Delivering Universal Energy Access

The industry position on building off-grid lighting and household electrification markets
Introduction

Energy poverty remains one of the biggest global challenges of our time. Right now, there are over 1.3 billion people around the world living off the grid, and countless more with only a limited and unreliable energy supply.

The off-grid lighting and household electrification sector has the potential to improve the lives of every one of those people, who - when darkness falls - reach for candles or fuel-based lighting to continue their work or study, or spend scarce cash on phone charging and dry-cell batteries. Solar-based off-grid lighting and electrification products provide a far safer, cleaner, more economical and sustainable alternative than conventional solutions - for businesses and consumers. Household budgets are reduced; while the working day can be extended, and there’s more time for study, socialization and community development; all under safe, clean light.

The Global Off Grid Lighting Association (GOGLA) is the industry association representing this growth sector. GOGLA is a place where member organizations convene; consensus can be reached; learnings and knowledge can be shared and collaboration can translate into influence, and ultimately to scaling a vibrant, global market. With over 65 members, GOGLA is the voice of the industry. The positions outlined in this handbook represent the collective decision of that voice – administered through a voting process1 – and they demonstrate the strength that voice can have.

The UN has set a goal of achieving universal energy access by 2030. And as we reach a critical stage in a market transition towards clean, sustainable and affordable energy solutions, it is ever more important that the industry works together effectively. GOGLA believes universal energy access can be achieved ahead of the UN’s 2030 target, but only if an enabling eco-system is in place, with cohesion and supportive policy.

The industry is booming. It is a market worth USD300m/per year in developing countries. To date, an estimated 13 million off-grid quality verified solar products have so far been sold across developing countries and, in Africa alone, sales of these products have tripled in the last four years. With promising new companies arriving on the scene all the time, momentum and energy is mounting across the industry, and there is a growing need to build solid partnerships with Governments and policy-makers. Only through such collaboration can we ensure growth and longevity of this vital market, and achieve universal energy access ahead of 2030.

1 Please visit http://global-off-grid-lighting-association.org/gogla-industry-opinion/ for the official text on which GOGLA members voted
The off-grid lighting market has the potential to transform the lives of 1.3 billion people globally. People who currently do not have access to the grid and who are forced to use candles or fuel-based lighting to illuminate work, study or conduct business after dark. All at a cost of 90 million tons of CO₂ emissions globally.

What is energy access?
Before we can effectively track how many people have access to energy, it’s critical that the industry is unified with its definition of ‘energy access’. Previously, there has been a broad assumption that energy access can be measured using binary terms: either a household was grid connected, and therefore had energy access, or it was not, and therefore fell into the ‘no energy access’ category. This simplistic ‘black and white’ approach failed to capture a true snapshot of the realities of millions; households that had access to basic energy through off-grid solutions fell through the net and were counted as not having access.

Universal energy access by 2030 - a global goal within reach
As part of its roadmap to universal energy access, the UN’s SE4All Program has addressed the categorization shortfall. By developing the Global Tracking Framework, comprising five tiers of access (outlined below), the industry can now comprehensively keep track of its goal.

The GOGLA Position
For policy-makers, funders and enterprises to benefit from meaningful market insight and comparability of energy access across regions, there needs to be a consistent and nuanced tracking methodology for measuring it. The Global Tracking Framework delivers this. It helps to point a clearer, more accurate picture for everyone. Therefore, GOGLA and its members commit to:

- Using the Global Tracking Framework
- Cooperating with the SE4ALL secretariat on the provision of data.

Recommended steps...
For this industry to thrive, its impact and its total market reach must be tracked accurately and universally by all. Therefore, GOGLA recommends that:

1. All industry members use the same metrics, as outlined in the Global Tracking Framework. This means companies and energy access programs can identify, more easily and clearly, their impact as well as their potential.
2. Donor programs use the Global Tracking Framework for consistency.
3. Governments use this multi-tiered framework as well in building their energy access policies.

Global Tracking Framework Tiers to Count Electricity Access

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Tier 2</th>
<th>Tier 3</th>
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<tbody>
<tr>
<td>Task lighting and phone charging</td>
<td>General lighting, and TV, and fan</td>
<td>Tier 2 and any low power appliances</td>
<td>Tier 3 and any medium power appliances</td>
<td>Tier 4 and any high power appliances</td>
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(Source: SE4All Global Tracking framework)
How should we use public and donor funding?

Public and donor funding has been essential in helping to grow the off-grid lighting industry. Used prudently and with good intentions, funding of this kind can help accelerate the adoption of our industry’s technologies and scale the market. However, if deployed poorly it can be very damaging.

