



# WHY INVEST IN ENERGY SAVINGS

استثمر في السعودية

INVEST  
SAUDI





# 3 KEY REASONS TO INVEST IN ENERGY SAVINGS

## THREE REASONS TO INVEST IN THE SECTOR

# 1

### SAUDI ARABIA IS ONE OF THE LARGEST ENERGY CONSUMER WITH INCREASING ELECTRICITY TARIFFS



- 
- Saudi Arabia ranks 2nd within the top 20 largest producers worldwide for energy consumption per capita
    - 8,954 Kwh per capita in 2018
    - >%5 yearly consumption growth
  - Electricity tariffs increased twice over the past 5 years

- 
- Expect to increase in the future
  - Lowering the energy demand, through energy efficiency projects, is crucial going forward to render electricity consumption sustainable

## 2 GOVERNMENT COMMITMENT TO SUPPORT THE DEVELOPMENT OF THE ENERGY SAVINGS SECTOR



- Leveraging Saudi Energy Efficiency Center (SEEC) as the key entity and unique interface responsible for the whole energy efficiency sector

- Leveraging the Royal Decree mandating all government entities to undergo energy efficiency retrofits

- Introducing new regulations (e.g. ESCO licensing, legal framework, incentives) and standards (e.g. measurements)

- Investing in human capital for building capabilities in the energy sector (e.g. certifications and trainings)

- Promoting public awareness campaign aimed at facilitating private investment in energy efficiency (e.g. showed interest of households in saving energy)

## 3 TARSHID, ESTABLISHED TO FACILITATE THE PUBLIC BUILDINGS ENERGY SAVINGS



- TARSHID, a newly-established company with approx. 500\$ M capital, is responsible to support the development of energy projects in the public sector partnering with private investors (i.e. ESCOs)

- Funding energy efficiency project development
- Building capabilities of traditional ESCOs

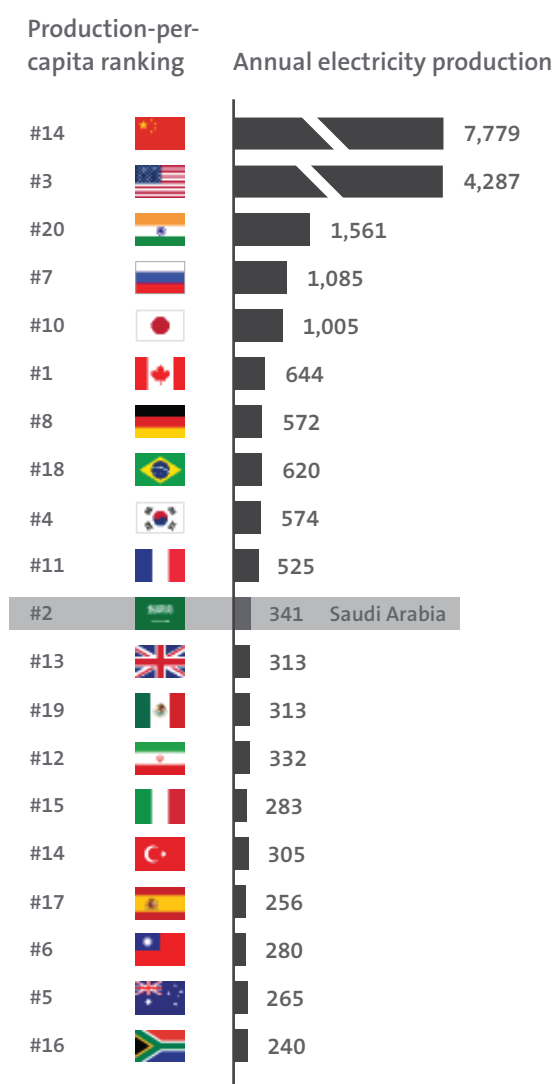
- Royal decree gives the Super-ESCO an exclusive mandate to retrofit all government entities and public facilities

- Plan is to manage the energy retrofit of government and public buildings
- >260,000 government subscribers
- >3 M Street lights poles

# LARGE ENERGY CONSUMPTION

## SAUDI ARABIA RANKS 11TH WORLDWIDE FOR ANNUAL ELECTRICITY PRODUCTION

### ANNUAL ELECTRICITY PRODUCTION (TWH) AND CONSUMPTION-PER-CAPITA RANKING (#) WITHIN TOP 20 LARGEST PRODUCERS



# Ranking of production-per-capita  
within top 20 energy producers

**Note:** 2021 values, TWh stands for TeraWatt-hours;

**Source:** British Petroleum Statistical Review of World Energy June 2021;  
British Petroleum Statistical Review of World Energy 2021 workbook:  
Statistical review of world energy 2021

