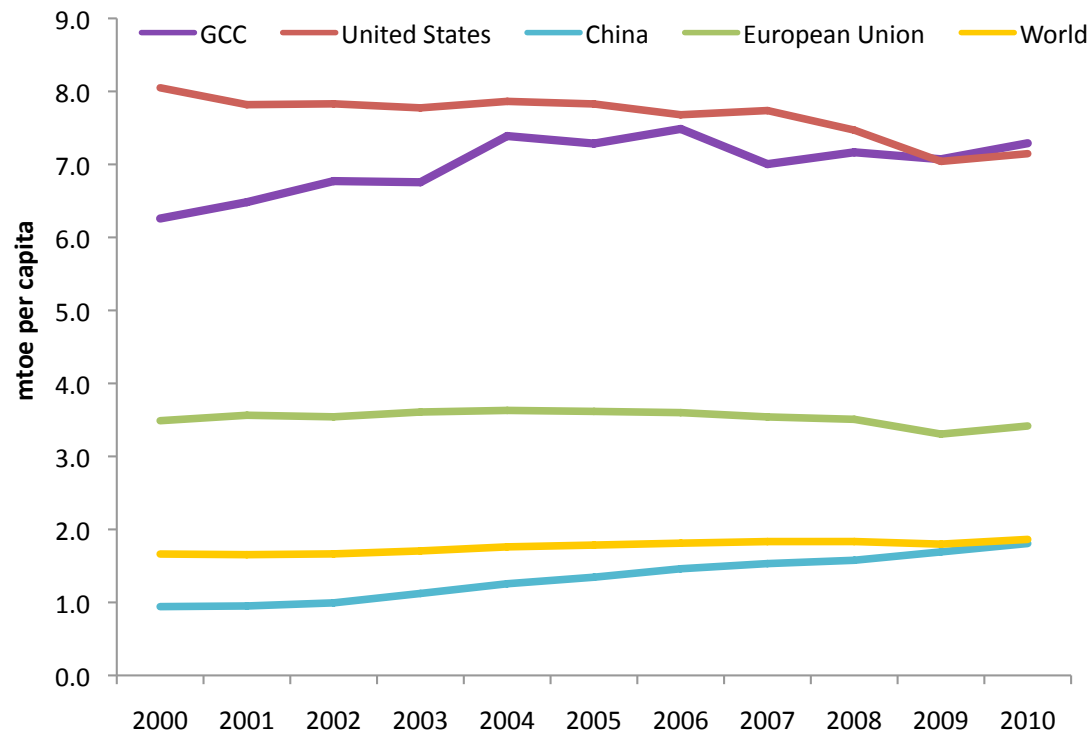


**Renewable Energy in the  
Gulf Region  
IRENA side-event  
COP18  
December 4, 2012**

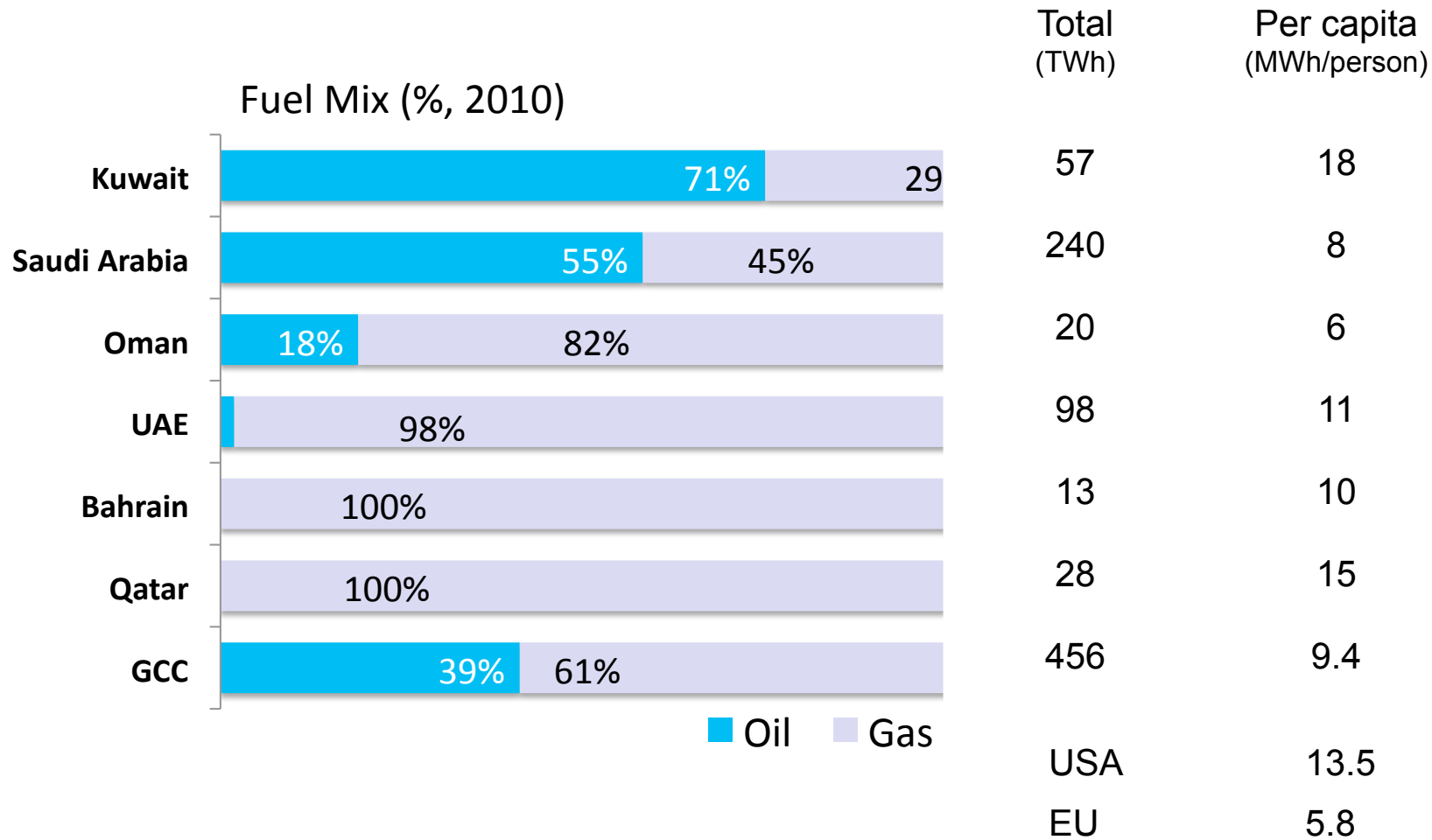
# Growing Demand for Energy

- The GCC per capita energy consumption far exceeds that of the larger economies of the US, China and the EU

