



TOTAL
COMMITTED TO BETTER ENERGY

Integrating Climate Into Our Strategy

Access to Energy – Focus on Arica – 2017

PRESENTATION CONTENT

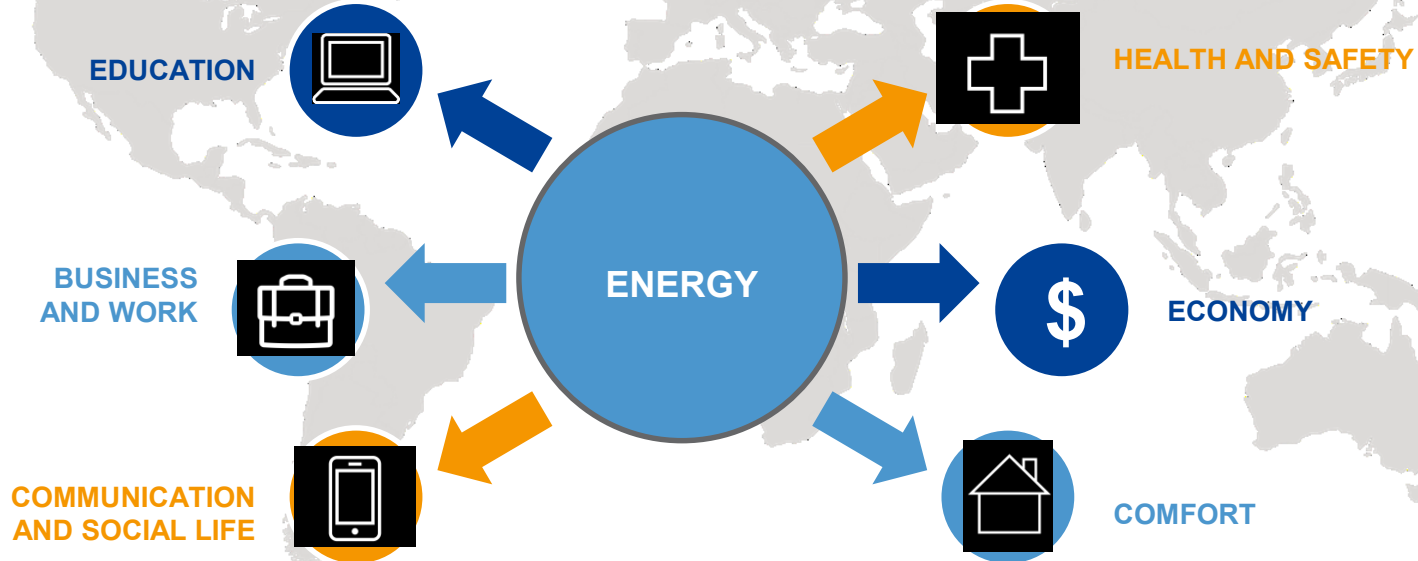
BACKGROUND INFORMATION ON ENERGY AND IEA'S 2°C SCENARIO

TOTAL: INTEGRATING CLIMATE INTO STRATEGY

ACCESS TO ENERGY, IN AFRICA IN PARTICULAR

ENERGY IS VITAL AND DRIVES PROGRESS

ENERGY HAS A CRITICAL IMPACT ON COUNTRIES' ECONOMIC DEVELOPMENT AND LIVING STANDARDS



ACCESS TO ENERGY

Background

2015: COP21 adopts commitments on:



