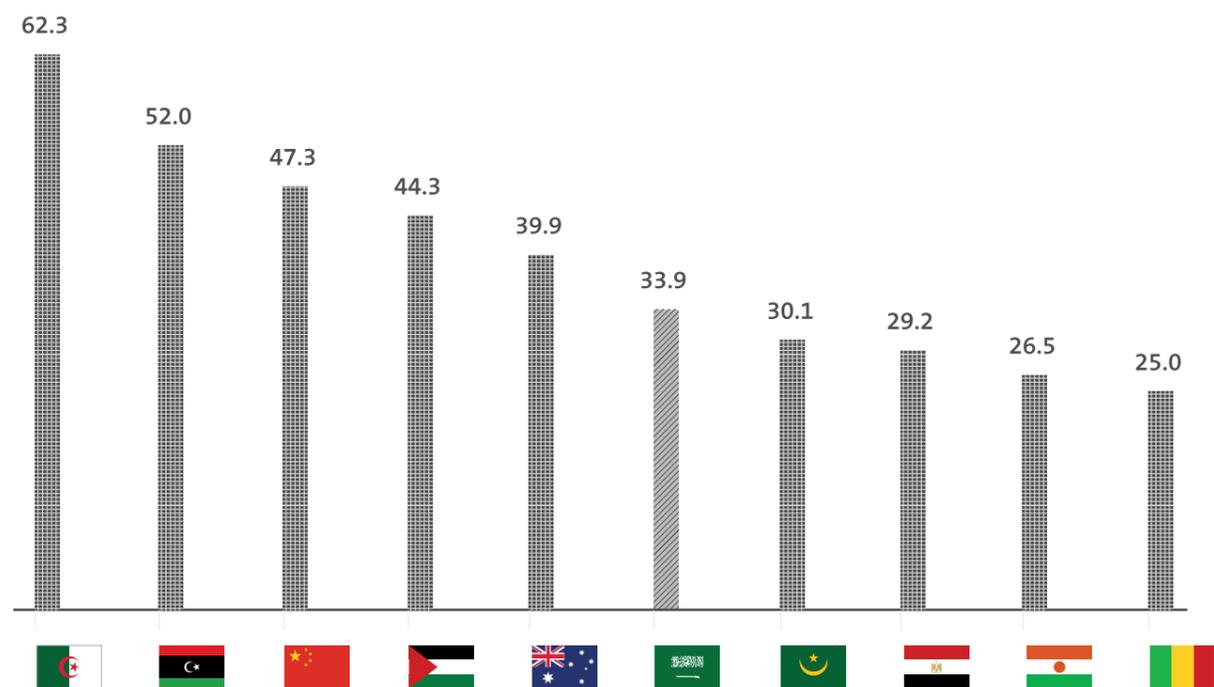
## KSA'S NATURAL ENDOWMENT POSITION IT AMONG THE BEST COUNTRIES GLOBALLY

for solar and wind energy production

### SAUDI ARABIA IS RANKED AS 6TH COUNTRY WITH HIGHEST POTENTIAL FOR PRODUCTION OF SOLAR ENERGY

TOP 10 COUNTRIES  
For energy resource potential in centralized solar (PV on land)