**Energy Consumption per capita in the GCC and other economies (Mtoe)**

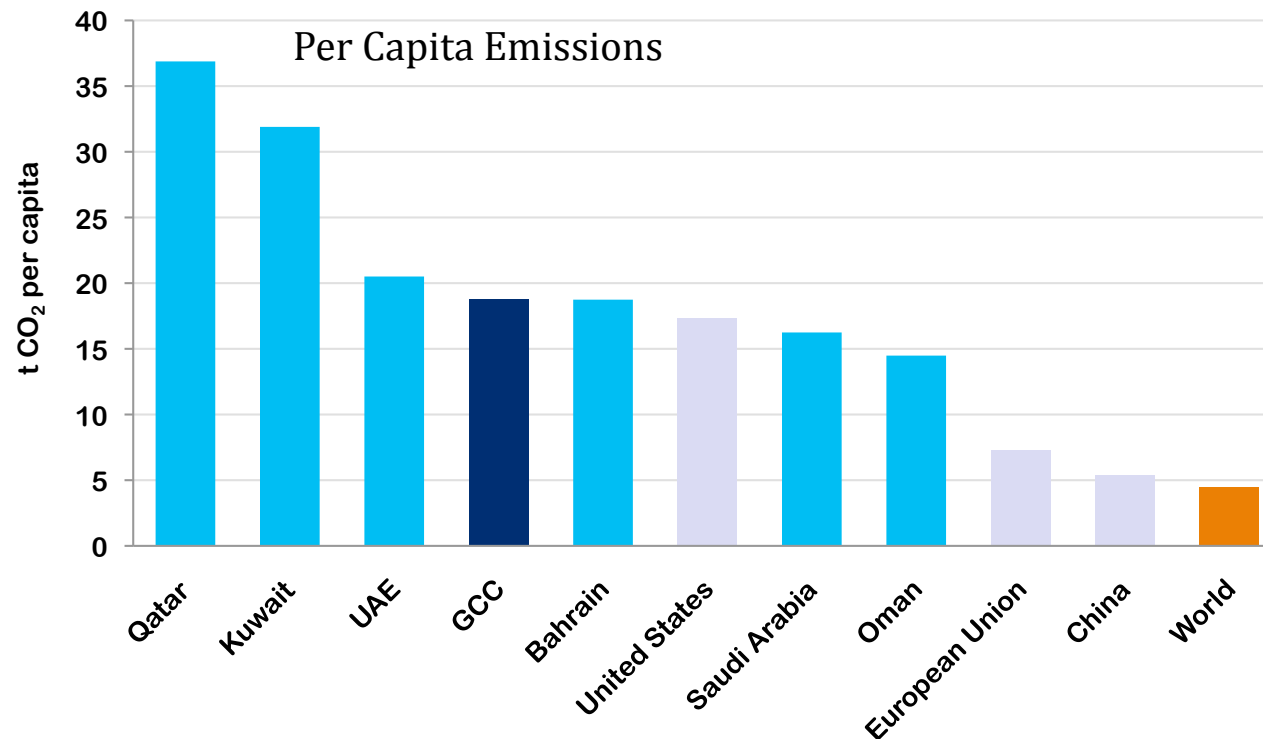


# Fuel mix in the GCC power sector