Limitation

An ambitious target of keeping the global temperature rise below **2°C → 1.5°C**



Transparency

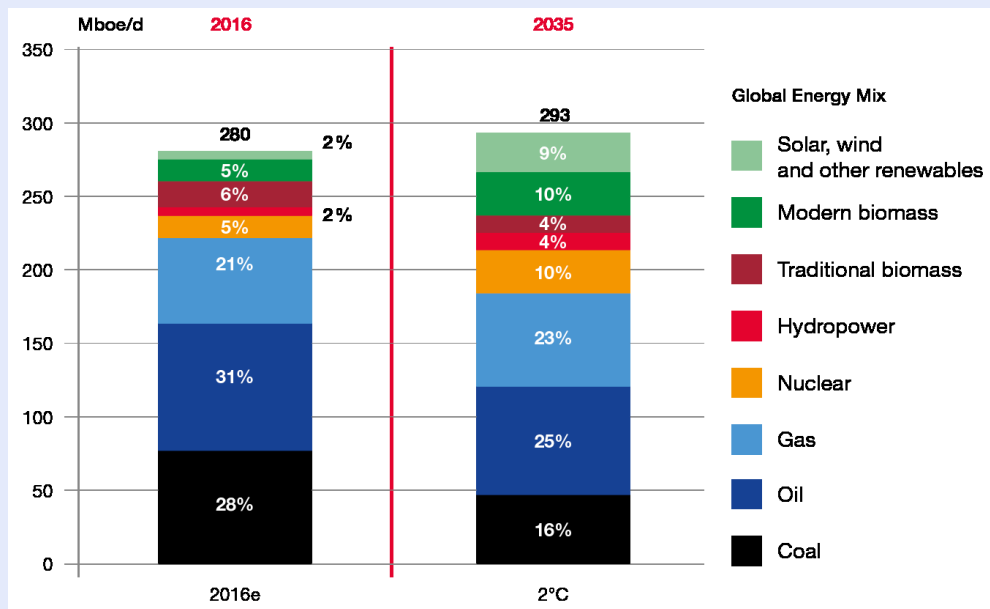
Measuring et reporting
GHG emissions

2016: COP22 The Paris Agreement had been ratified by 94 parties

**2017: The time for action by governments
and the private sector**

Creating an Energy Mix That Meets the 2°C Challenge

GLOBAL ENERGY MIX



Coal in the energy mix

28% in 2016



16% in 2035

Natural gas in the energy mix

23% in 2035

exceeding coal's share of the mix

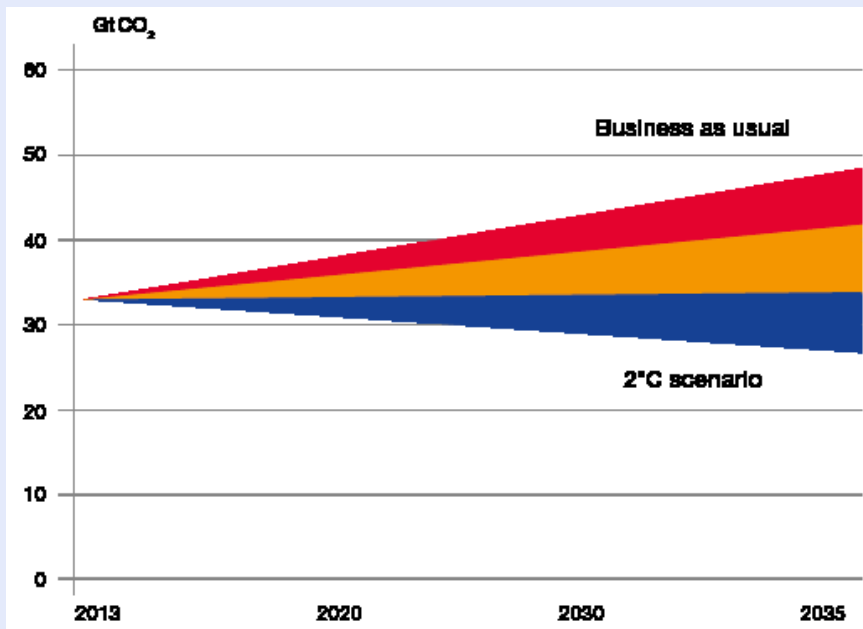
The share of renewables will soar

over the same period

to 23% from 9%

Source: IEA, World Energy Outlook 2016.

Three Areas of Focus for Reaching the 2°C Objective



Approximately 1/3
renewable energies

Approximately 1/3
energy efficiency

Approximately 1/3
optimized current energy mix (CCUS, switch from coal to natural gas, nuclear, etc.)