K PETAJOULE/YEAR



GREAT MIX OF NATURAL RESOURCES PLACES SAUDI ARABIA AMONG THE BEST FIELDS TO DEPLOY RENEWABLES

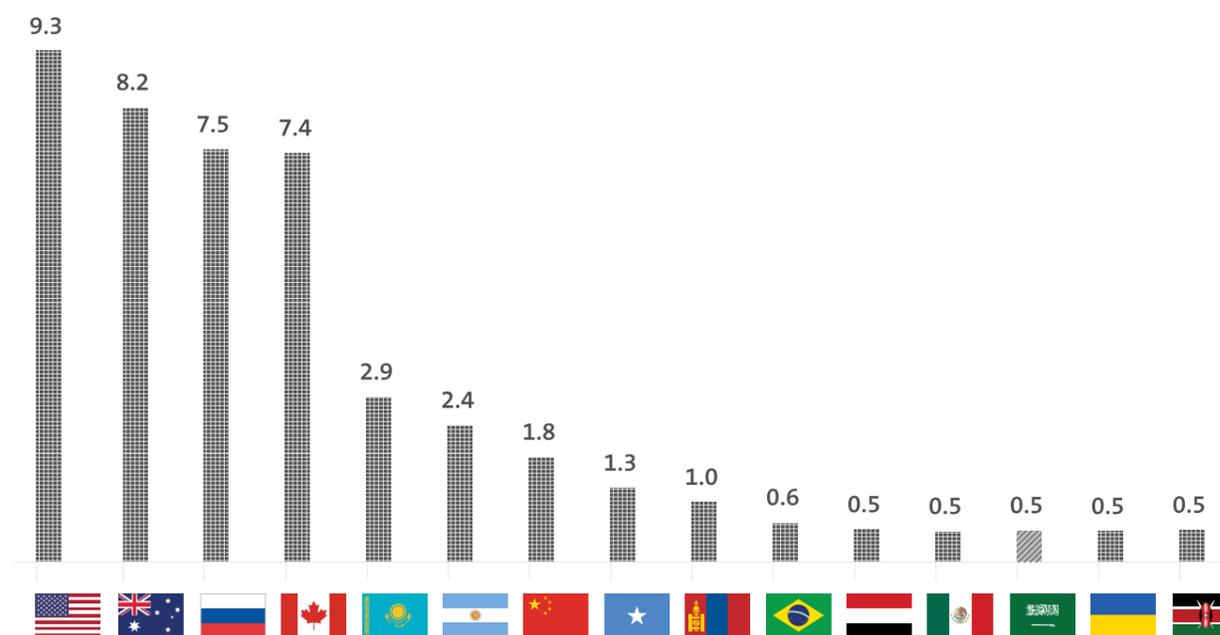
Source: Shell global energy resources database

# ONSHORE WIND PRODUCTION

### KSA IS RANKED AS THE 13TH COUNTRY WITH HIGHEST POTENTIAL FOR PRODUCTION OF ONSHORE WIND

TOP 15 COUNTRIES  
For energy resource potential in wind (onshore)

K PETAJOULE/YEAR



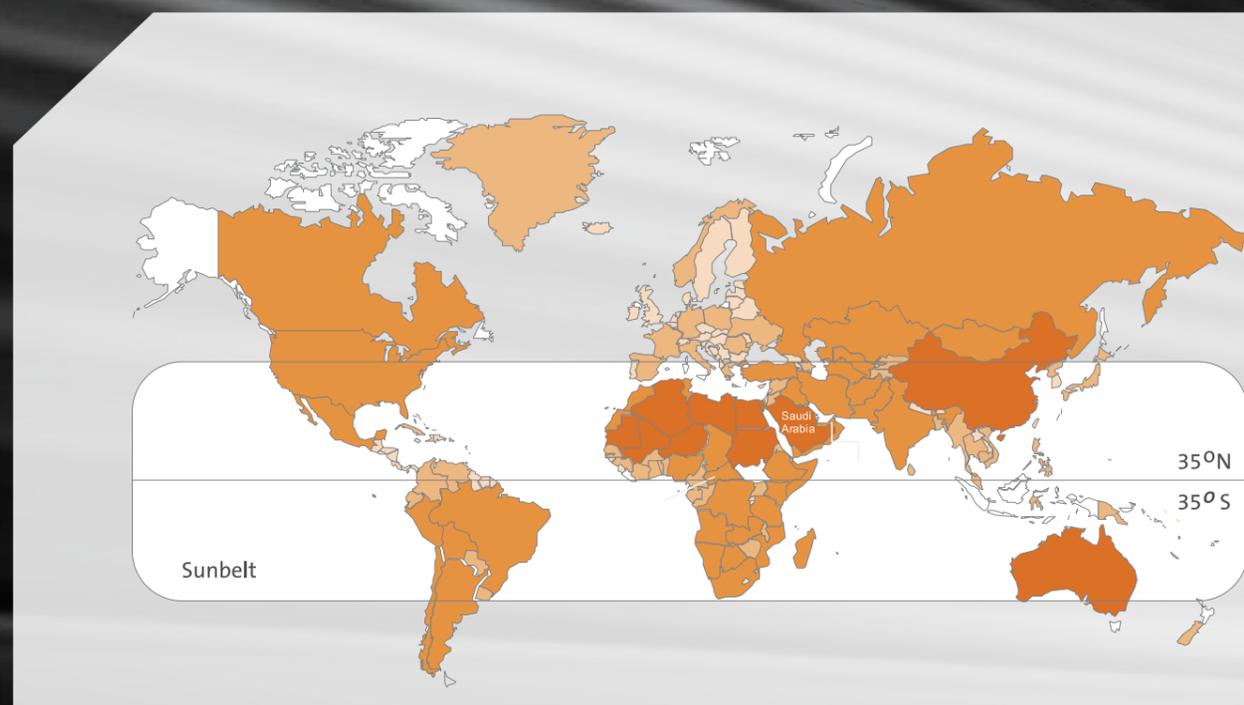
GREAT MIX OF NATURAL RESOURCES PLACES SAUDI ARABIA AMONG THE BEST FIELDS TO DEPLOY RENEWABLES