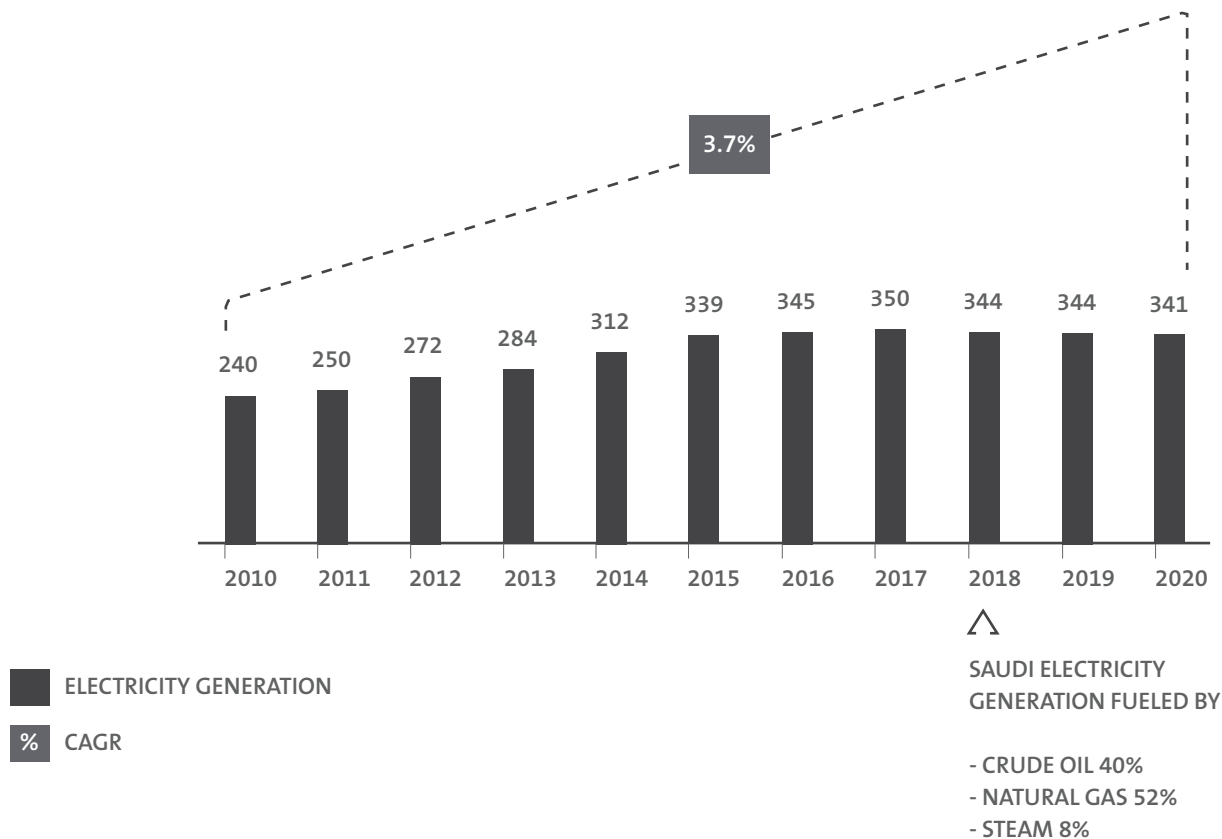


# LARGE ENERGY CONSUMPTION

ENERGY PRODUCTION GREW AT 3.7% ANNUALLY,  
EXPECTED TO CONTINUE AROUND 4%

## HISTORICAL AND FORECASTED ENERGY PRODUCTION

Values in TWh

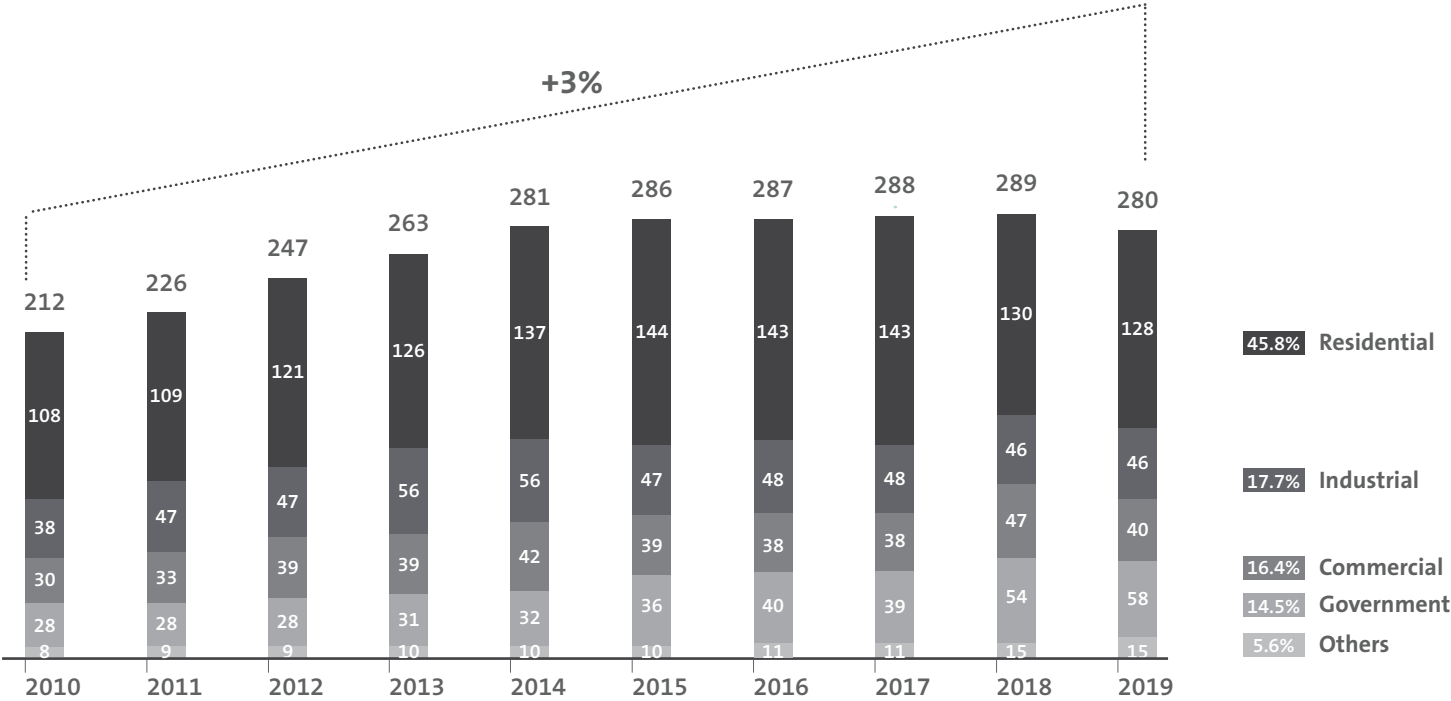


# LARGE ENERGY CONSUMPTION

ON DEMAND SIDE, ENERGY CONSUMPTION GREW AT %3 ANNUALLY

