OBIN
Off-Grid Business Indicator
2014
Introduction

The global efforts for a reliable power supply in off-grid regions of developing countries have increased significantly in recent years. Together with the number of companies operating in this segment, the number of investors has also rapidly augmented. Data that can serve as a basis for business and investment decisions become increasingly necessary for both actors.

The collection of reliable market data for both the regions as the relevant customer groups is difficult, sometimes even impossible. Therefore and most frequently, the number published by the World Bank is repeated over and over, according to which 1.2 billion people live without access to energy. However, with this number the importance of the off-grid market is far from being gathered. Additional data can be found occasionally in studies and publications, though dispersed and not processed.

OBIN brings together information from different data sources and prepares them focused on their relevance for the off-grid market.

"OBIN Africa" takes account of all countries of this continent that have an electrification rate of less than 80%. Thus, the North African countries (Algeria, Egypt, Libya, Morocco, Tunisia), and Mauritius are not taken into account. The information for each country is divided into information on the of-grid market potential and the country-specific business environment.

Regarding the information on the market potential, data on mobile communication and cell phone use were also recorded because especially the mobile phones have proven to be in recent years an accelerator of the off-grid energy market. In the future, perhaps internet and consumer electronics will have an equally strong importance.

For the assessment of the "business environment", a selection of ten indicators was made, which reflect the economic conditions of aspects relevant for the off-grid business.

Neither the information on the "Business Environment" nor on the "Market potential" claim to be exhaustive or of scientific accuracy. This is not possible because of the imprecision and inhomogeneity of the sources of information.

But OBIN is a reliable and realistic indicator for the potential and the general conditions of the off-grid market in Africa. OBIN is especially able to demonstrate the great economic potential of this so far largely untapped market.

Stiftung Solarenergie - Solar Energy Foundation
February 2014

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Summary Results
## Overview

### Sub-Saharan Africa

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo DR, Congo Rep., Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe

<table>
<thead>
<tr>
<th>Population total 2010</th>
<th>862.2 mill.</th>
<th>Rural population 2010</th>
<th>552.4 mill.</th>
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</thead>
<tbody>
<tr>
<td>2012</td>
<td>909.4 mill.</td>
<td>2012</td>
<td>574.9 mill.</td>
</tr>
</tbody>
</table>

Population Off-Grid: 952.7 mill.

Population On-Grid under-serviced: 75.6 mill.

Households Off-Grid + under-serviced: 137.2 mill.

Kerosene lamps (glass cover, simple wick): 306.8 mill.

Mobile cellular subscriptions: 536.8 mill.

### Market Potential:

- Replacement kerosene lamps: US$ 9204 mill.

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3 Sources and Methodology: p. 55-56.
(Countries in alphabetic order)

<table>
<thead>
<tr>
<th>Outstanding</th>
<th>Above average</th>
<th>Average</th>
<th>Below average</th>
<th>Unacceptable</th>
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<td>Cote d'Ivoire</td>
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<td>Mali</td>
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<td>Zambia</td>
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No valuation due to lack of information:
Djibouti, Equatorial Guinea, Guinea-Bissau, Somalia, South Sudan, Sudan
The most problematic factors for business

<table>
<thead>
<tr>
<th>Factor</th>
<th>Countries</th>
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<tr>
<td>Access to financing</td>
<td>29</td>
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<tr>
<td>Corruption</td>
<td>22</td>
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<tr>
<td>Inadequate supply of infrastructure</td>
<td>13</td>
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<tr>
<td>Tax rates</td>
<td>7</td>
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<tr>
<td>Insufficient government bureaucracy</td>
<td>7</td>
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<td>Inadequately educated workforce</td>
<td>5</td>
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<td>Policy instability</td>
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<tr>
<td>Poor work ethic in national labor force</td>
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<tr>
<td>Inflation</td>
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<tr>
<td>Restrictive labor regulations</td>
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<td>Insufficient capacity to innovate</td>
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<tr>
<td>Governmental instability/coups</td>
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</tr>
<tr>
<td>Crime and theft</td>
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</tr>
</tbody>
</table>

Angola

Market size:  

Population total 2010 ....................... 19.6 mill.  
2012 ................................. 20.8 mill. 
Rural population 2010 ......................... 8.1 mill.  
2012 ................................. 8.4 mill. 

Population On-Grid under-serviced .................................................. 1.5 mill. 
Households Off-Grid + under-serviced .......................................... 3.2 mill. 
Kerosene lamps (glass cover, simple wick) ..................................... 1.4 mill. 
Mobile cellular subscriptions ............................................................ 9.8 mill. 
Internet users .................................................................................. 9.8 mill. 
replacement kerosene lamps .............................................................. US$ 42 mill. 

Business environment:  

Organization of the market and competition  
Independent judiciary  
Property rights  
Freedom from corruption  
Investment freedom  
Availability of financial services  
Ease of access to loans  
Openness to multilateral trade rules  
Openness to foreign participation  
Efficiency of import-export procedures  

The most problematic factors for business:  
1. Corruption  
2. Inadequately educated workforce  
3. Inefficient government bureaucracy

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Benin

Market size:

Population total 2010 ......................... 9.5 mill.
2012 ................................. 10.1 mill.

Rural population 2010......................... 5.3 mill.
2012 ................................. 5.5 mill.

Population Off-Grid ......................................................... 6.7 mill.
Population On-Grid under-serviced ...................... 0.7 mill.
Households Off-Grid + under-serviced ...................... 1.4 mill.
Kerosene lamps (glass cover, simple wick) ...................... 4.4 mill.
Mobile cellular subscriptions .............................. 8.4 mill.
Internet users .......................................................... 0.7 mill.

replacement kerosene lamps ...................... US$ 132 mill.

