



Letter of green industrialization in Africa

Observatoire Europe-Afrique 2030

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The Observatory refocuses its objectives

The Observatory is evolving and giving priority to the theme of "sustainable" industrialization in Africa, by focusing its field of analysis on "green" manufacturing sectors (renewable energies, clean mobility, optimized waste management).

Throughout Africa, there is a great deal of investment in green industries but almost all equipment is imported "turnkey" from China, Europe, North America or Japan.

Over the next twenty years, hundreds of billions of euros will be invested in the green sectors in Africa.

To remedy this aberration, we need to break with the current "import everything" economic model and switch to one in which solar panels, waste sorting plants and rail equipment..... are designed and manufactured (at least in part) on African soil.

A growing number of African companies are positioning themselves in green sectors and playing the "Made in Africa" card. They are playing a pioneering role, showing the way for sustainable industrialization in African countries. They demonstrate that it is possible to manufacture competitively on African soil, particularly when compared with manufactured goods imported from Asia.

It is important to make these "Leaders" known and to promote their activities.

With this in mind, the Europe-Africa 2030 Observatory has set itself two objectives:

- Identify and publicize "Leaders" companies, particularly those that generate high local added value through advanced industrial integration.
- Identify the links in the value chains of green manufacturing sectors most conducive to investment in Africa.

Spotlight on a « Leader »

African Clean Energy (ACE) is a biomass stove manufacturer based in Lesotho. The company has an original business model and high degree of industrial integration.

ACE is a for-profit, certified "B Corp" that produces and distributes hybrid solar-biomass stoves in developing countries. The company was founded in Lesotho, where it manufactures the ACE One energy system. It is headquartered in Amsterdam. ACE has been present in Lesotho since 2014. It has also been operating in Uganda since 2017. The ACE One was developed in 2014 with the support of crowdfunding and the Global Alliance for Clean Cookstoves.

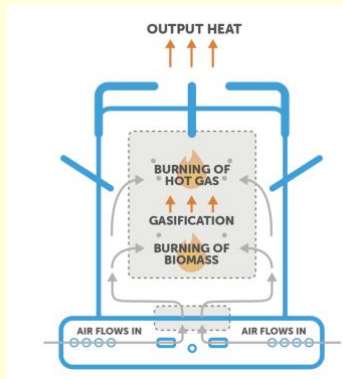
The ACE One is sold directly to consumers using an installment model at a cost of around US\$100 per unit. This makes the product affordable for people who couldn't afford to pay a large lump sum. To date, the company has sold around 60,000 units.

The ACE One can burn any type of solid biomass fuel (crop residues, animal waste or sticks). It burns fuel more efficiently than traditional open-fire stoves, and consumes 50 to 85% less fuel.



The ACE One's combustion chamber is designed to reduce smoke emissions to a negligible level by creating a clean combustion of biomass:

- A fan blows oxygen into the top and bottom of the combustion chamber.
- The oxygen raises the temperature of the fire in the chamber to around 1000°C, causing the biomass to gasify.
- The hot gases float to the top of the combustion chamber, where they encounter more oxygen and burn completely.



Dimensions: 33 x 33 x 35 cm

Weight: 4.6 kg

Service life: 8-12 years

The following video describes in detail the ACE One and the conditions under which it is manufactured in Lesotho:

https://www.google.com/search?q=ace+one+energy+system+lesotho+manufacturing&sca_esv=33160aea3cdc4e48&rlz=1C5CHFA_enFR800FR803&biw=1280&bih=715&ei=2QLjZer1H7-gkdUPvcqAkAc&ved=0ahUKEwiqxu7RstWEAxU_UKQEHT0IAHIQ4dUDCBA&uact=5&oq=ace+one+energy+system+lesotho+manufacturing&gs_lp=Egxnd3Mtd2l6LXNlcniK2FjZSBvbUgZW5lcmd5IHN5c3RlbSBsZXNvdGh1G1hbnVmYWN0dXJpbmcyChAhGAoYoAEYwwRI7RhQ5QZY2xVvWAXgBkAEAmAFMoAGMA6oBATa4AQPIAQD4AQGYAgegAqYDwgIKEAAYRxiWBBiwA8ICCBAAGIAEGKIEmAMAIAYBkAYCkgcBNw&sclient=gws-wiz-serp#fpstate=ive&vld=cid:0f5808df,vid:iNxWytfGPbA,st:0

ACE One has been laboratory tested by Colorado State University (2014) and Covair (2016). In these tests, the ACE One consistently met IWA-ISO Level 3 and 4 standards for emissions and efficiency. It received a "best" rating for safety, with a score of 97 out of 100.

The ACE One can reduce fuel consumption by up to 70% compared with an open fire. In Cambodia, researchers found that the product reduces fuel consumption by 52% compared with Khmer stoves. By using the ACE One, customers can cut their basic energy costs by up to 80%. The ACE One burns biomass without smoke, reducing CO and PM 2.5 emissions by 95% compared with an open fire.