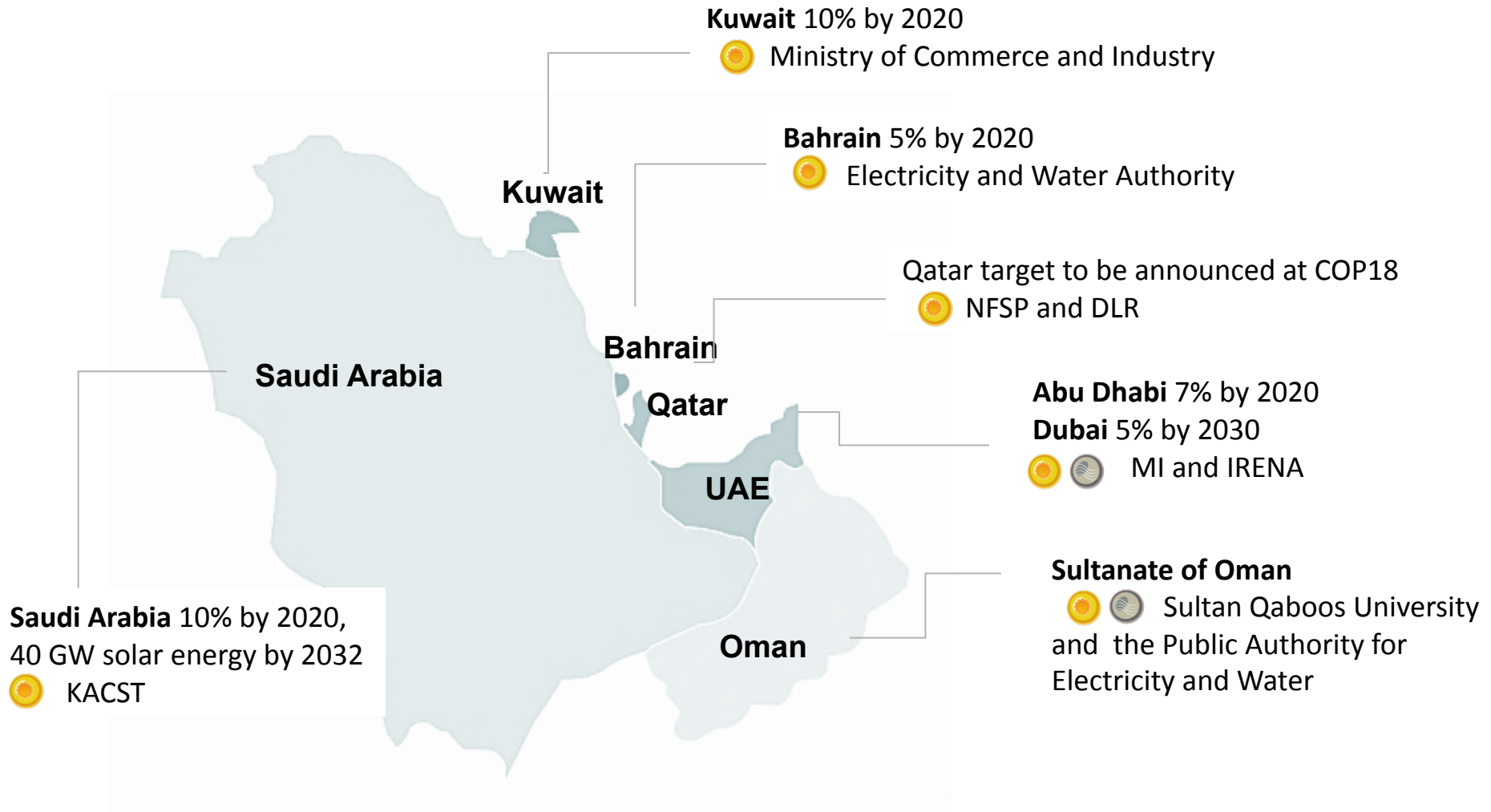


By 2020, the GCC electricity consumption is expected to reach **856 TWh** requiring an additional 100 GW capacity