Business environment:

The most problematic factors for business:
1. Corruption
2. Access to financing
3. Inefficient government bureaucracy

<table>
<thead>
<tr>
<th>Factor</th>
<th>Efficiency</th>
<th>Openess to multilateral trade rules</th>
<th>Openess to foreign participation</th>
<th>Ease of access to loans</th>
<th>Availability of financial services</th>
<th>Investment freedom</th>
<th>Property rights</th>
<th>Freedom from corruption</th>
<th>Independent judiciary</th>
<th>Organization of the market and competition</th>
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<td>67%</td>
<td>67%</td>
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<td>67%</td>
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<td>30%</td>
<td>30%</td>
<td>60%</td>
<td>63%</td>
</tr>
<tr>
<td>Openess to foreign participation</td>
<td>57%</td>
<td>67%</td>
<td>67%</td>
<td>31%</td>
<td>47%</td>
<td>70%</td>
<td>30%</td>
<td>30%</td>
<td>60%</td>
<td>63%</td>
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<tr>
<td>Ease of access to loans</td>
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<td>31%</td>
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<tr>
<td>Investment freedom</td>
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<td>70%</td>
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<td>60%</td>
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</tr>
<tr>
<td>Property rights</td>
<td>57%</td>
<td>67%</td>
<td>67%</td>
<td>31%</td>
<td>47%</td>
<td>70%</td>
<td>30%</td>
<td>30%</td>
<td>60%</td>
<td>63%</td>
</tr>
<tr>
<td>Freedom from corruption</td>
<td>57%</td>
<td>67%</td>
<td>67%</td>
<td>31%</td>
<td>47%</td>
<td>70%</td>
<td>30%</td>
<td>30%</td>
<td>60%</td>
<td>63%</td>
</tr>
<tr>
<td>Independent judiciary</td>
<td>57%</td>
<td>67%</td>
<td>67%</td>
<td>31%</td>
<td>47%</td>
<td>70%</td>
<td>30%</td>
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<td>60%</td>
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</tr>
<tr>
<td>Organization of the market and competition</td>
<td>57%</td>
<td>67%</td>
<td>67%</td>
<td>31%</td>
<td>47%</td>
<td>70%</td>
<td>30%</td>
<td>30%</td>
<td>60%</td>
<td>63%</td>
</tr>
</tbody>
</table>
Botswana

Market size:  

Population total 2010  ..............................................  2.0 mill.  
2012  ..............................................  2.0 mill.  
Rural population 2010  ..............................................  0.8 mill.  
2012  ..............................................  0.8 mill.  

Population Off-Grid  ..............................................  1.1 mill.  
Population On-Grid under-serviced  ..............................................  0.3 mill.  
Households Off-Grid + under-serviced  ..............................................  0.3 mill.  
Kerosene lamps (glass cover, simple wick)  ..............................................  0.8 mill.  
Mobile cellular subscriptions  ..............................................  3.1 mill.  
Internet users  ..............................................  11.5 %  
replacement kerosene lamps  .............................................. US$ 24 mill.  

Business environment:  

above average  

Organization of the market and competition  
Independent judiciary  
Property rights  
Freedom from corruption  
Investment freedom  
Availability of financial services  
Ease of access to loans  
Openness to multilateral trade rules  
Openness to foreign participation  
Efficiency of import-export procedures  

The most problematic factors for business:  1. Poor work ethic in national labor force  
2. Inefficient government bureaucracy  
3. Access to financing  

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Burkina Faso

Market size: Rank 11 / 43

Population total 2010 ......................... 15.5 mill.
2012 ........................................ 16.5 mill.
Rural population 2010 ....................... 11.6 mill.
2012 ........................................ 12.0 mill.

Population On-Grid under-serviced ................................................................. 0.7 mill.
Households Off-Grid + under-serviced ................................................................. 2.8 mill.
Kerosene lamps (glass cover, simple wick) ................................................................. 7.1 mill.
Mobile cellular subscriptions ................................................................. 10.0 mill.
Internet users ................................................................. 3.7%
replacement kerosene lamps ................................................................. US$ 213 mill.

Business environment: average

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Inadequate supply of infrastructure

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Burundi

Market size: Rank 23 / 43


- Thriving (4%)
- Struggling (71%)
- Suffering (25%)

Population Off-Grid ........................................ 8.0 mill.
Population On-Grid under-serviced ................................. 0.1 mill.
Households Off-Grid + under-serviced ............................ 1.6 mill.
Kerosene lamps (glass cover, simple wick) ........................ 3.6 mill.
Mobile cellular subscriptions .................................... 2.2 mill.
Internet users ......................................................... 1.2 %
replacement kerosene lamps ..................................... US$ 108 mill.

Business environment: below average

- Organization of the market and competition
- Independent judiciary
- Property rights
- Freedom from corruption
- Investment freedom
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Tax rates

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Cameroon

Market size: Rank 19 / 43


Population Off-Grid .......................................................... 10.1 mill.
Population On-Grid under-serviced ................................................ 2.9 mill.
Households Off-Grid + under-serviced ............................................ 2.5 mill.
Kerosene lamps (glass cover, simple wick) ........................................ 7.7 mill.
Mobile cellular subscriptions .......................................................... 13.1 mill.
Internet users ........................................................................... 5.7 %
replacement kerosene lamps .......................................................... US$ 231 mill.

Business environment: average →

The most problematic factors for business:
1. Corruption
2. Access to financing
3. Inadequate supply of infrastructure
Central African Republic

Market size: Rank 30 / 43

2012 ............................................................... 4.5 mill. 2012 ............................................................... 2.7 mill.

Population Off-Grid .......................................................... 4.2 mill.
Population On-Grid under-serviced ......................................................... 0.1 mill.
Households Off-Grid + under-serviced .......................................................... 0.8 mill.
Kerosene lamps (glass cover, simple wick) .................................................. 2.0 mill.
Mobile cellular subscriptions ................................................................. 1.1 mill.
Internet users ............................................................................ 3.0 %
Market Potential: electrification households ..................................... US$ 400 mill.
replacement kerosene lamps ............................................................... US$ 60 mill.

Business environment: below average

- Organization of the market and competition: 38
- Independent judiciary: 30
- Property rights: 10
- Freedom from corruption: 21
- Investment freedom: 50
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

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Chad

Market size: Rank 16 / 43


Population Off-Grid ................................................................. 10.8 mill.
Population On-Grid under-serviced ........................................... 0.1 mill.
Households Off-Grid + under-serviced ..................................... 2.1 mill.
Kerosene lamps (glass cover, simple wick) .............................. 6.5 mill.
Mobile cellular subscriptions .................................................. 4.2 mill.
Internet users ........................................................................ 2.1 %

replacement kerosene lamps .................................................... US$ 195 mill.

Business environment: below average

The most problematic factors for business:
1. Access to financing
2. Corruption
3. Inadequate supply of infrastructure
Congo, DR

Market size: Rank 3 / 43

Population total 2010 ......................... 62.2 mill.  
2012 ......................... 65.7 mill.  

Rural population 2010 ......................... 41.2 mill.  
2012 ......................... 42.8 mill.  

- Thriving (8%)
- Struggling (88%)
- Suffering (3%)

Population Off-Grid ........................................ 58.6 mill.  
Population On-Grid under-serviced ......................................................... 2.2 mill.  
Households Off-Grid + under-serviced ..................................................... 12.4 mill.  
Kerosene lamps (glass cover, simple wick) ........................................ 26.9 mill.  
Mobile cellular subscriptions ................................................................. 19.5 mill.  
Internet users ................................................................................... 1.7 %  

replacement kerosene lamps ......................................................... US$ 807 mill.  