Source: Adapted from the IEA report *CO₂ Emissions from Fuel Combustion*, 2016 edition

Integrating Climate Into Our Strategy

Become the **responsible energy major**



**Improving the carbon
intensity of our
current
production mix**

Nearly 60% gas
in our production mix
in 20 years' time



**Developing
Low carbon
businesses incl.
renewables**

**Nearly 20%
of our
portfolio in
20 years' time**



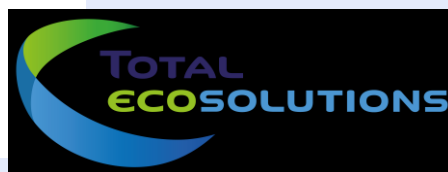
**Improving
energy
efficiency**

Promoting
**responsible
energy use**
in our operations and
by our customers



Improving Energy Efficiency

Promoting responsible energy use in our operations and by our customers



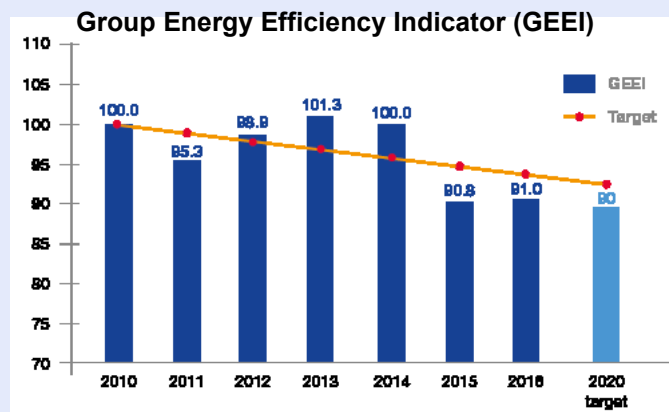
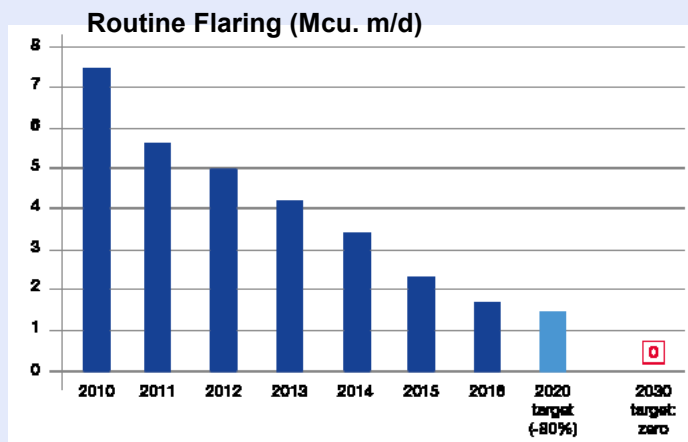
- Continuing our efforts to reduce greenhouse gas emissions **at our facilities.**
- Providing solutions (products and services) to encourage **responsible energy use** by our customers.





Improving the Carbon Intensity of Our Current Production Mix

Nearly 60% gas in our production mix in 20 years' time



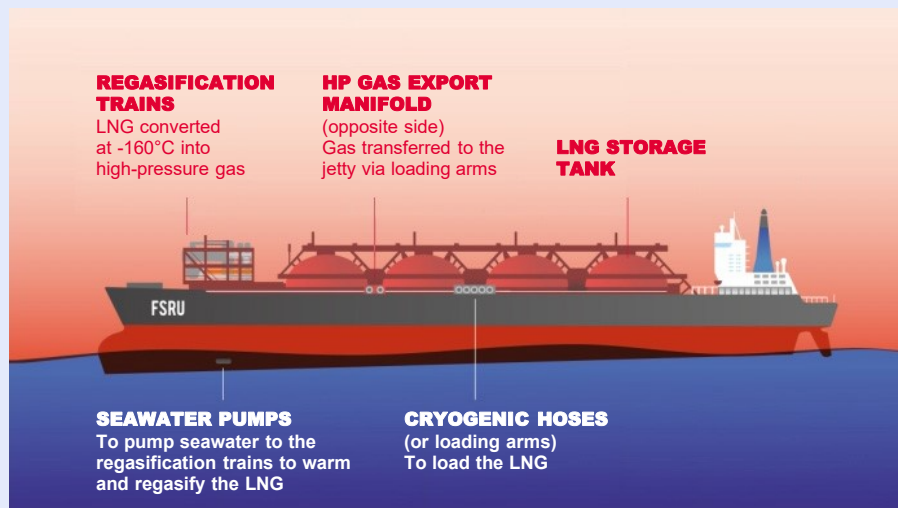
- Exiting the coal business.
- Deploying an assertive strategy in **gas**, while strictly limiting methane emissions.
- Selecting and developing safe, environmentally responsible **competitive** oil and gas projects.
- Innovating and expanding in **carbon capture, utilization and storage technologies**.
- Publicly supporting the implementation of **carbon pricing mechanisms**.
- Encouraging sector initiatives and **collectively** engaging to address climate issues.