## HISTORICAL ENERGY CONSUMPTION VALUES IN TWH

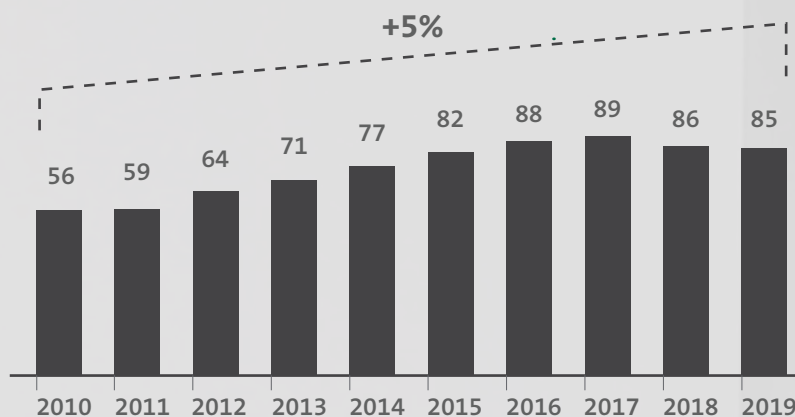
2010-2019 breakdown





# ENERGY EFFICIENCY BECOMES CRUCIAL TO RENDER ENERGY PRODUCTION AND CONSUMPTION SUSTAINABLE

LICENSED POWER CAPACITY, GROWING AT 5% ANNUALLY,...  
HISTORICAL VALUES (GW)