Business environment: unacceptable

- Organization of the market and competition
- Independent judiciary
- Property rights
- Freedom from corruption
- Investment freedom
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

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## Congo, Rep.

### Market size:

<table>
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<td>2012</td>
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</table>

<table>
<thead>
<tr>
<th>Rural population 2010</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1.6 mill.</td>
</tr>
</tbody>
</table>

- **Population Off-Grid**: 2.5 mill.
- **Population On-Grid under-serviced**: n/a
- **Households Off-Grid + under-serviced**: 0.5 mill.
- **Kerosene lamps (glass cover, simple wick)**: 1.5 mill.
- **Mobile cellular subscriptions**: 4.3 mill.
- **Internet users**: 6.1 %

**Market Potential:**
- Replacement kerosene lamps: US$ 45 mill.

### Business environment:

**below average**

- **Organization of the market and competition**: 30
- **Independent judiciary**: 30
- **Property rights**: 10
- **Freedom from corruption**: 21
- **Investment freedom**: 20
- **Availability of financial services**: n/a
- **Ease of access to loans**: n/a
- **Openness to multilateral trade rules**: n/a
- **Openness to foreign participation**: n/a
- **Efficiency of import-export procedures**: n/a
Cote d'Ivoire

Market size: Rank 18 / 43

Population total 2010 ......................... 19.0 mill.  
  2012 ........................................ 19.8 mill. 
Rural population 2010 ........................... 9.4 mill.  
  2012 ........................................ 9.5 mill. 

- Thriving (4%)  
- Struggling (84%)  
- Suffering (12%)  
- On-Grid (30.6%)  
- Off-Grid (54.7%)  
- On-Grid under-serviced (14.7%)  

Population Off-Grid ........................................................................................................ 10.4 mill.  
Population On-Grid under-serviced ............................................................................. 2.8 mill.  
Households Off-Grid + under-serviced ...................................................................... 2.5 mill.  
Kerosene lamps (glass cover, simple wick) ................................................................. 7.9 mill.  
Mobile cellular subscriptions ....................................................................................... 19.8 mill.  
Internet users ................................................................................................................ 2.4 %  
  replacement kerosene lamps ................................................................. US$ 237 mill. 

Business environment:

<table>
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<th>Category</th>
<th>Average</th>
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<tr>
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<td>Property rights</td>
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<tr>
<td>Freedom from corruption</td>
<td>22</td>
</tr>
<tr>
<td>Investment freedom</td>
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<td>Availability of financial services</td>
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<tr>
<td>Ease of access to loans</td>
<td>34</td>
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<td>Openness to multilateral trade rules</td>
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<td>Openness to foreign participation</td>
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</tr>
<tr>
<td>Efficiency of import-export procedures</td>
<td>39</td>
</tr>
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</table>

The most problematic factors for business:  
1. Access to financing  
2. Corruption  
3. Tax rates
Djibouti

Market size:  

<table>
<thead>
<tr>
<th>Population total 2010</th>
<th>0.8 mill.</th>
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<tr>
<td>2012</td>
<td>0.9 mill.</td>
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<table>
<thead>
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<th>0.2 mill.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0.2 mill.</td>
</tr>
</tbody>
</table>

Thriving (14%)
Struggling (69%)
Suffering (17%)

Population Off-Grid .................................................................................. 0.6 mill.
Population On-Grid under-serviced .................................................................. 0.1 mill.
Households Off-Grid + under-serviced .......................................................... 0.2 mill.
Kerosene lamps (glass cover, simple wick) ................................................. 0.4 mill.
Mobile cellular subscriptions ........................................................................ 0.2 mill.
Internet users .............................................................................................. 0.6 mill.
Market Potential: electrification households .............................................. US$ 100 mill.
replacement kerosene lamps ........................................................................ US$ 12 mill.

Business environment:  

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

n/a

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Equatorial Guinea

Market size: 

Population total 2010 ........................................ 0.7 mill.  
2012 ........................................ 0.7 mill.  
Rural population 2010 ........................................ 0.4 mill.  
2012 ........................................ 0.4 mill.  

Population Off-Grid .......................................................... 0.6 mill.  
Population On-Grid under-serviced .......................................................... 0.0 mill.  
Households Off-Grid + under-serviced .......................................................... 0.1 mill.  
Kerosene lamps (glass cover, simple wick) .......................................................... 0.3 mill.  
Mobile cellular subscriptions .......................................................... 0.5 mill.  
Internet users .......................................................... 13.9 %  
replacement kerosene lamps .......................................................... US$ 9 mill.  

Business environment: 

n/a

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Eritrea

Market size: Rank 32 / 43

Population total 2010 ........................................ 5.7 mill.
2012 ........................................ 6.1 mill.
Rural population 2010 ............................. 4.5 mill.
2012 ........................................ 4.8 mill.

Population Off-Grid ................................................................. 3.6 mill.
Population On-Grid under-serviced .................................................. 0.5 mill.
Households Off-Grid + under-serviced ........................................ 0.9 mill.
Kerosene lamps (glass cover, simple wick) ...................................... 1.9 mill.
Mobile cellular subscriptions ............................................................ 0.3 mill.
Internet users ........................................................................... 0.8 %
replacement kerosene lamps ........................................................... US$ 57 mill.

Business environment: unacceptable ↓

- Organization of the market and competition: 10
- Independent judiciary: 10
- Property rights: 10
- Freedom from corruption: 23
- Investment freedom: 10
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures
Ethiopia

Market size: Rank 2 / 43

2012 ........................................ 91.7 mill.  2012 ........................................ 75.9 mill.

Population Off-Grid .......................................................... 68.8 mill.
Population On-Grid under-serviced ........................................ 4.2 mill.
Households Off-Grid + under-serviced .................................... 17.5 mill.
Kerosene lamps (glass cover, simple wick) .................................. 32.5 mill.
Mobile cellular subscriptions ................................................ 20.5 mill.
Internet users ........................................................................ 1.5 %
replacement kerosene lamps .................................................. US$ 975 mill.

Business environment:

Organization of the market and competition .............................. 43
Independent judiciary ................................................................ 30
Property rights ........................................................................ 30
Freedom from corruption ....................................................... 27
Investment freedom ................................................................ 20
Availability of financial services ............................................. 49
Ease of access to loans ......................................................... 29
Openness to multilateral trade rules .................................... 28
Openness to foreign participation ......................................... 50
Efficiency of import-export procedures ................................ 37

The most problematic factors for business: 1. Foreign currency regulations
2. Inefficient government bureaucracy
3. Corruption

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Gabon

Market size:  
Rank 40 / 43

Population total 2010 ........................................... 1.6 mill.  
2012 ........................................... 1.6 mill.  
Rural population 2010  ........................................... 0.2 mill.  
2012 ........................................... 0.2 mill.  