What is public and donor funding?
This relates to any finance provided by multilateral or bilateral donors channeled through governments, NGOs or development programs.

Recommended steps...
Public and donor funding should be directed towards activities which:
• Foster and accelerate sustainable market development
• Positively impact on a competitive open market
• Help create jobs and increase income.

Deploying funds in this way, instead of subsidizing retail price or facilitating give-aways, will have a far bigger impact in terms of sustainable growth and improved market health.

The GOGLA position
The industry believes that a sustainable adoption of solar off-grid lighting is best served by a competitive, open market.

Carefully designed, public and donor funding programs can have a hugely positive impact, and play a transformative role in facilitating market development. It can fund industry-wide needs such as:
• Mass consumer education and awareness-raising campaigns
• Developing harmonized quality standards

Poorly designed, public and donor funding programs can have a negative impact. In particular, if used to fund free ‘give-aways’ or to subsidize retail prices to consumers. Both these approaches represent a significant threat to a sustainable, competitive market. They can damage and distort the market. With the exception of emergency or disaster relief situations, free give-aways should not be made available. They undervalue an otherwise vibrant market and send a message to consumers that they do not need to pay for their goods. As a result, consumers may then hold out for reduced-cost goods or freebies, which may never come. The result? A broad, sustainable adoption of solar off-grid lighting is significantly hampered.

Photo credit: Philips
Why are kerosene subsidies harming the market?

In developing countries, where there is often inadequate power supply, the cost of energy is a huge burden. Across millions of homes, candles and fossil fuel-based lighting are the only option, leading to indoor air pollution and significant fire and burn risks. The cost of fuel for lighting is a burden felt most by those already trapped in a vicious energy-poverty cycle.

The public and private sectors have addressed the issue of high costs to those trapped in energy poverty by subsidizing the price of kerosene. The aim is well meaning. However, such subsidies are often criticized for not achieving their intended goal of benefiting those most in need, the poorest consumers. According to the IMF, the richest 20% of households in low and middle-income countries take six times more in total fuel product subsidies than the poorest 20% of households (IMF, 2013). Fossil-fuel subsidization also inflates true demand through artificially low prices which inadvertently distort the market.

Kerosene subsidies are costly to governments too. In 2011, the total global cost of subsidies across the entire energy sector (including coal, petroleum etc.) reached $1.9 trillion. That’s equivalent to 2.5% of the global GDP.

Beyond the global cost implication, there are huge environmental impacts of fossil fuel subsidies too, since their existence conflicts directly to environmental and health policies. The IMF estimates that removing such subsidies could lead to a 13% decline in CO2 emissions (IMF, 2013).

The GOGLA position

GOGLA and its members believe that kerosene subsidies exacerbate existing energy inefficiencies.

- Subsidies on lighting fuels slow the progress of existing market mechanisms that introduce better alternatives. These include solar lights which provide a safer, more reliable and more sustainable solution, and which eradicate ongoing fuel costs altogether.
- If placed in competition with heavily subsidized fossil fuel-based lighting, off-grid solar lighting products will be undercut and lose their appeal. Although kerosene subsidies reduce the cost of lighting to consumers, the resulting cost still remains significantly higher over time than more efficient alternatives.

Recommended steps...

1. GOGLA and its members recommend a gradual reduction of subsidies as clean and sustainable solar lighting products become readily available in local markets. An immediate and complete elimination of kerosene subsidies would mean a sharp increase in lighting costs for households and businesses which are already struggling with energy access. This is not in the interest of the industry, since our goal is to provide affordable sources of energy.

2. Funds currently used for fuel subsidies should be redeployed to support other social needs such as healthcare, education and infrastructure. These are likely to have significant impacts on a far larger scale. Simultaneously to a gradual phase out of subsidies, there should be an increase of consumer awareness of off-grid solutions.
What impact does VAT and import duty have on our sector and its customers?

Many consumers struggle to pay the high upfront costs of off-grid lighting and power systems, and this remains one of the major market barriers. This is despite the fact that these products are far more economical in the longer term than traditional means of lighting, such as kerosene or battery-run torches.

One of the main issues is that in key markets across the developing world there is no level playing field. VAT rates and tariffs on solar products significantly increase the cost to the customer, meaning that it is more difficult for sustainable and efficient products to compete with traditional fossil fuel lighting. Tariffs and VAT for off-grid lighting products can be as high as 40% of the retail prices, meaning these products are often beyond the reach of those who stand to gain most from them.