## SOURCE BREAKDOWN 2019 data

- 44.7% steam turbines
- 34.7% gas turbine
- 19.6% combined cycle
- 0.5% diesel generator
- 0.5% Renewable energy

**... MAKES ENERGY EFFICIENCY CRUCIAL  
FOR SUSTAINABILITY**

SERIOUS COMMITMENT TO DEVELOP  
ENERGY EFFICIENCY POLICIES  
FOR A SUSTAINABLE DEVELOPMENT

# LARGE ENERGY CONSUMPTION

POWER TARIFFS CHANGE: NEW FRAMEWORK INTRODUCED

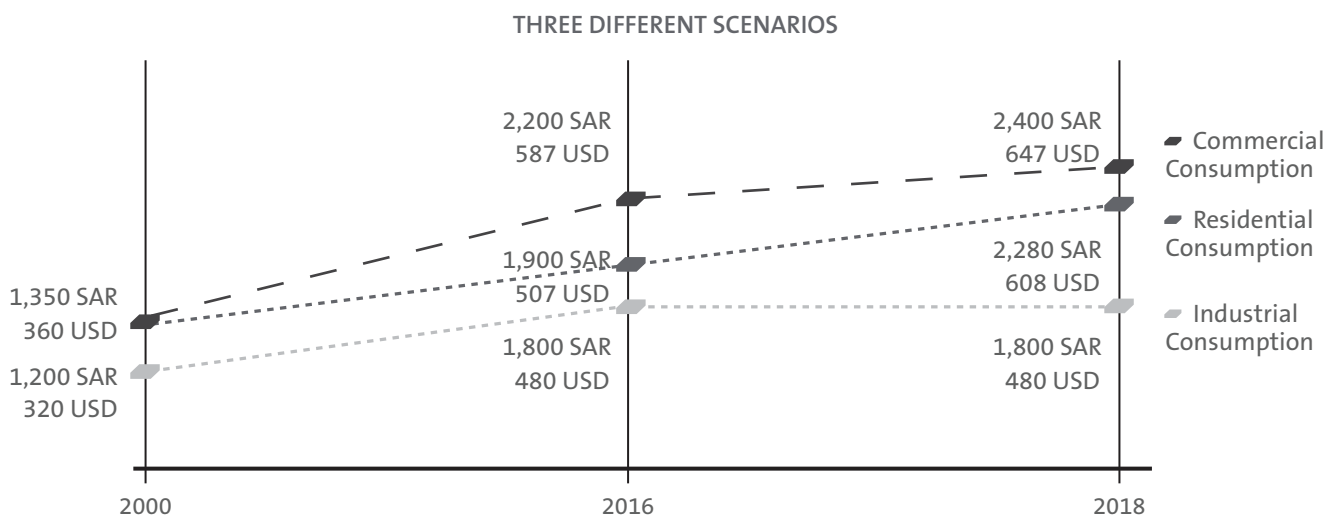
NEW FRAMEWORK INTRODUCED  
POWER TARIFFS REVISED IN JANUARY 2018 (Halalah/KWh)

HALALAH /KWH	RESIDENTIAL	COMMERCIAL	AGRICULTURAL & CHARITIES	GOVERNMENTAL	INDUSTRIAL	PRIVATE
0-6000	18	20	16	32	18	21
6000+	30	30	20			

## COMPARISON

2000 vs. 2016 vs. 2018

SIMULATION FOR A 10,000 KWH CONSUMER IN THREE DIFFERENT SCENARIOS





# GOVERNMENT COMMITMENT

## GOVERNMENT COMMITMENT TO SUPPORT THE DEVELOPMENT OF THE ENERGY SAVINGS SECTOR

DEDICATED ENTITIES

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REGULATIONS AND STANDARDS

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PUBLIC AWARENESS

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# GOVERNMENT COMMITMENT

## 1 DEDICATED ENTITIES



- Established dedicated entities aimed at developing the Saudi energy efficiency sector
  - Saudi Energy Efficiency Center
  - TARSHID
  - ESCO committee

## 2 REGULATIONS AND STANDARDS



- Introduced new regulations and energy standards, when applicable
  - Kingdom M&V user guide
  - ESCO licensing requirements
  - Control of licensed ESCO document