Source: Shell global energy resources database

# CENTRALIZED SOLAR POTENTIAL

Located within the sun belt,  
SAUDI ARABIA HAS HIGH POTENTIAL FOR PRODUCTION  
OF ENERGY USING SOLAR POWER

WORLD MAP FOR ENERGY RESOURCE POTENTIAL IN CENTRALIZED SOLAR (PV ON LAND)



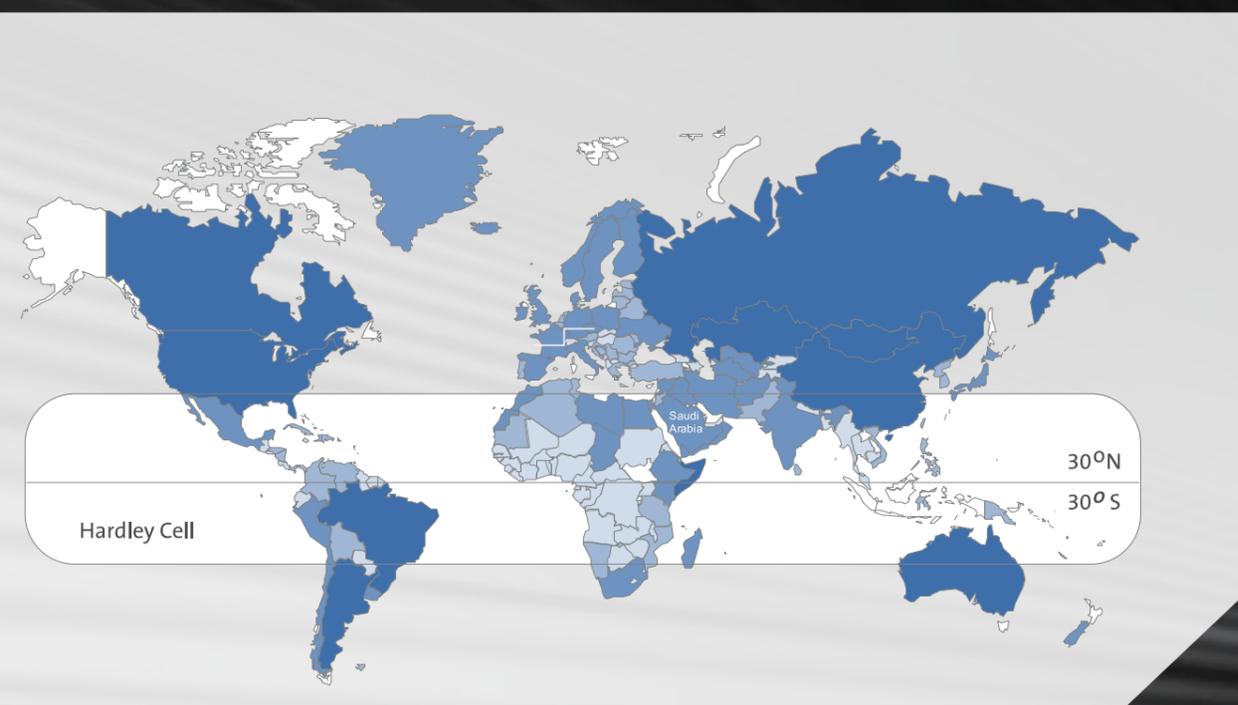
Centralized Solar Potential  
in PJ/Year

- 25,000+
- 2,000 - 25,000
- 220 - 2,000
- 0 - 220

# ONSHORE WIND POTENTIAL

Located within the Hardley Cell,  
KEY AREAS IN SAUDI ARABIA ARE STRONGLY WESTERLY  
THROUGHOUT THE YEAR

WORLD MAP FOR ENERGY RESOURCE POTENTIAL IN WIND (ONSHORE)

