

# Angola



*A full transition to energy efficient off-grid lighting would result in the following benefits:*

## Economic and Energy Benefits

**318.6 million USD**  
annual savings\*



**5 months**  
payback period

50 million litres of kerosene,  
2.4 billion candles and  
18 million batteries annual savings\*



0.8 million barrels of crude  
oil energy equivalent

## Climate Change Mitigation Benefits

### Potential Savings:

396.1 thousand tonnes of carbon  
dioxide emissions reduction annually



### Equivalent to:

99 thousand mid-size cars  
off the road

## Environmental, Health and Social Benefits



Annual savings of 93.7 USD per household per year

3.2 million households with better quality light

Reduction or elimination of fuel-related health issues, fire hazards  
and toxic fumes

\* National savings estimate shown is based on the average, national end-user price for kerosene. In countries where kerosene is subsidised, the benefit accruing to the nation will be higher.



# Off-Grid Lighting Assessment

## Country Specific Data and Input Assumptions (2010)

General Information	
Total population	19.1 million
Off-grid population	14.1 million
On-grid, under-serviced population	1.5 million
Gross Domestic Product	85 billion
Gross Domestic Product per capita	4,451 USD
Percent of population on-grid	26.2%
Off-grid and under-serviced households	3.2 million

Pricing Information (in USD)	
Litre of kerosene	1.37 - 1.85
Candle	0.10 each
Kerosene lamp (glass cover)	2.50 each
Kerosene lamp (simple wick)	2.00 each
Torch (flashlight)	1.30 each
Batteries (for torch/flashlight)	0.50 per battery
Solar lantern (small)	18.00 each
Solar lantern (large)	35.00 each

Average Daily Operating Hours	
Off-grid and under-serviced households	3.9 hours/day
Off-grid and under-serviced small business	4.0 hours/day

Installed Stock Estimates* (millions)		
Light source	Households	Businesses
Kerosene lamp (glass cover)	0.5 (6.3%)	0.1 (14.3%)
Kerosene lamp (simple wick)	0.7 (8.3%)	0.1 (14.3%)
Torch (flashlight)	0.2 (3.1%)	0.1 (21.4%)
Candles (light points)	6.4 (82.3%)	0.3 (50.0%)
Total:	7.8 million	0.5 million

Average Household Monthly Consumption*		
Light energy source	Units	Cost
Kerosene	1.2 litres	1.58 USD
Candles	60.6 candles	6.06 USD
Batteries	0.3 batteries	0.16 USD
Total:		7.8 USD

Simple Payback Periods*		
Sectors evaluated	Households	Businesses
Kerosene lamp (glass cover)	0.6 years	0.5 years
Kerosene lamp (simple wick)	0.3 years	0.3 years
Torch (flashlight)	0.7 years	0.7 years
Candles	0.5 years	0.5 years
Weighted national average:	0.5 years	0.3 years

\* Includes on-grid, under-serviced households and businesses, if applicable

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