## 3 PUBLIC AWARENESS



- Developed human capital initiatives and public awareness campaigns
  - Households and firms to heavily invest in energy applications and solutions



# DEDICATED ENTITIES

## SAUDI ENERGY EFFICIENCY (SEEC) AS UNIQUE ENTITY RESPONSIBLE FOR ENERGY EFFICIENCY

### SAUDI ENERGY EFFICIENCY (SEEC) AS UNIQUE ENTITY RESPONSIBLE FOR ENERGY EFFICIENCY

- Unifying efforts of governmental and non-governmental agencies
- Supporting and preserving the national wealth of energy resources
- Contributing in the development of the national economy
- Achieving the lowest levels of possible consumption



## KEY AREAS WITHIN THE MANDATE

1

Design and provide mechanisms to address energy efficiency e.g., certifications and trainings  
*e.g., TARSHID initiative*

2

- Provide regulatory framework and licensing; evaluation criteria for certification
- Background and credentials
- Technical capabilities
- Staff capacity
- Financial robustness

3

Invest in human capital  
*e.g., certifications and trainings*

4

Set measurement and verification plans to assess energy efficiency results

# REGULATIONS AND STANDARDS

## NEW REGULATIONS AND STANDARDS TO PROVIDE CLEAR GUIDELINES ON ENERGY EFFICIENCY PROGRAMS

### REGULATIONS: LICENSING, LEGAL FRAMEWORK, INCENTIVES

LICENSING	<ul style="list-style-type: none"><li>• Three step process for ESCOs licensing<ul style="list-style-type: none"><li>- Application (different type of licenses)</li><li>- Recommendation (technical review)</li><li>- Endorsement (final decision)</li></ul></li></ul>
LEGAL FRAME- WORK	<ul style="list-style-type: none"><li>• Defined by three guidelines<ul style="list-style-type: none"><li>- Kingdom M&amp;V user guide</li><li>- Company types (ESCO, audit, engineering)</li><li>- Control of licensed ESCO documents</li></ul></li></ul>
INCENTIVES	<ul style="list-style-type: none"><li>• Preset by guidelines and a royal mandate<ul style="list-style-type: none"><li>- Royal decree mandates retrofitting public entities through TARSHID</li><li>- Industrial energy efficiency framework</li><li>- ESCO license gives access to the entire market of ESCOs in the Kingdom (public, commercial, industrial, residential)</li></ul></li></ul>

### • STANDARDS: MEASUREMENT AND VERIFICATION

M&V process is a critical enabler to the success of guaranteed savings contracts. Three key benefits:

1	2	3
Validated savings: <ul style="list-style-type: none"><li>- Confirming project energy savings</li><li>- Validating guaranteed performance</li><li>- Facilitating persistence of savings</li></ul>	Minimized disputes: <ul style="list-style-type: none"><li>- Bringing visibility to financing entities</li><li>- Providing a risk management tool to funders</li></ul>	Ensured clarity <ul style="list-style-type: none"><li>- Unifying definition, terminology and procedures</li><li>- Improving communication and understanding</li></ul>



# PUBLIC AWARENESS

## HUMAN CAPITAL DEVELOPMENT AND PUBLIC AWARENESS ARE KEY ENABLERS FOR ENERGY EFFICIENCY

### HUMAN CAPITAL DEVELOPMENT

#### VOCATIONAL AND TECHNICAL TRAINING

- Technical and Vocational Training Corporation (i.e., College of Excellence, Saudi Skills Standards) course development
- National power academy collaboration

#### COLLABORATIONS WITH UNIVERSITIES

- University course development (e.g., King Saud University, King Fahd University of Petroleum and Minerals)
- Energy efficiency center collaboration

#### PROFESSIONAL TRAINING

- Collaboration with industrial players (e.g., Saudi Electricity Company, SABIC, Aramco) to offer international certification (e.g., energy management, energy audit, energy measurement and verification)

### PUBLIC AWARENESS

#### MEDIA PLAN

- Developed media content
- Identified media channels with optimal outreach (e.g., TV talk shows, social media, publications)
- Planned frequency of media appearances