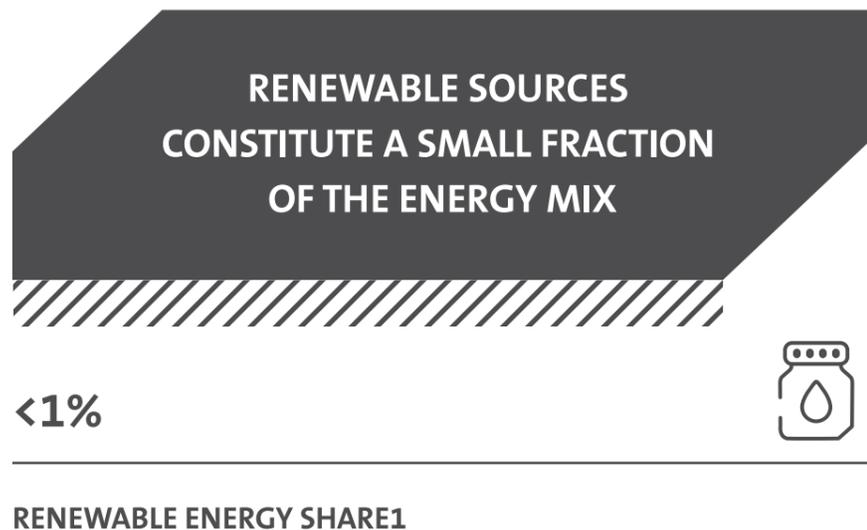


Onshore Wind Potential  
in PJ/Year

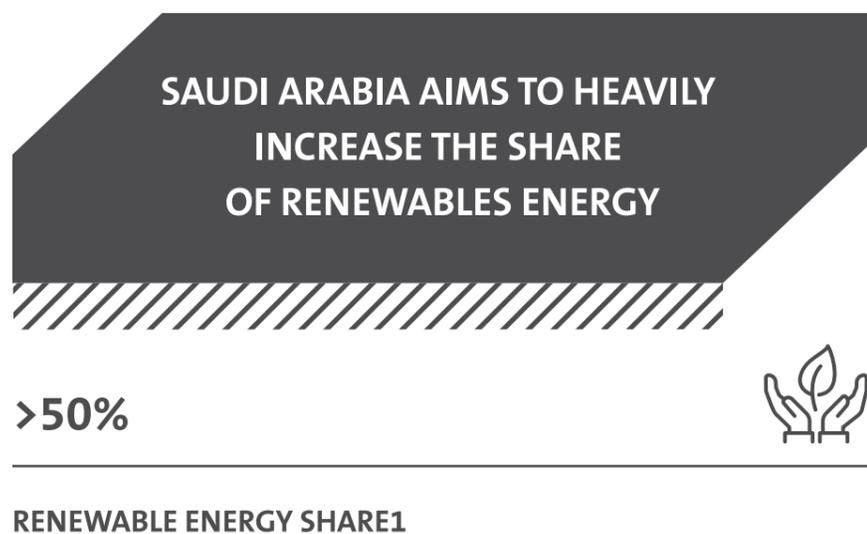
- +600
- 75 - 600
- 8 - 75
- 0 - 8

# RENEWABLE ENERGY

TODAY



GOING FORWARD



Note: Share of renewables from total KSA's generation capacity

# UNLOCKING THE RENEWABLE ENERGY SECTOR

COMMITMENT TO UNLOCK THE RENEWABLE ENERGY SECTOR



## ESTABLISHMENT AND GROWTH

2 Rounds of renewable projects has already been tendered with a capacity of 3,670 MW

## FOCUS ON LOCALIZATION

Localizing significant portion of the renewable energy value chain in the Saudi economy, including R&D, manufacturing, among other stages