The GOGLA Position
GOGLA and its members - together with industry experts and policy-makers - believe that the consumer would benefit from a long-term VAT and tariff exception. This would help with widespread market-building efforts, and with the resulting retail price being far lower, consumers will have a far wider choice of quality, affordable products. By exempting solar products and spare parts from VAT and tariffs, governments can contribute to a more level playing field and support sustainable local market development for renewable off-grid lighting solutions.

There is evidence to suggest that VAT and tariff exemptions do increase access to off-grid lighting. Examples like Kenya or Tanzania show that such exemptions have been very effective in accelerating market development.

GOGLA members understand the desire for governments to protect the interests of local manufacturers and businesses through trade policy. However, by waiving VAT and tariffs for off-grid lighting products, governments can accelerate market demand that in turn assists further economic growth on a local level, such as helping to make local manufacturing viable. Simultaneously, this will support further development of a vibrant market by expanding choice for consumers.

It’s a win win situation...
By waiving VAT and tariffs on off-grid lighting:

- There would be a faster uptake of solar lighting products. This would dramatically reduce the levels of kerosene purchased, and thus government spending on kerosene subsidies. Costs saved by governments on kerosene subsidies would be balanced out by tariff exception. UNEP estimates that for every one million dollars spent by governments on kerosene subsidies, tariffs for 250,000 solar lanterns could be off-set (UNEP 2014).
- Consumers benefit from the lower upfront cost and have better access to safe and efficient means of lighting.
- Governments play a key role in boosting job creation thanks to faster development of the market.

Recommended steps...
GOGLA recommends following the model of prudent national governments, such as Kenya and Tanzania, where markets are particularly strong. This means adopting a long-term zero VAT and tariff policy for solar products and their components, which in turn would help ensure that as many people as possible are benefitting from solar lighting technologies.
Why do we need to see an increase in finance and investment in distributed, renewable energy?

According to the International Energy Agency, in order to meet the UN’s SE4All target of universal energy access by 2030, 64% of new investments in electrification will need to be provided by distributed energy projects.

Distributed energy is by far the fastest and most economical route to providing energy services to low-income people. Renewable energy is often the most economical form of distributed energy too. Add in the fact that distributed energy solutions are also the most effective way of meeting the needs of the poorest remote communities and you have a strong case that it should form a central pillar in energy access financing.

However, in practice, most donors and multilateral development banks (MDBs) are spending only a small fraction of their energy access and climate financing budgets on the promotion of distributed energy, and there are limited ways that distributed energy service programs can access this.

The GOGLA position
GOGLA believes that public funding for energy access, including both development financing and international climate financing, should be used where it is most efficient and effective in reducing energy poverty and meeting climate objectives.

Recommended steps...
To achieve universal energy access by 2030, there needs to be a dramatic increase in access to finance for the off-grid lighting and power industry. GOGLA therefore recommends to MDBs, donors and development agencies that they:

1. Dramatically increase the amount of funding for distributed energy access projects and create programs, frameworks and facilities that enable this. Simultaneously, public funding institutions should develop strategies to encourage energy access investments by other actors, such as commercial investors.

2. Collaborate with commercial banks and investors to mobilize financing through a wide range of products. Public financing (development and climate financing) should be allocated to leverage potential commercial financing by absorbing investment preparation and transaction costs; de-risking investment; and reducing the cost of (commercial) capital.

3. Support long-term capacity building for the sector at national levels. In early stages of market development, the focus should be on demonstrating early successes. Where markets have evolved beyond initial stages, public funding should not be reduced. Instead there needs to be a shift in gear and a clearer focus on strengthening the sector as a whole, rather than supporting individual businesses.

4. Collaborate across sectors to advise governments on creating an enabling business environment – particularly in countries where it is most needed – with the aim of developing the sector and attracting greater investment. This would deliver maximum and long-lasting impact.
Why is quality assurance of our products so important?

While good quality off-grid lighting and power solutions have enormous potential to improve the lives of millions, poor quality and counterfeit products can be very harmful. They damage confidence in the industry, increase costs for the consumer, generate unnecessary e-waste and jeopardize the overall opportunity for sustainable solutions.

The GOGLA position
To overcome the challenge of poor quality products, stakeholders from across the sector need to join together to define a coherent approach. This includes governments, policy makers and aid organizations. GOGLA believes that at the heart of a successful, sustainable off-grid lighting market is an effective and harmonized method of assuring universal product quality. GOGLA believes too that the customer is the most important stakeholder within the market. So to protect the consumer and ensure their best interests are met, the industry must find a way to keep poor quality products out of the market. The work of Lighting Global (formerly Lighting Africa) over the last few years, to produce a Quality Assurance framework, now adopted as an IEC Technical Specification, has been a major step towards this becoming a reality.