- On-Grid (25.0%)
- Off-Grid (62.5%)
- On-Grid under-serviced (12.5%)

Population Off-Grid ................................................................. 1.0 mill.  
Population On-Grid under-serviced ........................................... 0.2 mill.  
Households Off-Grid + under-serviced ...................................... 0.2 mill.  
Kerosene lamps (glass cover, simple wick) .................................. 0.6 mill.  
Mobile cellular subscriptions ................................................... 2.9 mill.  
Internet users ................................................................. 8.6 %

Market Potential: electrification households .................................. US$ 100 mill.  
replacement kerosene lamps ............................................ US$ 18 mill.

Business environment:  
average ➔

Organization of the market and competition
  Independent judiciary
  Property rights
  Freedom from corruption
  Investment freedom
  Availability of financial services
  Ease of access to loans
  Openness to multilateral trade rules
  Openness to foreign participation
  Efficiency of import-export procedures

The most problematic factors for business:  
1. Access to financing
2. Inadequately educated workforce
3. Inadequate supply of infrastructure
Gambia

Market size:  

<table>
<thead>
<tr>
<th>Population total 2010</th>
<th>1.7 mill.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1.8 mill.</td>
</tr>
<tr>
<td>Rural population 2010</td>
<td>0.7 mill.</td>
</tr>
<tr>
<td>2012</td>
<td>0.8 mill.</td>
</tr>
</tbody>
</table>

- On-Grid (5.9%)
- Off-Grid (94.1%)

- Population Off-Grid ........................................... 1.6 mill.
- Population On-Grid under-serviced ............................ 0.0 mill.
- Households Off-Grid + under-serviced ........................ 0.3 mill.
- Kerosene lamps (glass cover, simple wick) .......................... 0.2 mil.
- Mobile cellular subscriptions ........................................ 1.5 mill.
- Internet users ....................................................... 12.5 %

Market Potential: 
- electrification households ......................................... US$ 150 mil.
- replacement kerosene lamps ........................................ US$ 6 mil.

Business environment:  below average

Organization of the market and competition

- Independent judiciary
- Property rights
- Freedom from corruption
- Investment freedom
- Availability of financial services
- Ease of access to loans
- Openess to multilateral trade rules
- Openess to foreign participation
- Efficiency of import-export procedures

The most problematic factors for business:  
1. Access to financing  
2. Tax rates  
3. Inflation

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Ghana

Market size: Rank 21 / 43


- Thriving (19%)
- Struggling (78%)
- Suffering (3%)

On-Grid (42.4%)
Off-Grid (39.5%)
On-Grid under-serviced (18.1%)

Population Off-Grid ............................................................... 9.6 mill.
Population On-Grid under-serviced ............................................................... 4.4 mill.
Households Off-Grid + under-serviced .......................................................... 2.8 mill.
Kerosene lamps (glass cover, simple wick) .................................................. 8.4 mill.
Mobile cellular subscriptions ................................................................. 25.6 mill.
Internet users  ............................................................................. 17.1 %
replacement kerosene lamps .............................................................. US$ 252 mill.

Business environment: average ➔

<table>
<thead>
<tr>
<th>Factor</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization of the market and competition</td>
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</tr>
<tr>
<td>Independent judiciary</td>
<td>80</td>
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<tr>
<td>Property rights</td>
<td>50</td>
</tr>
<tr>
<td>Freedom from corruption</td>
<td>40</td>
</tr>
<tr>
<td>Investment freedom</td>
<td>70</td>
</tr>
<tr>
<td>Availability of financial services</td>
<td>63</td>
</tr>
<tr>
<td>Ease of access to loans</td>
<td>34</td>
</tr>
<tr>
<td>Openness to multilateral trade rules</td>
<td>55</td>
</tr>
<tr>
<td>Openness to foreign participation</td>
<td>64</td>
</tr>
<tr>
<td>Efficiency of import-export procedures</td>
<td>63</td>
</tr>
</tbody>
</table>

The most problematic factors for business: 1. Access to financing
2. Tax rates
3. Poor work ethic in national labor force
Guinea

Market size: Rank 24 / 43


Population Off-Grid ........................................ 8.0 mill.
Population On-Grid under-serviced ........................................ 0.6 mill.
Households Off-Grid + under-serviced ........................................ 1.6 mill.
Kerosene lamps (glass cover, simple wick) ........................................ 0.7 mill.
Mobile cellular subscriptions ........................................ 4.8 mill.
Internet users ........................................ 1.5 %
 replacement kerosene lamps ........................................ US$ 30 mill.

Business environment: below average

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

The most problematic factors for business: 1. Corruption
2. Access to financing
3. Inadequate supply of infrastructure
Guinea-Bissau

**Market size:**

<table>
<thead>
<tr>
<th>Population total 2010</th>
<th>1.6 mill.</th>
<th>Rural population 2010</th>
<th>0.9 mill.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1.7 mill.</td>
<td>2012</td>
<td>0.9 mill.</td>
</tr>
</tbody>
</table>

- On-Grid (12.4%)
- Off-Grid (81.3%)
- On-Grid under-serviced (6.3%)

- Population Off-Grid: 1.3 mill.
- Population On-Grid under-serviced: 0.1 mill.
- Households Off-Grid + under-serviced: 0.3 mill.
- Kerosene lamps (glass cover, simple wick): 0.1 mill.
- Mobile cellular subscriptions: 1.1 mill.
- Internet users: 2.9 %
  replacement kerosene lamps: US$ 3 mill.

**Business environment:** n/a
Kenya

Market size: Rank 5 / 43

2012 ....................... 43.2 mill.  2012 ....................... 32.6 mill.

Population Off-Grid .............................................................................................................. 34.0 mill.
Population On-Grid under-serviced ......................................................................................... 2.0 mill.
Households Off-Grid + under-serviced ................................................................................... 7.8 mill.
Kerosene lamps (glass cover, simple wick) ................................................................................. 21.7 mill.
Mobile cellular subscriptions ........................................................................................................ 30.7 mill.
Internet users ........................................................................................................................................ 32.1 %

replacement kerosene lamps ......................................................................................................... US$ 651 mill.

Business environment:

The most problematic factors for business: 1. Corruption
2. Access to financing
3. Tax rates

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Lesotho

Market size:  

Population total 2010 ........................................... 2.0 mill.  
Rural population 2010 ........................................... 1.5 mill.  
2012 ........................................... 2.1 mill.  
Rural population 2012 ........................................... 1.5 mill.  