# TENDERED CAPACITY

PROJECTS WILL BE DEPLOYED IN +35  
PARKS SPREAD ACROSS THE KINGDOM



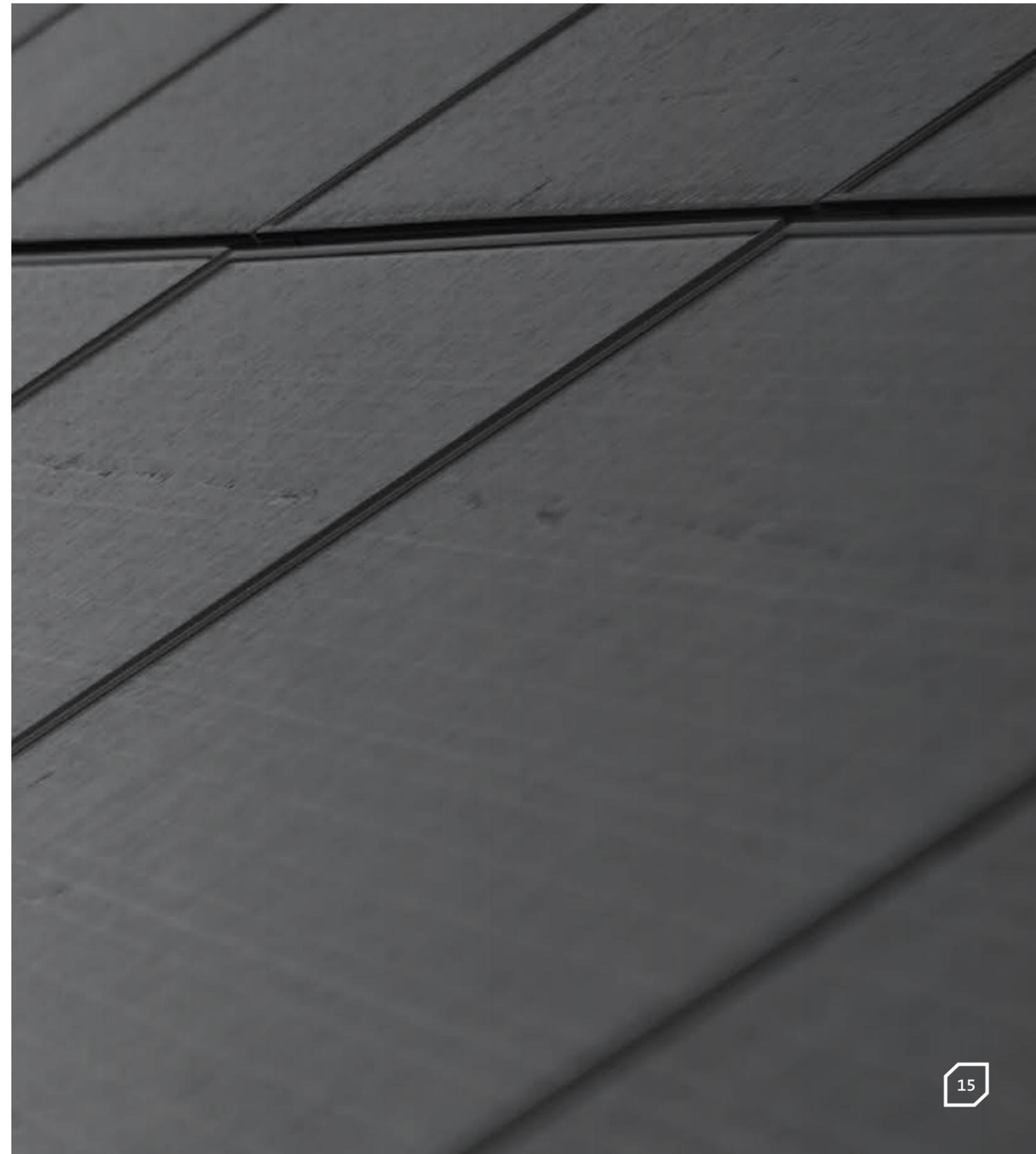
+35  
parks to be developed by 2030



**SPREAD**  
across the Kingdom to promote regional development



**TECHNOLOGY**  
agnostic deployment of projects



# 13 PROJECTS DEVELOPED SINCE 2018 WITH A CAPACITY OF ~3.7 GW

PARKS ARE BEING PRE-DEVELOPED TO BOOST PROJECTS' BANKABILITY AND EXPEDITE EXECUTION

## PRE-DEVELOPMENT STUDIES

-  GEOTECHNICAL
-  HYDROLOGY
-  ENERGY YIELD
-  GRID IMPACT
-  ENVIRONMENTAL
-  PERMITTING

## PRE-DEVELOPMENT ADVANTAGES

-  Solar and wind resources well understood
-  Land and grid information accessible to developers
-  Level playing field for all developers
-  Expedited project tendering and delivery