This standard should now be adopted as the single common minimum quality standard by governments, policy-makers and other parties committed to driving the adoption of off-grid lighting solutions across countries and regions.

Everyone’s a winner...
Universal adoption of harmonized standards would mean everyone benefits.

- Government and policy-makers can be more efficient. They can reduce overhead costs for producers, simplify administrative procedures and accelerate market penetration.
- Consumers are protected from poor quality products that are a waste of their money. Their confidence in a growing market is likely to increase and they will ultimately spend less on robust, reliable, high quality products.
- The industry can ensure a sustained growth; as quality in the market is essential for this. Market disenchantment, and brand and product disillusionment can be avoided.

Recommended steps...
1. All stakeholders committed to enabling universal energy access should adopt a single set of harmonized requirements – and GOGLA recommends that this is the IEC specifications that build on the work of Lighting Global.
2. A widespread adoption of minimum standards is needed, as the market grows and evolves, for a continued development of the standard.
3. There needs to be greater awareness of the minimum quality standards so that governments, policy-makers and aid organizations can further invest in successful market development.
Why do we need to protect Intellectual Property and prevent counterfeit products?

Intellectual property right infringements and counterfeit products are a growing problem for industries all over the world. The off-grid lighting sector is no exception. In particular, our industry has fallen victim to counterfeiters - with cases reported in China, India and across East and West Africa. This is largely due to the market’s immaturity, its growing success and a surge in consumer demand in developing countries.

In 2008, OECD reported that trade in counterfeits amounted to approximately $250bn which was, at this point, equivalent to 2% of world trade. A more recent study by the International Chamber of Commerce estimates that this figure could increase to approximately $1.77 trillion in 2015¹.

Everyone loses out
When counterfeiters sell cheap, poor quality products they are harming consumers, governments and the industry as a whole.

- The customer has a bad experience when they buy fake or poor quality products which has a considerably shorter lifespan. This in turn undermines consumer trust in the sector.
- As a result, further development of the solar off-grid lighting market is put at risk, and falling revenues for the industry affects economies and Governments, for example through loss of taxes.
- Jobs and skills created locally by the off-grid industry become threatened.

The GOGLA Position
GOGLA members see counterfeit products as a severe threat to consumers, governments, and the emerging off-grid lighting market as a whole. We believe there needs to be an increase in efforts and cooperation between government authorities and the industry to keep fake products out of markets, with cross-sector actors aligning their activities in the fight. GOGLA itself will not accept any fraudulent behavior among its members.

Recommended steps
1. Governments should ensure that clear rules and procedures are in place for patent and IPR registration and legal enforcement. Fines and criminal prosecution should reflect the severity of the committed crimes.
2. Customs authorities, police and border staff need to increase enforcement.
3. Minimum quality standards (see previous page) are an important tool for preventing low quality counterfeit products from entering the market and should be adopted universally.
4. The public needs to be more aware of the dangers of counterfeit products. Education and training should be provided, in cooperation with the off-grid lighting industry and law enforcement, to ensure compliance with national and international standards for intellectual property.

How should we manage product life cycles and recycling?

It is recognized world over that managing ‘end-of-life’ electrical and electronic equipment is a huge challenge. This is true for businesses, governments and environmental and human rights groups.

Solar-based off-grid lighting products replace the need for non-rechargeable batteries, by virtue of their design, and therefore reduce the problem of electronic waste considerably. However, for everyone to benefit fully from off-grid technologies, and for the long-term health of the industry, all aspects of a product’s lifecycle should be considered.

The GOGLA position

GOGLA and its members believe there’s a need to work together as an industry to preserve the environment and minimize or avoid contamination from hazardous waste. The following commitments are driven by this belief.

GOGLA members are committed, as much as possible, to:

1. Developing products that can be easily maintained and repaired. Spare parts must be made available.
2. Developing strategies to implement ‘take-back’, and finding ways of recycling products in the countries of operation.
3. Identifying partnerships to collaborate with resources and materials where possible, and facilitate separation during recycling and reuse.
4. Avoiding the use of hazardous substances and, where possible, find alternatives for them. If there are no viable alternatives, create incentives for collection of the parts containing these hazardous substances.
5. Joining together to approach ministries, NGOs and other key stakeholders to build awareness that, like all new electronic products, off-grid lighting technology should be supported by a sound environment of managing end of life products.
6. Joining forces, beyond the industry, to build awareness among consumers of the value – to both human and environmental health – of handling electronic waste correctly and appropriately.
7. Looking for synergies with other industries to identify possible joint collection and recycling schemes.