- On-Grid (5.0%)
- Off-Grid (90.0%)
- On-Grid under-serviced (5.0%)

Population Off-Grid ................................................................. 1.8 mill.  
Population On-Grid under-serviced ........................................... 0.1 mill.  
Households Off-Grid + under-serviced .................................... 0.4 mill.  
Kerosene lamps (glass cover, simple wick) ................................ 1.1 mill.  
Mobile cellular subscriptions .................................................. 1.3 mill.  
Internet users ........................................................................... 4.6 %  
replacement kerosene lamps ..................................................... US$ 33 mill.

Business environment:  average ➔

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization of the market and competition</td>
<td>60</td>
</tr>
<tr>
<td>Independent judiciary</td>
<td>60</td>
</tr>
<tr>
<td>Property rights</td>
<td>40</td>
</tr>
<tr>
<td>Freedom from corruption</td>
<td>37</td>
</tr>
<tr>
<td>Investment freedom</td>
<td>50</td>
</tr>
<tr>
<td>Availability of financial services</td>
<td>49</td>
</tr>
<tr>
<td>Ease of access to loans</td>
<td>44</td>
</tr>
<tr>
<td>Openness to multilateral trade rules</td>
<td>58</td>
</tr>
<tr>
<td>Openness to foreign participation</td>
<td>64</td>
</tr>
<tr>
<td>Efficiency of import-export procedures</td>
<td>47</td>
</tr>
</tbody>
</table>

The most problematic factors for business:  
1. Access to financing
2. Inadequate supply of infrastructure
3. Inefficient government bureaucracy
Liberia

Market size: Rank 31 / 43


Population Off-Grid ........................................... 3.9 mill.
Population On-Grid under-serviced ........................................... 0.0 mill.
Households Off-Grid + under-serviced ........................................... 0.7 mill.
Kerosene lamps (glass cover, simple wick) ........................................... 0.3 mill.
Mobile cellular subscriptions ........................................... 2.4 mill.
Internet users ........................................... 3.8 %
replacement kerosene lamps ........................................... US$ 9 mill.

Business environment: below average

The most problematic factors for business: 1. Access to financing  
2. Corruption  
3. Crime and theft
Madagascar

Market size: Rank 9 / 43


Population Off-Grid .......................................................... 16.8 mill.
Population On-Grid under-serviced .......................................................... 1.2 mill.
Households Off-Grid + under-serviced .......................................................... 3.7 mill.
Kerosene lamps (glass cover, simple wick) .......................................................... 8.0 mill.
Mobile cellular subscriptions .......................................................... 8.6 mill.
Internet users .......................................................... 2.1 %
replacement kerosene lamps .......................................................... US$ 240 mill.

Business environment: average

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

The most problematic factors for business:
1. Policy instability
2. Corruption
3. Access to financing

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## Malawi

### Market size:

|-----------------------|------------|-----------------------|------------|

- **Thriving (16%)**
- **Struggling (58%)**
- **Suffering (27%)**

- **On-Grid (6.6%)**
- **Off-Grid (90.7%)**
- **On-Grid under-serviced (2.7%)**

<table>
<thead>
<tr>
<th>Population Off-Grid</th>
<th>13.6 mill.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population On-Grid under-serviced</td>
<td>0.4 mill.</td>
</tr>
<tr>
<td>Households Off-Grid + under-serviced</td>
<td>3.2 mill.</td>
</tr>
<tr>
<td>Kerosene lamps (glass cover, simple wick)</td>
<td>6.2 mill.</td>
</tr>
<tr>
<td>Mobile cellular subscriptions</td>
<td>4.4 mill.</td>
</tr>
<tr>
<td>Internet users</td>
<td>4.4 %</td>
</tr>
</tbody>
</table>

**Market Potential:**
- Electrification households: US$ 1600 mill.
- Replacement kerosene lamps: US$ 186 mill.

### Business environment:

| Factor                                      | Average
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization of the market and competition</td>
<td>58</td>
</tr>
<tr>
<td>Independent judiciary</td>
<td>60</td>
</tr>
<tr>
<td>Property rights</td>
<td>45</td>
</tr>
<tr>
<td>Freedom from corruption</td>
<td>32</td>
</tr>
<tr>
<td>Investment freedom</td>
<td>50</td>
</tr>
<tr>
<td>Availability of financial services</td>
<td>53</td>
</tr>
<tr>
<td>Ease of access to loans</td>
<td>37</td>
</tr>
<tr>
<td>Openness to multilateral trade rules</td>
<td>44</td>
</tr>
<tr>
<td>Openness to foreign participation</td>
<td>60</td>
</tr>
<tr>
<td>Efficiency of import-export procedures</td>
<td>36</td>
</tr>
</tbody>
</table>

- **The most problematic factors for business:**
  1. Foreign currency regulations
  2. Access to financing
  3. Tax rates
Mali

Market size: Rank 14 / 43

Population total 2010 .................................. 14.0 mill.
2012 .......................................................... 14.9 mill.
Rural population 2010 .................................. 9.2 mill.
2012 .......................................................... 9.6 mill.

Population Off-Grid .................................................. 12.8 mill.
Population On-Grid under-serviced ........................................ 0.8 mill.
Households Off-Grid + under-serviced .................................. 2.5 mill.
Kerosene lamps (glass cover, simple wick) .................................... 1.2 mill.
Mobile cellular subscriptions .................................................. 14.6 mill.
Internet users ................................................................. 2.2 %
replacement kerosene lamps ................................................ US$ 36 mill.

Business environment:

| Organization of the market and competition | 58 |
| Independent judiciary | 50 |
| Property rights | 20 |
| Freedom from corruption | 28 |
| Investment freedom | 55 |
| Availability of financial services | 51 |
| Ease of access to loans | 40 |
| Openess to multilateral trade rules | 64 |
| Openess to foreign participation | 61 |
| Efficiency of import-export procedures | 41 |

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Government instability / 43 coups
Mauritania

Market size: Rank 35 / 43

Population total 2010 .................................. 3.6 mill.  
2012 ................................................. 3.8 mill.  
          Rural population 2010............... 2.1 mill.  
2012 ................................................. 2.2 mill.  

Population Off-Grid .................................... 1.7 mill.  
Population On-Grid under-serviced ................................. 0.5 mill.  
Households Off-Grid + under-serviced ............................... 0.4 mill.  
Kerosene lamps (glass cover, simple wick) .......................... 0.2 mill.  
Mobile cellular subscriptions ........................................ 4.0 mill.  
Internet users ......................................................... 5.4 %  
replacement kerosene lamps ........................................ US$ 6 mill.  