Providing Affordable Natural Gas

FSRU: floating storage and regasification units



FSRUs: making it easier to import gas

- Lower costs and shorter deployment times.
- Bypassing logistical constraints connected with gas transportation.
- Smaller environmental footprint.

Total is developing several projects around the world

- Ivory Coast.
- Pakistan (start-up in 2018).
- Other projects in the pipeline.





Developing low carbon businesses incl. renewables

Nearly 20% low-carbon businesses in our portfolio in 20 years' time



- Growing as a leading **solar** player by expanding our activities along the photovoltaic chain, including distribution.
- Adding **energy storage** to our businesses.
- Developing **bioenergies**.
- Promoting **access to energy**.





Accelerating the Solar Energy Transition



2011: ACQUISITION OF SUNPOWER,

- a global leader in photovoltaic solar energy

2017: CREATION OF TOTAL SOLAR

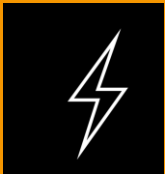
- To expand Total's solar power production capacity (South Africa, Japan, Chile)

WIDER USE OF SOLAR POWER AT OUR OWN SITES

- 5,000 service stations worldwide within five years, including 800 in France
- 200 MW of installed capacity

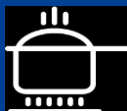
INCREASINGLY HIGH-PERFORMANCE

- Development of energy storage with Saft
- High-efficiency cells and smart mini-grids



1 BILLION*

PEOPLE WORLDWIDE
DO NOT HAVE ACCESS
TO ELECTRICITY



IN 2016

3 BILLION*

PEOPLE WORLDWIDE
RELIED ON WOOD, COAL
OR ANIMAL DUNG FOR
COOKING AND HEATING



ENERGY ACCESS CHALLENGES

FOR LOW-INCOME COMMUNITIES

IN 2040, **9 BILLION PEOPLE** WILL NEED ENERGY TO
ENSURE THEIR ECONOMIC AND SOCIAL
DEVELOPMENT

CUSTOMER NEEDS ARE CONSTANTLY CHANGING
ENERGY DEMAND MUST BE RECONCILED WITH
ENVIRONMENTAL PROTECTION

**AS THE RESPONSIBLE ENERGY MAJOR,
TOTAL MUST ADDRESS THESE
CHALLENGES**

* Source: <http://www.worldenergyoutlook.org/resources/energydevelopment/> and
<http://www.un.org/sustainabledevelopment/energy/>



