

# GULF COUNTRIES

## The challenge of sustainable water and waste management

### RESOURCES THREATENED BY GROWING URBANISATION



The Gulf countries concentrate  
**85%** of urban population  
vs. 50% in the rest of the world



Consumption stands at

**816 m<sup>3</sup> of water/pers/yr**

i.e. 65% more than the global average

A policy of economic diversification towards activities with high water usage

#### Example of Oman



Manufacturing



Tourism



Fishing



Logistics



Mining

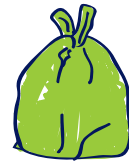


Middle Eastern and North African countries represent

**6.3%** of the world's population, yet have only



**1.4%** of fresh water resources



The Gulf countries produce

**+30 Mt** waste/yr



Recycling  
**10%**



Treatment  
**20%**



Landfill  
**70%**

By 2025, waste production will increase by:

Saudi Arabia

**+150%**

United Arab Emirates

**+153%**

Sultanate of Oman

**+172%**

### DEVELOPMENT OF ALTERNATIVE WATER RESOURCES TO MEET DEMAND



**Desalination**

- Saudi Arabia: the world's biggest producer of desalinated water
- The UAE, Kuwait and Qatar are among the top 10 producers in the world



**Wastewater recycling**

- Salalah, Oman: 90% of water is reused
  - Qatar: Doha recycles 100% of its wastewater
- } Irrigation for agriculture  
Groundwater replenishment

### LAUNCH OF INVESTMENT PROGRAMS IN WATER AND RECYCLING INFRASTRUCTURES

#### OMAN

- 390 million/yr in water infrastructures  
➡ **Goal: Access to drinking water for 90% of the population by 2035**



- \$2.8 billion in sanitation  
➡ **Goal: to link up 80% of housing to sanitation facilities by 2020**



- 0% carbon dioxide emissions emitted by non-controlled landfills by 2020

#### UNITED ARAB EMIRATES

- ➡ -21% water demand by 2036
- ➡ +95% wastewater recycling by 2036
- ➡ -75% landfill waste by 2020
- ➡ 0% landfill waste by 2030 in Dubai



#### SAUDI ARABIA

- Reuse of 100% municipal wastewater and 80% of industrial wastewaters by 2030
- Aim of 54% industrial waste recycling by 2020

➡ **Objectives for recycled wastewater volumes**

**2010** ➡ 2.1 M m<sup>3</sup>/day

**2035** ➡ 5.75 M m<sup>3</sup>/day