# Carbon Emissions in the GCC



# RE targets in the GCC



Source: IRENA


Note: ☀️ Solar Resource Assessment and 🌪️ Wind Resource Assessment

# RE value chain in the GCC

## R&D

-  MI (UAE)
-  QSTP (Qatar)
-  KISR (Kuwait)
-  KACARE/ KAUST/ ERI in KACST (Saudi Arabia)
-  RASERG/SQU (Oman)
-  UoB/BAPCO (Bahrain)

## Manufacturing

 **Qatar Solar Technologies**  
polysilicon production plant in Ras Laffan  
8,000 metric tons of polysilicon per year



**Saudi Arabia Polysilicon Technology Company** in Al Jubail Industrial City  
12,000 metric tons of polysilicon per year

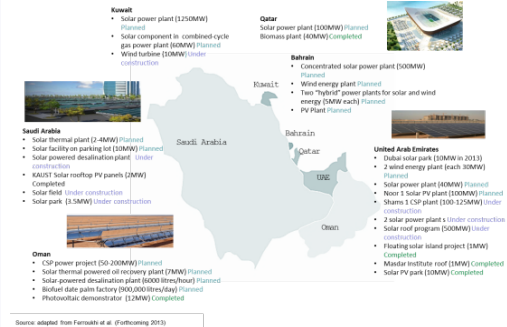


**Masdar PV**, a thin-film solar panel manufacturer in Germany



**Dubai MBM Solar Holding Inc.**, 2500MT/a solar-grade polysilicon plant  
2,500 tons per year

## Project Development



# RE projects in the GCC

## Kuwait

- Solar power plant (1250MW) **Planned**
- Solar component in combined-cycle gas power plant (60MW) **Planned**
- Wind turbine (10MW) **Under construction**



## Qatar

- Solar power plant (100MW) **Planned**
- Biomass plant (40MW) **Completed**



## Bahrain

- Concentrated solar power plant (500MW) **Planned**
- Wind energy plant **Planned**
- Two “hybrid” power plants for solar and wind energy (5MW each) **Planned**
- PV Plant **Planned**