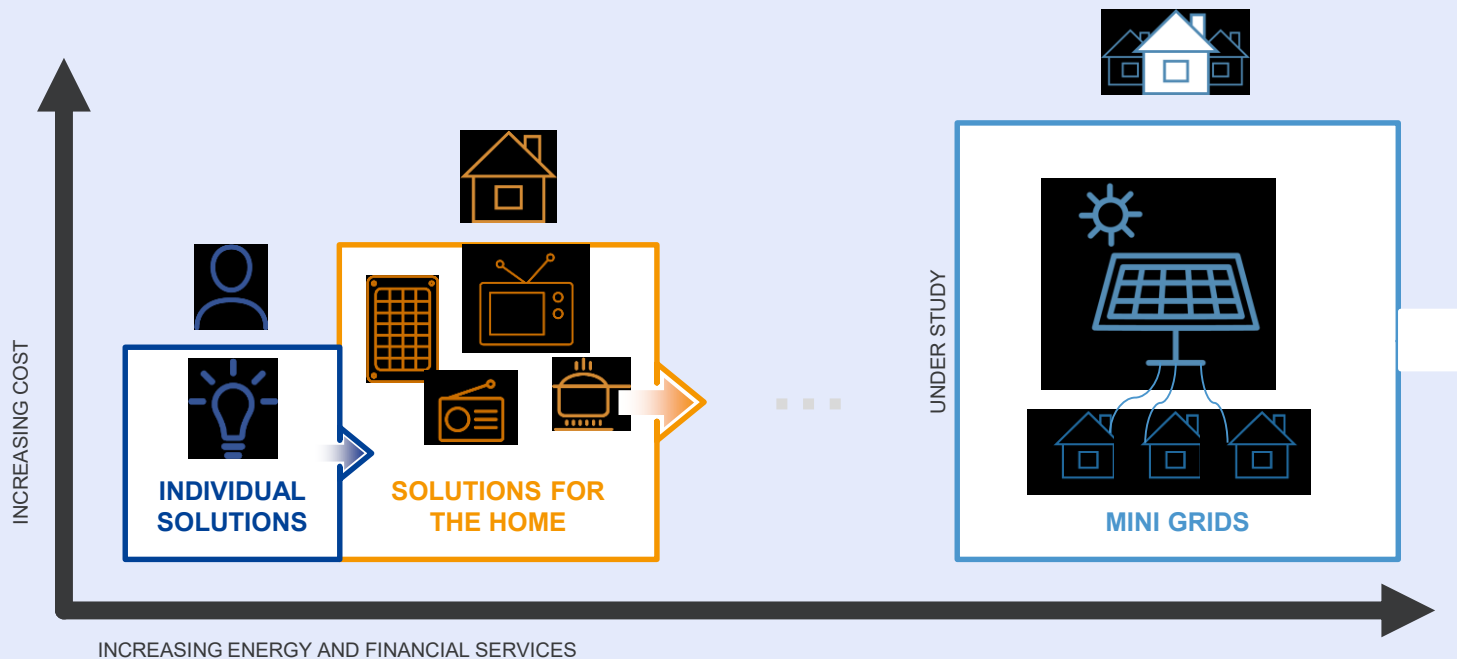
TOTAL'S RESPONSE: THE ACCESS TO ENERGY PROGRAM

DEVELOPING NEW ENERGY ACCESS
BUSINESS MODELS AND CREATING LOCAL
VALUE

SUPPLYING ACCESSIBLE, AFFORDABLE ENERGY
REINVENTING CUSTOMER RELATIONSHIPS
THROUGH CLOSENESS AND INNOVATION
WORKING TO IMPROVE ENERGY EFFICIENCY