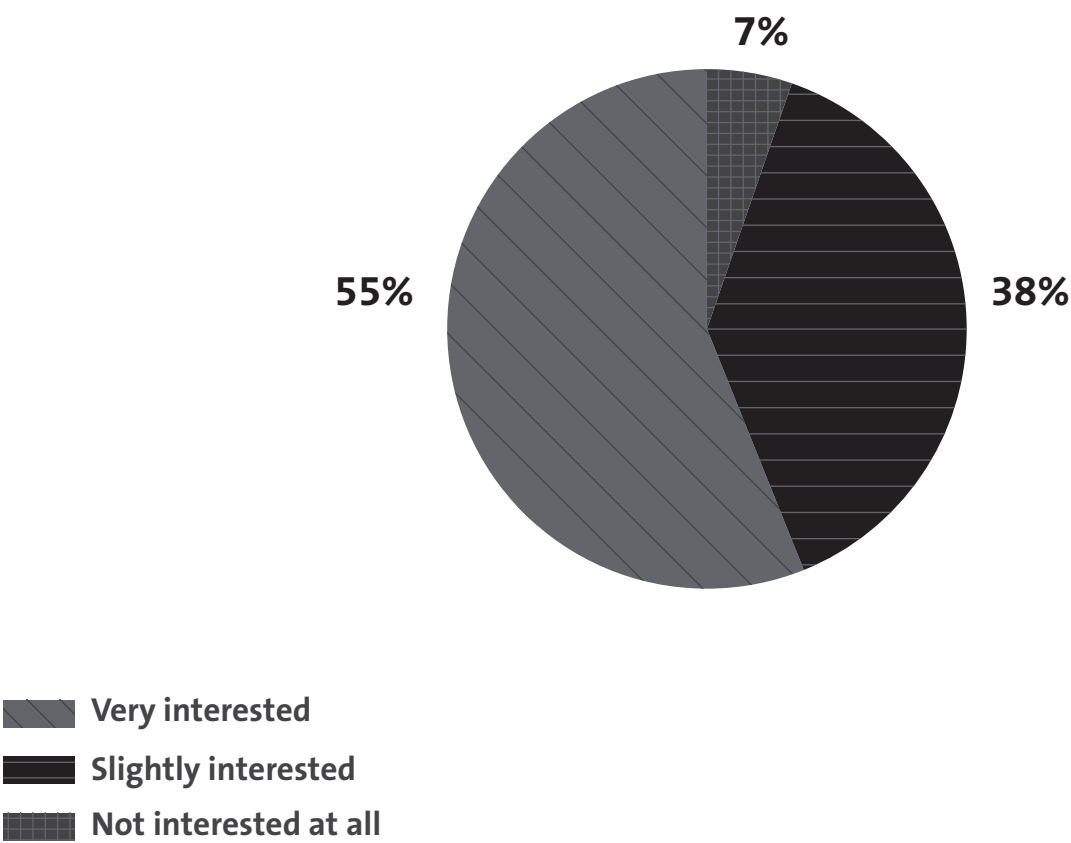
#### CONFERENCES AND SEMINARS

- Aimed at attracting traditional ESCOs into the Kingdom through
  - Participation in local and international industry conferences and seminars
  - Conducting workshops to encourage capable companies into becoming licensed Saudi ESCOs

# PUBLIC AWARENESS

## PEOPLE SHOW INTEREST TO SAVE ENERGY

NUMBER OF HOUSEHOLDS INTERESTED IN REDUCING ELECTRIC POWER IN SAUDI ARABIA (%)



**APPROX. 93% OF SAUDI**  
household show interest to save  
their energy consumption

# TARSHID ESTABLISHED

## SAUDI TARSHID AREAS OF MANDATE

### TARSHID OBJECTIVE

**BUILD THE SAUDI TARSHID MARKET FOSTERING THE DEVELOPMENT OF THE ENERGY SERVICE SECTOR IN SAUDI ARABIA**

- FUNDING ENERGY EFFICIENCY PROJECTS
- BUILDING CAPABILITIES OF TRADITIONAL ESCOS



### ENERGY BUILDING RETROFITS

- Government and public facilities as initial scope
- 70% of overall projects
  - 260,000 facilities estimated across the whole country
  - >3 M Street lights poles