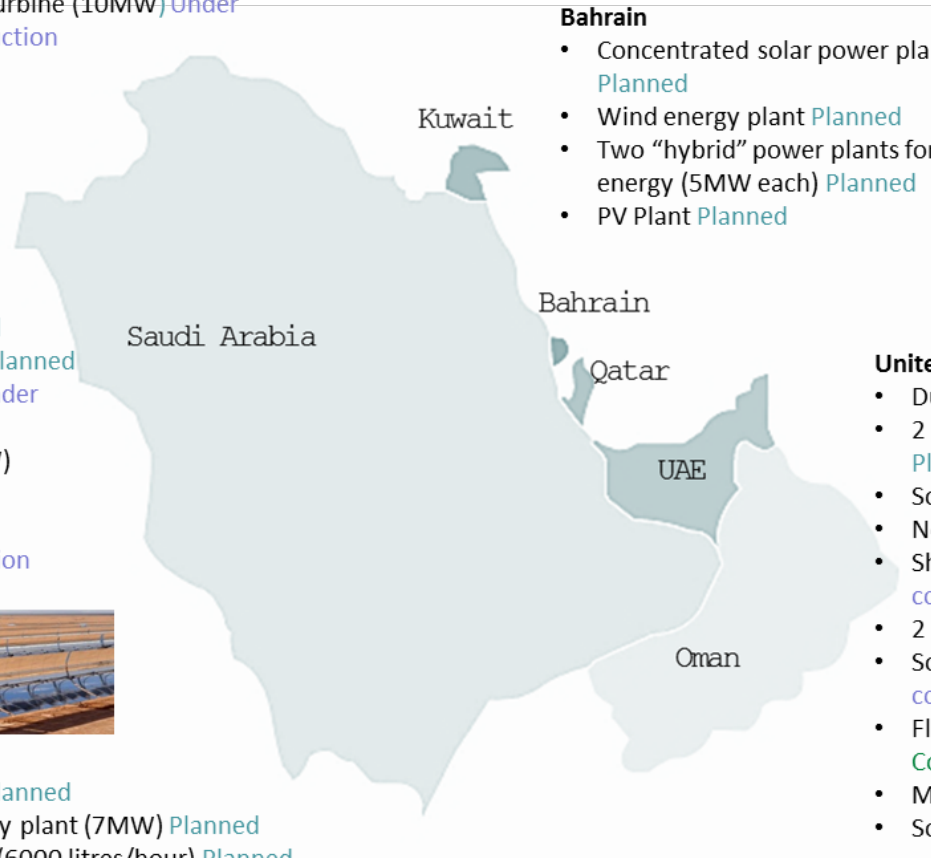
## Saudi Arabia

- Solar thermal plant (2-4MW) **Planned**
- Solar facility on parking lot (10MW) **Planned**
- Solar powered desalination plant **Under construction**
- KAUST Solar rooftop PV panels (2MW) **Completed**
- Solar field **Under construction**
- Solar park (3.5MW) **Under construction**



## Oman

- CSP power project (50-200MW) **Planned**
- Solar thermal powered oil recovery plant (7MW) **Planned**
- Solar-powered desalination plant (6000 litres/hour) **Planned**
- Biofuel date palm factory (900,000 litres/day) **Planned**
- Photovoltaic demonstrator (12MW) **Completed**



## United Arab Emirates

- Dubai solar park (10MW in 2013)
- 2 wind energy plant (each 30MW) **Planned**
- Solar power plant (40MW) **Planned**
- Noor 1 Solar PV plant (100MW) **Planned**
- Shams 1 CSP plant (100-125MW) **Under construction**
- 2 solar power plants **Under construction**
- Solar roof program (500MW) **Under construction**
- Floating solar island project (1MW) **Completed**
- Masdar Institute roof (1MW) **Completed**
- Solar PV park (10MW) **Completed**

# GCC Fuel and CO<sub>2</sub> savings from RE Integration

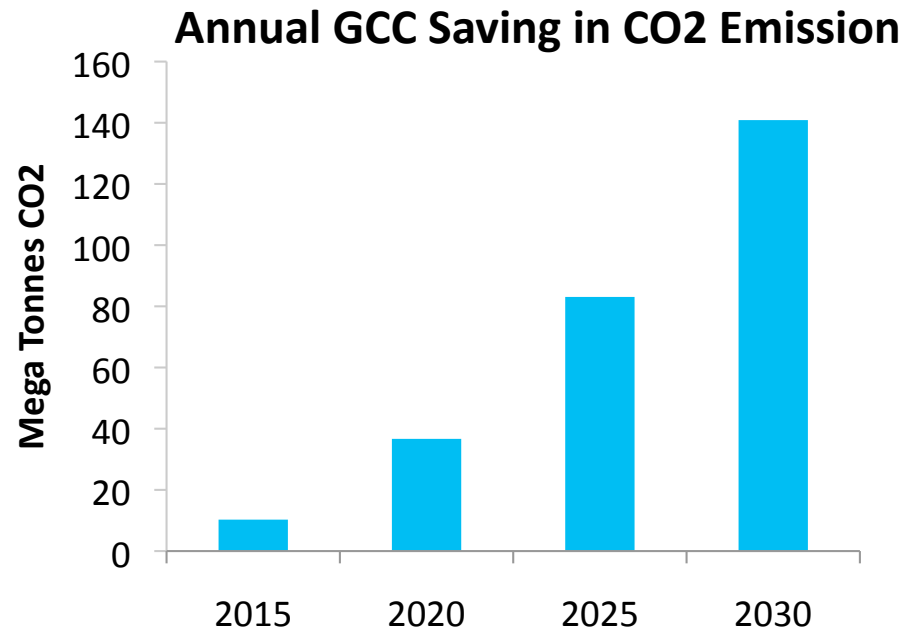
## Fuel Savings

- 3 billion barrels of oil equivalent cumulative between 2012 and 2030
- Equivalent to Morocco energy consumption in the same period



## Monetary savings

\$200 Billion\* up to 2030



## CO<sub>2</sub> Savings

- 1044 MtCO<sub>2</sub>e cumulative between 2012 and 2030
- Equivalent to Peru CO<sub>2</sub> emissions in the same period
- \$8 billion



**Thank you**

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