Business environment: below average

Organization of the market and competition  
Independent judiciary .................................................. 40  
Property rights ......................................................... 25  
Freedom from corruption .............................................. 24  
Investment freedom .................................................... 50  
Availability of financial services ...................................... 44  
Ease of access to loans .................................................. 27  
Openness to multilateral trade rules .................................. 50  
Openness to foreign participation ..................................... 49  
Efficiency of import-export procedures ................................ 49  

The most problematic factors for business:  1. Access to financing  
2. Corruption  
3. Policy instability

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Mozambique

Market size: Rank 8 / 43

2012 ........................................ 25.2 mill.  2012 ........................................ 17.3 mill.

Population Off-Grid .......................................................... 20.7 mill.
Population On-Grid under-serviced .......................................................... 0.8 mill.
Households Off-Grid + under-serviced ........................................ 4.9 mill.
Kerosene lamps (glass cover, simple wick) ........................................ 1.8 mill.
Mobile cellular subscriptions .......................................................... 8.1 mill.
Internet users ................................................................................. 4.9 %

replacement kerosene lamps ......................................................... US$ 54 mill.

Business environment: average

- Organization of the market and competition
- Independent judiciary
- Property rights
- Freedom from corruption
- Investment freedom
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Inefficient government bureaucracy
Namibia

Market size: Rank 37 / 43


- Thriving (11%)
- Struggling (79%)
- Suffering (10%)

Population Off-Grid .......................................................... 1.5 mill.
Population On-Grid under-serviced ................................................ 0.2 mill.
Households Off-Grid + under-serviced ........................................ 0.4 mill.
Kerosene lamps (glass cover, simple wick) .................................... 0.2 mill.
Mobile cellular subscriptions .......................................................... 2.4 mill.
Internet users ................................................................................. 13.0 %

replacement kerosene lamps ....................................................... US$ 6 mill.

Business environment: average ➔

- Organization of the market and competition
- Independent judiciary
- Property rights
- Freedom from corruption
- Investment freedom
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

The most problematic factors for business: 1. Inadequately educated workforce
2. Corruption
3. Access to financing

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Niger

Market size:  
Rank 12 / 43

Population total 2010 .................. 15.9 mill.  
2012 .................. 17.2 mill.  

Population On-Grid under-serviced .......................................................... 0.4 mill.  
Households Off-Grid + under-serviced .......................................................... 2.7 mill.  
Kerosene lamps (glass cover, simple wick) .......................................................... 6.5 mill.  
Mobile cellular subscriptions .......................................................... 5.4 mill.  
Internet users .......................................................... 1.4 \%  
replacement kerosene lamps .......................................................... US$ 195 mill.  

Business environment:  

average 🜾

Organization of the market and competition: 53
Independent judiciary: 50
Property rights: 30
Freedom from corruption: 26
Investment freedom: 55
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

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Nigeria

**Market size:**

- Population total 2010: 159.7 mill.  
  2012: 168.8 mill.  
- Rural population 2010: 81.5 mill.  
  2012: 84.0 mill.

- Thriving (17%)  
- Struggling (81%)  
- Suffering (2%)

- On-Grid (36.0%)  
- Off-Grid (49.0%)  
- On-Grid under-serviced (15.0%)

- Population Off-Grid: 78.3 mill.
- Population On-Grid under-serviced: 24.0 mill.
- Kerosene lamps (glass cover, simple wick): 61.7 mill.
- Mobile cellular subscriptions: 112.8 mill.
- Internet users: 32.9%

  replacement kerosene lamps: US$ 1851 mill.

**Business environment:**

- Organization of the market and competition: 53
- Independent judiciary: 70
- Property rights: 30
- Freedom from corruption: 23
- Investment freedom: 40
- Availability of financial services: 57
- Ease of access to loans: 27
- Openness to multilateral trade rules: 69
- Openness to foreign participation: 69
- Efficiency of import-export procedures: 49

The most problematic factors for business:  
1. Inadequate supply of infrastructure  
2. Corruption  
3. Access to financing

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Rwanda

Market size: Rank 20 / 43

Population total 2010 ......................... 10.8 mill.  
2012 ........................................... 11.5 mill.  
Rural population 2010 ......................... 8.8 mill.  
2012 ........................................... 9.2 mill.  

- Thriving (2%)
- Struggling (74%)
- Suffering (24%)

Population Off-Grid ............................................................ 10.1 mill.  
Population On-Grid under-serviced ................................................................. 0.2 mill.  
Households Off-Grid + under-serviced .............................................................. 2.2 mill.  
Kerosene lamps (glass cover, simple wick) ......................................................... 4.9 mill.  
Mobile cellular subscriptions ............................................................................. 5.7 mill.  
Internet users ................................................................................................. 8.0 %  
replacement kerosene lamps ........................................................................... US$ 147 mill.  

Business environment: average ➔

- Organization of the market and competition
- Independent judiciary
- Property rights
- Freedom from corruption
- Investment freedom
- Availability of financial services
- Ease of access to loans
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

The most problematic factors for business:  
1. Access to financing
2. Inadequately educated workforce
3. Insufficient capacity to innovate
Senegal

Market size: Rank 26 / 43

Population total 2010 ........................................ 13.0 mill.
2012 ............................................................... 13.7 mill.
Rural population 2010 ............................... 7.5 mill.
2012 ............................................................... 7.8 mill.

Population Off-Grid ............................................................... 7.2 mill.
Population On-Grid under-serviced ........................................ 1.6 mill.
Households Off-Grid + under-serviced ........................................ 1.6 mill.
Kerosene lamps (glass cover, simple wick) ........................................ 0.7 mill.
Mobile cellular subscriptions .................................................. 11.5 mill.
Internet users ................................................................. 19.2 %

replacement kerosene lamps ........................................ US$ 21 mill.

Business environment:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization of the market and competition</td>
<td>53</td>
</tr>
<tr>
<td>Independent judiciary</td>
<td>60</td>
</tr>
<tr>
<td>Property rights</td>
<td>40</td>
</tr>
<tr>
<td>Freedom from corruption</td>
<td>30</td>
</tr>
<tr>
<td>Investment freedom</td>
<td>60</td>
</tr>
<tr>
<td>Availability of financial services</td>
<td>56</td>
</tr>
<tr>
<td>Ease of access to loans</td>
<td>34</td>
</tr>
<tr>
<td>Openness to multilateral trade rules</td>
<td>57</td>
</tr>
<tr>
<td>Openness to foreign participation</td>
<td>67</td>
</tr>
<tr>
<td>Efficiency of import-export procedures</td>
<td>69</td>
</tr>
</tbody>
</table>

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Inadequate supply of infrastructure

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43
Sierra Leone

Market size: Rank 28 / 43

Population total 2010 ......................... 5.8 mill.  Rural population 2010 ......................... 3.5 mill.