### ENERGY ADVISORY SERVICES

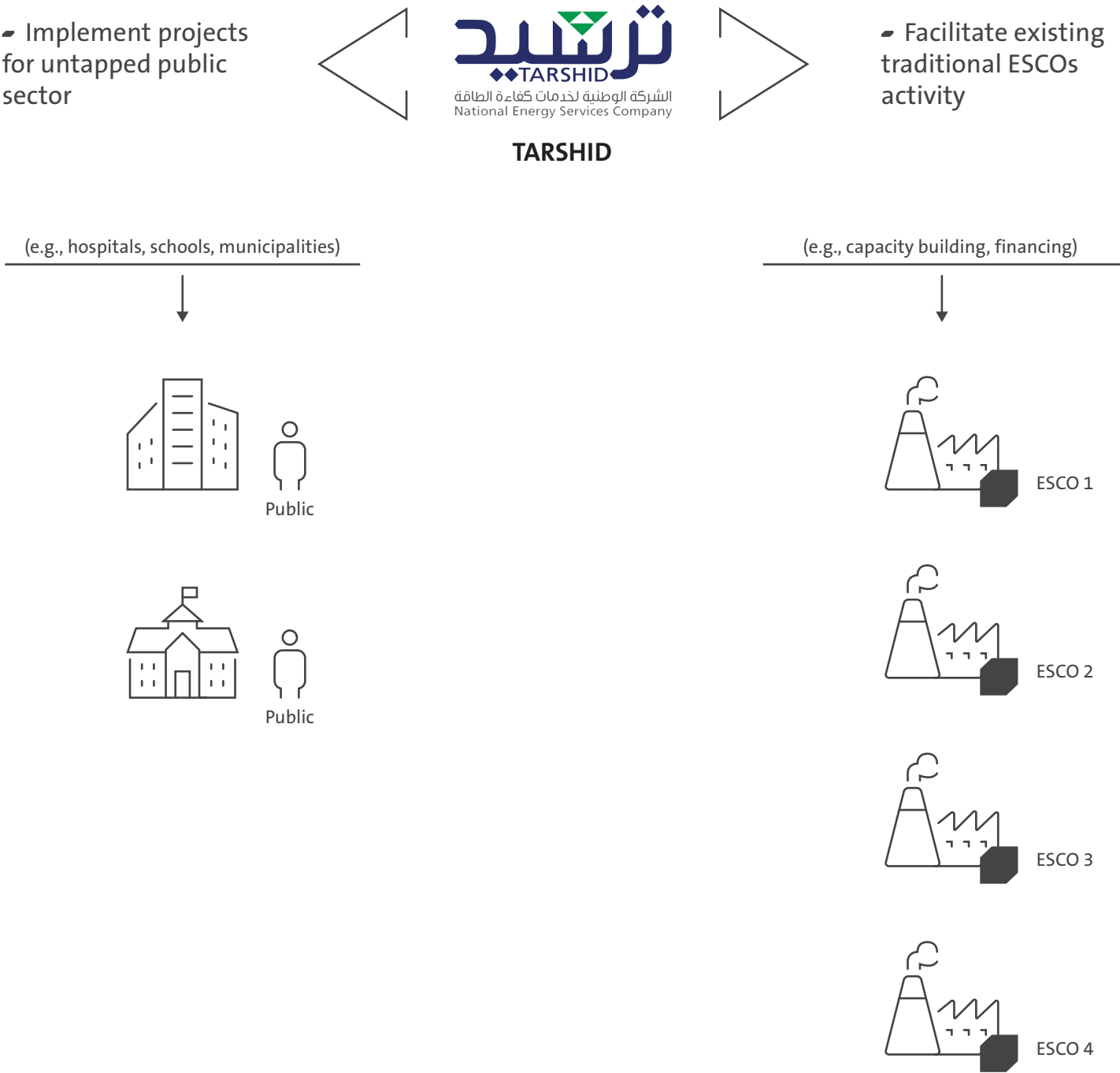
- Landscaping phase
- Still under discussion/evaluation
  - Consulting for audit, demand response, renewables, etc.