## REPDO TENDERING PLAN (MW)

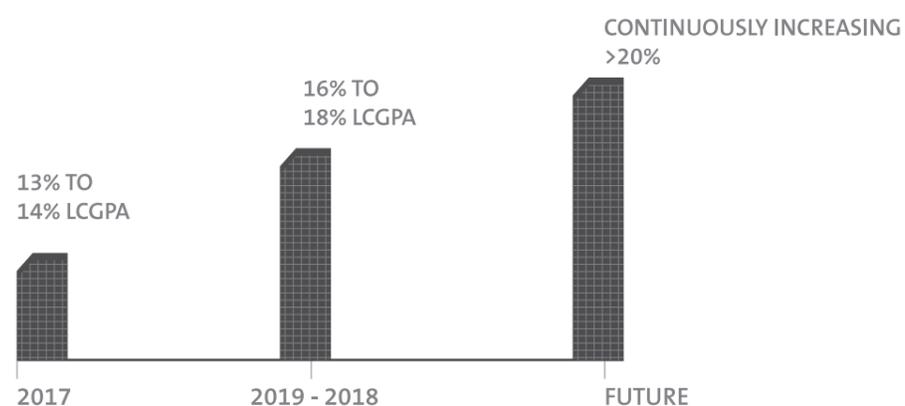
ROUND 1 AWARDED	ROUND 2 TENDERING	ROUND 3 TENDERING	UPCOMING
Sakaka سكاكا  300	Dumat Al Jandal دومة الجندل  400	Qurayyat القريات  200	Shuaiba شعيبية  600
		Saad سعد  300	Wadi Adwawser وادي الدواسر  120
	Madinah المدينة  50	Rabigh رابغ  300	Alras الرس  700
	Layla ليلى  80		
	Rafha رفحاء  20	Jeddah جدة  300	
		Mahad Dahab مهد الذهب  20	
<b>TOTAL</b>	<b>700</b>	<b>1490</b>	<b>1200</b>

 Wind  Solar

# LOCATION REQUIREMENT

KSA SET 13-14% LCGPA AS LOCALIZATION REQUIREMENT OF/IN THE VALUE CHAIN, AIMED TO INCREASE TO OVER (16-18%) TO (>20%)

## LOCALIZATION REQUIREMENT TARGETS



13%-14%

Localization Requirement

16%-18%

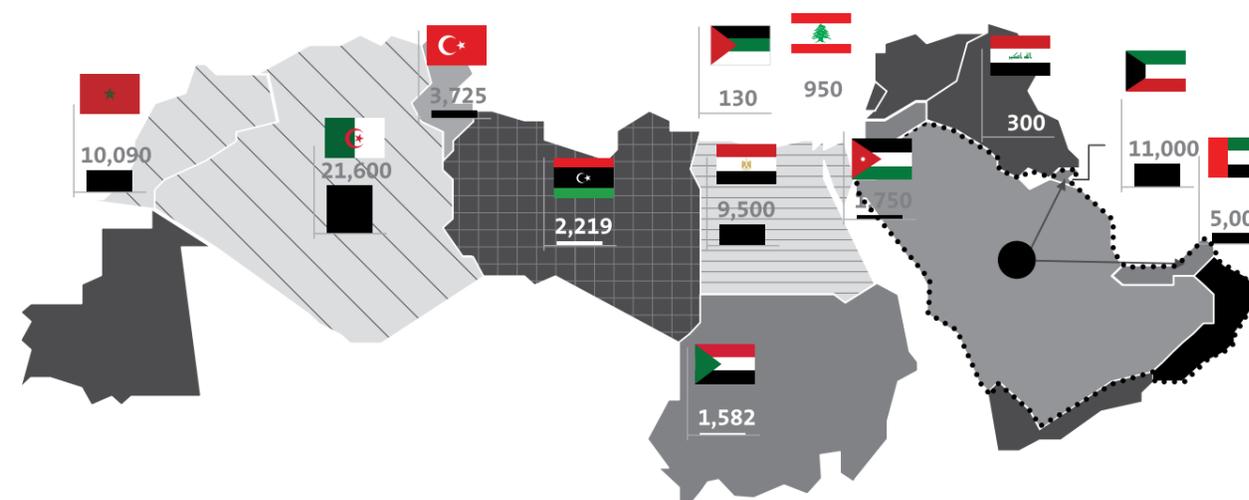
Localization Requirement

Continuously increasing Localization Requirement

# ACCESS TO LARGE REGIONAL MARKET

Beyond local consumption, KSA MANUFACTURERS HAVE THE OPPORTUNITY TO SERVE 17 GW IN THE GCC REGION