A SCALABLE OFFERING

RANGING FROM INDIVIDUAL SOLAR SOLUTIONS TO COMMUNITY POWER SUPPLY NETWORKS, THEREBY ADDRESSING ALL NEEDS



SOLAR SOLUTIONS FOR EVERYONE

A RANGE OF PRODUCTS THAT ARE

RELIABLE

AFFORDABLE

HIGH QUALITY

TO PROVIDE LIGHTING AND
CHARGE SEVERAL DEVICES

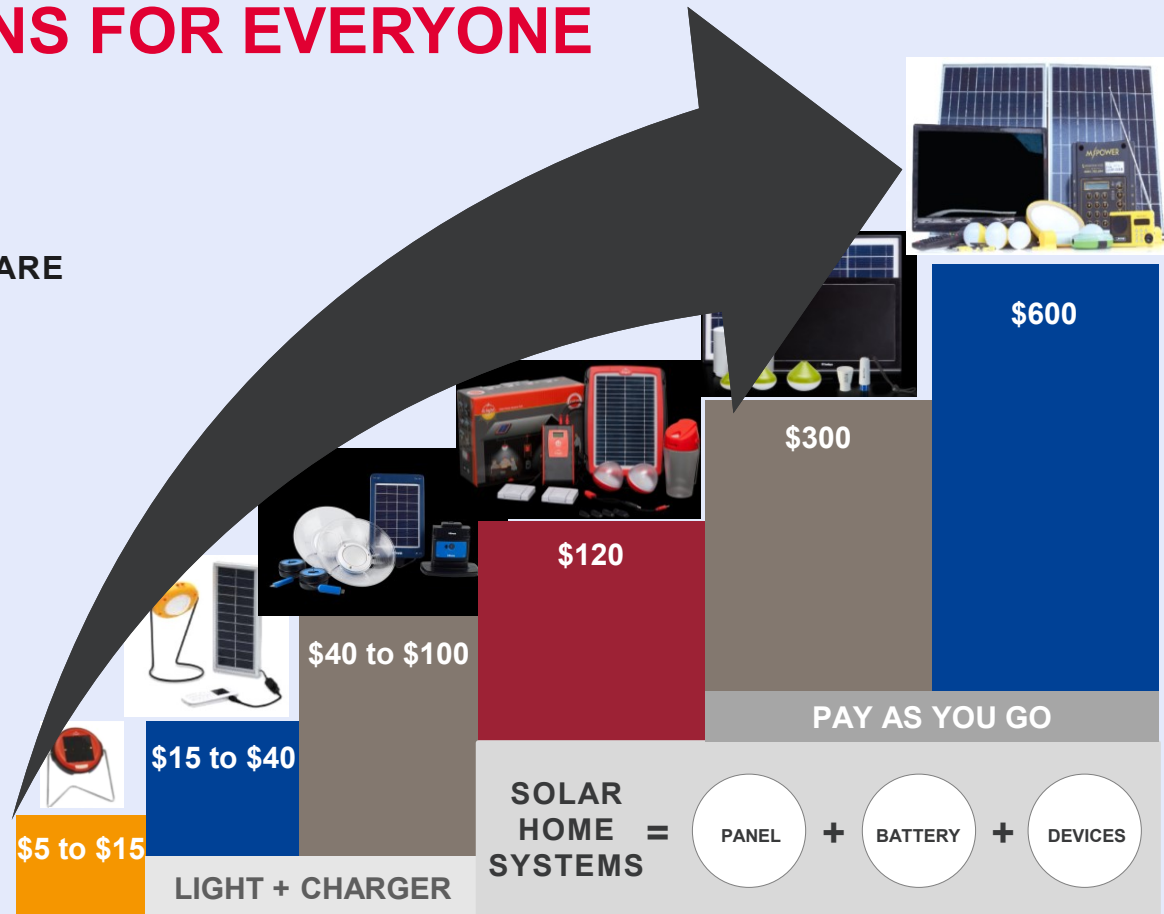
LAMPS

RADIOS

FANS

TELEVISIONS, ETC.

www.catalogue-awango.com



ACCESS TO ELECTRICITY



MINI-GRIDS FOR COMMUNITIES & BUSINESSES

**TOTAL IS STUDYING ENERGY SUPPLY
WITH HYBRID MINI-GRIDS**

**SOLAR PV, ELECTRICITY GENERATION
FROM BIOMASS, STORAGE**

300 - 500 HOMES

10 - 100 KW

**DIGITAL PAYMENT (SMART METER, MOBILE
PAYMENT)**

IMPROVED COOK STOVES

TOTAL IS STUDYING A RANGE OF CLEANER, SAFER AND MORE EFFICIENT SOLUTIONS FOR COOKING



HEALTH AND SAFETY

Smoke-free cooking method that prevents eye irritation and protects from burns



SAVINGS

Reduced fuel consumption



ENVIRONMENT

5 metric tons of CO₂ avoided per year per stove



COMFORT

Fast, clean cooking solution that doesn't blacken clothing or walls

ACCESS TO CLEAN COOKING

A FINANCING SOLUTION TAILORED TO EVERY SITUATION

AN INSTALLMENT-BASED PAYMENT SYSTEM IN PARTNERSHIP WITH MAIN PAYGO PLAYERS
TO MAKE SOLAR KITS ACCESSIBLE TO CUSTOMERS

PAY AS YOU GO



MAKE
PRE-PAYMENT



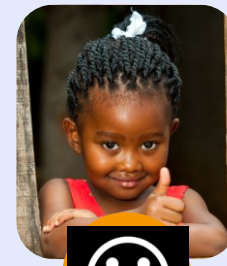
MAKE MOBILE
PAYMENT



RECEIVE
CODE



RECHARGE
SYSTEM



FULL
REPAYMENT
6 months – 3 years

FINANCING SOLUTIONS

MICROCREDIT CROWDFUNDING

SUPPORTING MICROFINANCE AGENCIES
TO FOSTER ACCESS TO ENERGY PROJECTS

FINANCING SOLUTIONS



Our 2017 Report



Thank you



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