# TARSHID ESTABLISHED

## SAUDI TARSHID INTRODUCED AS KEY INTERFACE BETWEEN CUSTOMERS AND TRADITIONAL ESCOS

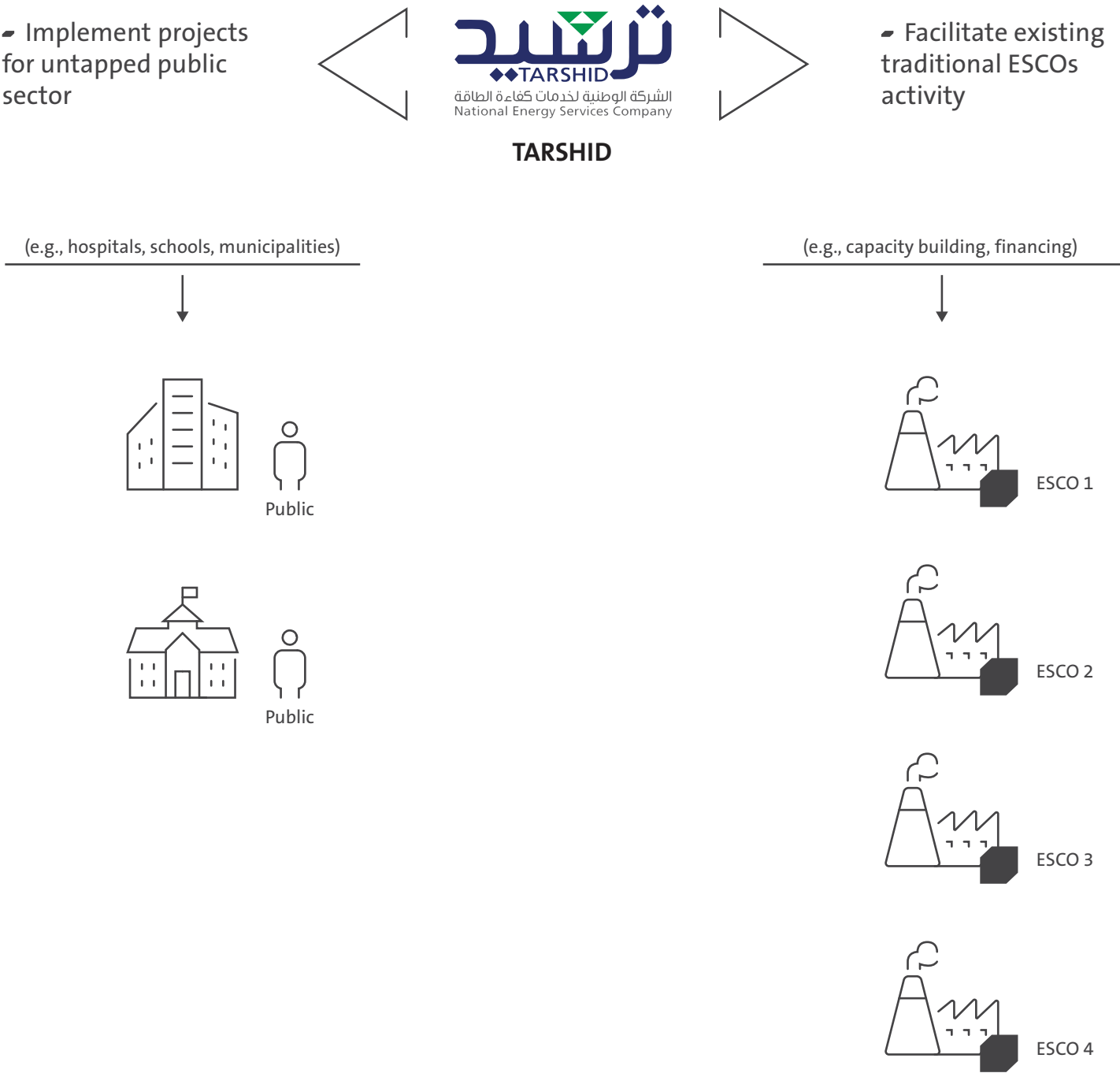
### NUMBER OF HOUSEHOLDS INTERESTED IN REDUCING ELECTRIC POWER IN SAUDI ARABIA (%)



# TARSHID ESTABLISHED

## SAUDI TARSHID INTRODUCED AS KEY INTERFACE BETWEEN CUSTOMERS AND TRADITIONAL ESCOS

### NUMBER OF HOUSEHOLDS INTERESTED IN REDUCING ELECTRIC POWER IN SAUDI ARABIA (%)



# ENERGY RETROFITS

## ENERGY BUILDING RETROFITS

UP TO 30% SAVINGS AFTER UNDERGOING REFIT TO INCREASE ENERGY EFFICIENCY



### ENERGY RETROFITS

Construction process aimed at renovating existing buildings with the aim of upgrading the energy performance - 260,000 facilities estimated across the whole country


- Improving energy efficiency, decreasing the equipment power demand
- For new buildings, advisory services (e.g., energy procurement, renewables)

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# CONTACT US NOW

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