MENA map with expected renewable targets (MW) by 2020/2030



~70 GW

Total renewables market size in MENA region

~17 GW

Total renewables market size in GCC countries

Expected renewable targets (MW) by 2030/2020



# EXPORT OF RENEWABLE ENERGY

THREE KEY FACTORS MAKE EXPORT OF RENEWABLE ENERGY TO NEIGHBORING COUNTRIES FAVORABLE

## 1 GEOGRAPHICAL ADVANTAGE



Saudi Arabia is located at a close proximity to the GCC countries and thus has a **logistical advantage** (i.e., lower transportation cost, shorter delivery time) over other European and Asian source countries

## 2 TRADE AGREEMENTS WITH OTHER ARAB COUNTRIES



Following **GAFTA1** Goods produced in any of the GAFTA member countries shall be exempted from duty in any other member country

## 3 FAVOURABLE TRADE REGULATIONS ON INDUSTRIAL GOODS



Saudi Arabia has set favorable **trade regulations** on the export of industrial products/equipment

# MARKET

STRONG KNOWLEDGE-BASED MARKET IS DEVELOPED ACROSS MULTIPLE DIMENSIONS

MENA map with expected renewable targets (MW) by 2020/2030



ADVANCED R&D AND INNOVATION



PIONEER DEVELOPMENT PROJECTS



COMPREHENSIVE MARKET INFORMATION DATABASE



# RENEWABLE RESOURCE ATLAS

## SAUDI ARABIA OFFERS ADVANCED RENEWABLE RESOURCE DATABASE

Providing beneficiaries with detailed data and information

### DESCRIPTION AND OBJECTIVES



- KACARE's renewable resource monitoring and mapping program (RRMM), focused on monitoring and mapping the renewable energy resources in Saudi Arabia, installed stations starting 2013
- RRMM program includes the operation, calibration, and maintenance of renewables
- Online data portal, contains up-to-date information on renewable energy resources in KSA
- Four main renewable energy sources are covered: solar, wind, geothermal, waste-to-energy

### DATA AVAILABLE



- **Solar**  
Satellite model-geo-model covering (direct normal irradiance [DNI], global horizontal irradiance [GHI], and diffuse horizontal irradiance [DHI]), plus related meteorological and dust parameters
- **Solar**  
Satellite model-SUNY/ Albany
- **Wind**  
Mesoscale model-Vestas: modeled wind speed, wind direction, temperature, density
- Additional datasets within the Atlas, such as roads and the electric grid, help provide context for the resource data

### BENEFICIARIES



- Power project developers and financiers
- Researchers
- Academics
- Government entities
- Industries

### PARTNERS



- Universities  
e.g., KAUST
- Technical Colleges and Institutes  
e.g., TVTC
- International Organization  
e.g. IRENA, Battelle, SRC
- Government  
e.g., SEC, SWCC

### MONITORING STATIONS



- **+70 stations** Solar monitor locations
- **~10 stations** Wind monitor location



SATELLITES MAP    KSA SOLAR MAP    WIND SPEED MAP



# RENEWABLE ENERGY PROJECTS DEVELOPMENT OFFICE

## REPDO OFFERS AN ONLINE PORTAL PROVIDING DIRECT ACCESS TO DOMESTIC SUPPLIERS DATA AND INFORMATION

### DESCRIPTION AND OBJECTIVES



- REPDO developed "We Supply Renewables" as a user generated portal that allows companies based in Saudi Arabia to showcase their products and services to international developers participating in the National Renewable Energy Program (NREP)
- This portal offers international companies direct access to the on-ground expertise necessary to comply with the local content requirements of the National Renewable Energy Program (NREP)
- All supplier registrations are reviewed by REPDO local content team before posting online

### DATA AVAILABLE



- Number of NREP projects
- Number of registered Saudi suppliers
- Suppliers by regions and size
- Suppliers by supply chain category
- List of selected suppliers with their profile including key statistics, contact info, company bio, products and services they provide

### BENEFICIARIES



- NREP project developers and financiers
- Manufacturers
- Government entities
- Industries

### PARTNERS



- Ministry of investment (MISA)

1. This is a review only, not endorsement or official preferred suppliers

# RENEWABLE ENERGY PROJECTS DEVELOPMENT OFFICE

WEBSITE

[www.wesupplyrenewables.com.sa](http://www.wesupplyrenewables.com.sa)



SUPPLIERS & PROJECTS LOCATION MAP

[www.wesupplyrenewables.com.sa](http://www.wesupplyrenewables.com.sa)



# INVESTOR-CENTRIC ECOSYSTEM

AN INVESTOR-CENTRIC ECOSYSTEM IS ESTABLISHED BY THE GOVERNMENT FOR PRIVATE SECTOR INVESTORS



Clear governance and regulatory framework



Incentives to attract private sector investors

**SAUDI ARABIA ESTABLISHED  
A CLEAR GOVERNANCE, REASSURING  
INVESTORS AND RAISING CONFIDENCE IN THE MARKET**

Clear governance set for the Renewables sector....