![Population Breakdown](image)

Population Off-Grid .................................. 5.3 mill.
Population On-Grid under-serviced ................................................................. 0.2 mill.
Households Off-Grid + under-serviced ............................................................. 1.0 mill.
Kerosene lamps (glass cover, simple wick) ...................................................... 0.4 mill.
Mobile cellular subscriptions ................................................................. 2.2 mill.
Internet users ............................................................. 1.3 %
replacement kerosene lamps .......................................................... US$ 12 mill.

Business environment: below average

- Organization of the market and competition: 53
- Independent judiciary: 50
- Property rights: 15
- Freedom from corruption: 25
- Investment freedom: 55
- Availability of financial services: 53
- Ease of access to loans: 26
- Openness to multilateral trade rules
- Openness to foreign participation
- Efficiency of import-export procedures

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Inadequate supply of infrastructure
Somalia

Market size:  Rank 22 / 43


- On-Grid (9.4%)
- Off-Grid (87.5%)
- On-Grid under-serviced (3.1%)

Population Off-Grid ................................................................. 8.4 mill.
Population On-Grid under-serviced .............................................. 0.3 mill.
Households Off-Grid + under-serviced ...................................... 1.8 mill.
Kerosene lamps (glass cover, simple wick) .................................. 3.9 mill.
Mobile cellular subscriptions ...................................................... 0.7 mill.
Internet users ................................................................. 1.4 %
Replacement kerosene lamps .................................................. US$ 117 mill.

Business environment:  n/a

<table>
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<tr>
<th>Metric</th>
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<tbody>
<tr>
<td>Organization of the market and competition</td>
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<td>Freedom from corruption</td>
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<tr>
<td>Investment freedom</td>
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<td>Availability of financial services</td>
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<td>Openness to foreign participation</td>
<td></td>
</tr>
<tr>
<td>Efficiency of import-export procedures</td>
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</tr>
</tbody>
</table>
South Africa

Market size: Rank 15 / 43

Population total 2010 ......................... 50.0 mill.  
2012 ............................................. 51.2 mill.  
Rural population 2010 ......................... 19.2 mill.  
2012 ............................................. 19.2 mill.  

- Thriving (23%)
- Struggling (74%)
- Suffering (3%)

Population Off-Grid ................................................................. 12.5 mill.  
Population On-Grid under-serviced ................................................... 11.2 mill.  
Households Off-Grid + under-serviced ................................................. 5.0 mill.  
Kerosene lamps (glass cover, simple wick) ............................................. 14.3 mill.  
Mobile cellular subscriptions ............................................................ 68.4 mill.  
Internet users ............................................................................. 41.0 %  
replacement kerosene lamps ............................................................ US$ 429 mill.  

Business environment: above average

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

The most problematic factors for business: 1. Inadequately educated workforce  
2. Restrictive labor regulations  
3. Inefficient government bureaucracy
Sudan + South Sudan

Market size: Rank 7 / 43

Population total 2010 .................... 35.7 + 9.9 mill.  
2012 .................... 37.2 + 10.8 mill.  
Rural population 2010 .................... 23.9 + 8.2 mill.  
2012 .................... 24.8 + 8.9 mill.  

Population Off-Grid ............................................................... 27.9 mill.  
Population On-Grid under-serviced ......................................................... 4.7 mill.  
Households Off-Grid + under-serviced ......................................................... 5.6 mill.  
Kerosene lamps (glass cover, simple wick) ................................................. 19.7 mill.  
Mobile cellular subscriptions ................................................................. 27.7 + 2.0 mill.  
Internet users (Sudan) ................................................................. 21.0 %  
replacement kerosene lamps ......................................................... US$ 591 mill.  

Business environment (Sudan): n/a

<table>
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<td>Openness to foreign participation</td>
<td></td>
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<tr>
<td>Efficiency of import-export procedures</td>
<td></td>
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</tbody>
</table>
Swaziland

Market size: Rank 41 / 43

Population total 2010 ......................... 1.2 mill. Rural population 2010 ......................... 0.9 mill.
2012 ............................................ 1.2 mill. 2012 ............................................ 1.0 mill.

Population Off-Grid .......................................................... 0.8 mill.
Population On-Grid under-serviced .......................................................... 0.1 mill.
Households Off-Grid + under-serviced .................................................. 0.2 mill.
Kerosene lamps (glass cover, simple wick) ........................................... 0.5 mill.
Mobile cellular subscriptions ................................................................. 0.8 mill.
Internet users ..................................................................................... 20.8 %
Market Potential: electrification households ........................................ US$ 100 mill.
replacement kerosene lamps ................................................................. US$ 15 mill.

Business environment:

The most problematic factors for business: 1. Tax rates
2. Access to financing
3. Inflation
Tanzania

Market size: Rank 4 / 43

Population total 2010 ......................... 45.0 mill. Rural population 2010 ......................... 33.2 mill.
2012 ................................. 47.8 mill. 2012 ................................. 34.8 mill.

Households Off-Grid + under-serviced ........................................ 8.3 mill.
Kerosene lamps (glass cover, simple wick) ........................................ 19.4 mill.
Mobile cellular subscriptions ......................................................... 27.2 mill.
Internet users ............................................................................. 13.1 %
replacement kerosene lamps ....................................................... US$ 582 mill.

Business environment:

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures

The most problematic factors for business:
1. Access to financing
2. Corruption
3. Inadequate supply of infrastructure

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Togo

Market size: Rank 29 / 43

Population total 2010 .................. 6.3 mill.  
2012 .................. 6.6 mill.  
Rural population 2010 .................. 3.9 mill.  
2012 .................. 4.1 mill.  

Population Off-Grid ........................ 4.8 mill.  
Population On-Grid under-serviced ........................................... 0.4 mill.  
Households Off-Grid + under-serviced ........................................... 1.0 mill.  
Kerosene lamps (glass cover, simple wick) ........................................... 2.4 mill.  
Mobile cellular subscriptions ....................................................... 3.5 mill.  
Internet users ........................................................................ 4.0 %  
replacement kerosene lamps ...................................................... US$ 72 mill.  

Business environment: below average

Organization of the market and competition
Independent judiciary
Property rights
Freedom from corruption
Investment freedom
Availability of financial services
Ease of access to loans
Openness to multilateral trade rules
Openness to foreign participation
Efficiency of import-export procedures
Uganda

Market size:

Population total 2010 ......................... 34.0 mill. 
2012 ........................................ 36.3 mill.