Investment projects

South Africa

ReElement Technologies, a subsidiary of American Resources Corp, has signed a memorandum of understanding with energy storage company Afrivolt to create a lithium battery and electric vehicle manufacturing ecosystem in Africa, particularly West Africa. Afrivolt aims to develop major industrial projects to support the establishment of regional and

global lithium-ion battery supply chains in Africa. One of its projects is to build a battery cell factory in the Western Cape province of South Africa, with work due to start this year. ReElement Technologies, for its part, will provide refining capacity for rare earths and critical battery elements. The two companies describe the agreement as a "significant step forward in Africa's efforts to establish a comprehensive electric vehicle ecosystem and foster economic development through the burgeoning lithium industry" (*Engineeringnews Agency - 24/01/2024*).

Egypt

Agreement between the Egyptian Railway Authority and Talgo of Spain for the local production of railcars. The factory will be built next to the Kom Abou Rady railway workshops in the Beni Souef governorate, on an area of 4,500 square meters. The project calls for 50 trains to be manufactured by Egyptian engineers and workers, with assistance from Spanish experts. Under the terms of the agreement, the production of railway equipment will include 45% local components (*Ecofin - 27/03/2023*).

Egypt

Agreement between Swedish manufacturer Volvo Cars (Geely Group - China) and Egyptian Manufacturing Commercial Vehicles (MCV). Location: Salheya (Ach-Charqiya governorate). MCV will start manufacturing bodies for Volvo cars' city and intercity buses in 2024. Since 2016, Volvo has exported at least 60 electric bus components from Egypt, mainly to the Netherlands and the UK (*15/09/2023 - Afrik 21*).

Morocco

Chinese wind turbine blade manufacturer Aeolon has launched the construction of a blade factory in Morocco, with a total estimated investment of \$245 million. Location: Nador Industrial Acceleration Zone (north coast of Morocco). Surface area: 50ha. Annual production capacity: 600 sets of blades. Employment: 3,332 people. Expected sales > \$682 million. The Nador plant will be Aeolon's first production site outside China. It is scheduled to come on stream by the end of 2024 (*Ecofin - 26/01/2024*).

Morocco

Alstom has announced the construction of a second plant at its Moroccan site of Fes, scheduled to be fully operational by 2025. The new division will produce driver cabs for regional trains and metros. The site currently employs 850 people and produces Mitrac wiring and transformers. The new production line would employ 200 people by 2025, and is part of a wider investment that hopes to create at least 1,200 jobs in Morocco by the same date (*17/07/2023*).

Nigeria

Nigeria is set to launch the largest solar cell production plant in Africa. Capacity: 21 MW Location: Gora (Nasarawa State). Surface: 15.8 ha. NASENI is collaborating with China Great Wall Industries Corporation (CGWIC) on this project. The plant will add to NASENI's existing 7.5 MW solar panel production plant in Karshi, Abuja (since 2013) (*Science Nigeria - 23/03/2023*).

Nigeria

Dutch Solar Module Producer Solarge is to Produce 1 GW lightweight panels/year In Africa. It has secured the support of the Infrastructure Corporation of Nigeria (InfraCorp) and African Green Infrastructure Investment Bank (AfGIIB). InfraCorp is an infrastructure development vehicle managed by an independent infrastructure fund manager. Preparation for the manufacturing project is scheduled to begin in Q1/2024 for commercial operations to begin in 2025. Solarge patented technology can reduce carbon emissions by 20% to 80% compared to conventional solutions. The panels are 100% “circular” and unbreakable, according to the manufacturer (*Taiyang News – 12/12/2023*).

Uganda

A new assembly plant for electric motorcycles will be built by Indian carmaker Mauto Electric Mobility (M Auto), now Spiro, at a total cost of \$200 million. The start-up plans to deploy 140,000 electric motorcycles, notably in the capital Kampala, where, according to official figures, some 460,000 combustion-powered vehicles are on the road every day. Spiro also plans to install a network of 3,000 battery exchange stations (*Afrik 21 - 06/04/2023*).

To read, to see...

The **Clean Cooking Alliance** published the fourth edition of its private sector-focused industry trends report, the Clean Cooking Industry Snapshot

<https://cleancooking.org/reports-and-tools/2023-clean-cooking-industry-snapshot/>

This **IRENA report** summarizes the presentations and discussions held during the webinar series entitled “Long-term energy scenarios (LTES) for the development of national energy transition plans in Africa”.

<https://www.irena.org/Publications/2023/Jan/Scenarios-de-la-transition-energetique-experiences-et-bonnes-pratiques-en-Afrique>

The following link provides a detailed description of manufacturing and assembly stages of the tunisian enterprise **Euro-Cycles**, which specializes in the manufacture, assembly and sale of children's bikes, mountain bikes, road bikes, BMX/Trick bikes, transport bikes, folding bikes, beach cruisers and electric bikes.

<https://euro-cycles.com/>

Learn more about the Observatoire.....

<http://observatoire-europe-afrique-2030.org/fr/accueil/>

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