Ministry of Energy

National Renewable Energy Program (NREP)

Renewable Energy Project Development Office (REPDO)

Program implementation, and procurement management

... reassuring investors

- Enhance credibility
- Provide transparency
- Enhance assurance to the private sector

Water and Electricity Regulatory Authority (WERA)

Independent Regulator

# SECTOR ROLE ALLOCATION

CLEAR ALLOCATION OF ROLES  
ALONG THE VALUE CHAIN

SECTOR ROLE ALLOCATION



Developers/OEMs

SECTOR OWNER	SECTOR PLANNER/ PROMOTER	SECTOR REGULATOR	LICENSES ISSUER	FUNDER/INVESTOR	EXECUTOR
 وزارة الطاقة MINISTRY OF ENERGY	 البرنامج الوطني للطاقة المتجددة National Renewable Energy Program	 البرنامج الوطني للطاقة المتجددة National Renewable Energy Program	 وزارة التجارة Ministry of Commerce	 الصندوق الصناعي صندوق التنمية الصناعية السعودي Saudi Industrial Development Fund	
Ministry of Energy	National Renewable Energy Program (NREP)	Water & Electricity Regulatory Authority (WERA)	Ministry of Commerce	Saudi Industrial Development Fund (SIDF) الصندوق الصناعي	Private Sector
	 وزارة الطاقة MINISTRY OF ENERGY	 المواصفات السعودية Saudi Standards SASO	 وزارة الاستثمار Ministry of Investment		
	Renewable Energy Project Development Office (REPDO)	Saudi Standards, Metrology and Quality Organization (SASO)*	Ministry of Investment	Private Sector	

# INCENTIVES

## SAUDI OFFERS A WIDE RANGE OF INVESTOR-CENTRIC INCENTIVES

	<b>CUSTOM DUTY EXEMPTION</b>	Customs duty exemptions for primary raw materials, manufacturing equipment, and spare parts (not available in KSA)
	<b>CUSTOM DUTY DRAWBACK</b>	Refund to importers/exporters of raw material imports that are processed in Saudi Arabia and re-exported as more finished products
	<b>LOANS</b>	Up to 75% of project financing through soft loan by SIDF
	<b>LAND INCENTIVES</b>	Land for lease starting from \$ 0.26 per sqm
	<b>NATIONALIZATION INCENTIVES</b>	Up to 15% (for males) and 20% (for females) of the monthly salaries of KSA nationals employees to be covered by HRDF
	<b>OWNERSHIP</b>	100% foreign direct ownership allowed
	<b>REPATRIATION OF CAPITAL</b>	No restrictions on repatriation of capital

## KEY GOVERNMENTAL ENTITIES RELEVANT FOR INCENTIVES



**SAUDI INDUSTRIAL DEVELOPMENT FUND (SIDF)**  
Provide financial and advisory services needed to support the growth and development of the localization



**SAUDI INDUSTRIAL PROPERTY AUTHORITY (MODON)**  
Responsible for the development of industrial cities with integrated infrastructure and services, and with the highest global standards and specifications



**SAUDI EXPORT PROGRAM**  
Provide funding and guarantee/insurance facilities for exporters, needed to increase competitiveness and mitigate risks associated with international trade transactions



**ROYAL COMMISSION FOR JUBAIL AND YANBU (RCJY)**  
Execute infrastructure plan and manage multiple industrial cities mainly oriented toward energy intensive industries

**Invest Saudi** Invest Saudi is the Kingdom's investment promotion agency. Our priorities are to attract and develop foreign investment, enhance the nation's investment climate, increase the ease of doing business, and eliminate obstacles from investors' journey.

To discover the countless opportunities, across major economic sectors, that Saudi Arabia has to offer:

## CONTACT US NOW

### HEADQUARTERS

Imam Saud Bin Abdulaziz Road  
P.O. Box 5927, Riyadh 11432  
Kingdom of Saudi Arabia

Local: 8002449990  
International: 00966112035777  
E: Energy&Water@misa.gov.sa

VISIT [INVESTSAUDI.SA](https://investsaudi.sa)