Rural population 2010 ......................... 28.8 mill. 
2012 ........................................ 30.5 mill.

Population Off-Grid .......................................................... 30.4 mill.
Population On-Grid under-serviced ........................................ 0.9 mill.
Households Off-Grid + under-serviced .................................. 6.5 mill.
Kerosene lamps (glass cover, simple wick) .................................. 15.0 mill.
Mobile cellular subscriptions .................................................. 16.4 mill.
Internet users ...................................................................... 14.7 %

replacement kerosene lamps .................................................... US$ 450 mill.

Business environment: 

The most problematic factors for business: 1. Corruption
2. Access to financing
3. Inadequate supply of infrastructure
Zambia

Market size: Rank 17 / 43


Population Off-Grid ........................................ 10.5 mill.
Population On-Grid under-serviced ................................ 0.7 mill.
Households Off-Grid + under-serviced ........................................ 2.3 mill.
Kerosene lamps (glass cover, simple wick) ................................ 1.1 mill.
Mobile cellular subscriptions ........................................ 10.5 mill.
Internet users .................................................. 10.5 mill.

replacement kerosene lamps ........................................ US$ 33 mill.

Business environment: average

<table>
<thead>
<tr>
<th>Area</th>
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<th>Score Range</th>
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</tr>
<tr>
<td>Efficiency of import-export procedures</td>
<td>34</td>
<td>0 - 100</td>
</tr>
</tbody>
</table>

The most problematic factors for business: 1. Access to financing
2. Corruption
3. Inadequate supply of infrastructure
Zimbabwe

Market size:  

2012 ......................... 13.7 mill.  
Rural population 2010 ......................... 8.1 mill.  
2012 ......................... 8.4 mill.  

Population Off-Grid ......................................................... 7.3 mill.  
Population On-Grid under-serviced ......................... 1.5 mill.  
Households Off-Grid + under-serviced ......................... 1.9 mill.  
Kerosene lamps (glass cover, simple wick) ......................... 0.7 mill.  
Mobile cellular subscriptions ......................... 12.6 mill.  
Internet users ............................................................... 17.1 %  
replacement kerosene lamps ......................... US$ 21 mill.  

Business environment:  below average

The most problematic factors for business:  
1. Access to financing  
2. Policy instability  
3. Inadequate supply of infrastructure
Sources and Methodology
Market size
Population living Off-Grid

Population total

Rural population
Rural population refers to people living in rural areas as defined by national statistical offices. It is calculated as the difference between total population and urban population.

Thriving / Struggling / Suffering

Population Off-Grid

Population On-Grid unser-serviced

Households Off-Grid + under-serviced

Kerosene lamps (glass cover, simple wick)

Mobile cellular subscriptions
Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service using cellular technology, which provide access to the public switched telephone network. Post-paid and prepaid subscriptions are included.

Internet users (per 100 people)

Market potential electrification household
Households Off-Grid and under-serviced x US$ 500 ( = Assumption: price of 12V-Solar-Home-System with 4-6 LED, possibility to connect TV, radio, fan and other 12V-devices)

Market potential replacement kerosene lamps
Kerosene lamps x US$ 30 ( = Assumption: price of a medium level mobile torch light)
Organization of the market and competition
Consists of these elements:
- Market-based competition: To what level have the fundamentals of market-based competition developed?
- Anti-monopoly policy: To what extent do safeguards exist to prevent the development of economic monopolies and cartels, and to what extent are they enforced?
- Liberalization of foreign trade: To what extent has foreign trade been liberalized?
- Banking system: To what extent have a solid banking system and a functioning capital market been established?

Independent judiciary
An independent judiciary has the ability and autonomy to
- interpret and review existing laws, legislation and policies, both public and civil
- pursue its own reasoning, free from the influence of political decision-makers or powerful groups and individuals and from corruption
- develop a differentiated organization, including legal education, jurisprudence, regulated appointment of the judiciary, rational proceedings, professionalism, channels of appeal and court administration

Property rights
"The ability to accumulate private property and wealth is understood to be a central motivating force for workers and investors in a market economy. (...) The protection of private property requires an autonomous and accountable judicial system that is available to all equally and without discrimination. The independence, transparency, and effectiveness of the judicial system have proven to be key determinants of a country’s prospects for long-term economic growth. (...) A key aspect of property rights protection is the enforcement of contracts. The voluntary undertaking of contractual obligations is the foundation of the market system and the basis for economic specialization, gains from commercial exchange, and trade among nations."

Freedom from corruption
"In the context of economic freedom, corruption can best be understood as the failure of integrity in the economic system, a distortion by which individuals or special-interest groups are able to gain at the expense of the whole. (...) Ensuring transparency is key to dealing effectively with corruption. Openness in regulatory procedures and processes can promote equitable treatment and greater efficiency."

Investment freedom
A free and open investment environment provides maximum entrepreneurial opportunities and incentives for expanded economic activity, greater productivity, and job creation. (...) An effective investment framework will be characterized by transparency and equity, supporting all types of firms rather than just large or strategically important companies, and will encourage rather than discourage innovation and competition. Restrictions on the movement of capital, both domestic and international, undermine the efficient allocation of resources and reduce productivity, distorting economic decision-making. Restrictions on cross-border investment can limit both inflows and outflows of capital, thereby shrinking markets and reducing opportunities for growth."

Availability of financial services
Does the financial sector in a country provide a wide variety of financial products and services to businesses?
Ease of access to loans
How easy is it to obtain a bank loan in a country with only a good business plan and no collateral?

Openness to multilateral trade rules

Openness to foreign participation

Efficiency of import-export procedures
Consists of:
- Efficiency of the clearance process
- Time to import (hard data)
- Documents to import (hard data)
- Cost to import (hard data)
- Time to export (hard data)
- Documents to export (hard data)
- Cost to export (hard data)

The most problematic factors for business
"This list summarizes those factors seen by business executives as the most problematic for doing business in their economy. The information is drawn from the 2013 edition of the World Economic Forum’s Executive Opinion Survey. From a list of 16 factors, respondents were asked to select the five most problematic and rank them from 1 (most problematic) to 5. The results were then tabulated and weighted according to the ranking assigned by respondents." (For OBIN we listed the three most problematic factors for business.)

Valuation
Average of all ten criteria:

- 80,1-100  ➹  outstanding
- 60,1-80,0  ➢  above average
- 40,1 - 60,0  ➣  average
- 20,1 - 40,0  ➤  below average
- 0-20,0  ➤  unacceptable

To make a valuation a minimum of five data is required (out of 10).