Annex 8 - Case

Combi-track Nigeria Solar

Goals combi-track:

1. Better education, employment opportunities and income for Nigerians
2. Improved export and investment position NL in Nigeria
3. Improved local policy concerning solar sector
4. Better access to clean energy and less carbon emissions

Local challenge	**Market opportunities**	**Barriers**	**Programming**
Only 60% Nigerians has access to (unreliable) energy	Cluster of Dutch companies sees opportunities in Nigeria and has proof of concept	Shortage of technicians / technically educated staff	Capacity building and curriculum development
No access in rural areas	Cluster asks RVO and CG Lagos for help	Local regulation, for example 12% import tax for components	Economic diplomacy and G2G collaboration
Dependency on expensive Diesel generators	Market study shows opportunities and impact in agriculture sector	Access to finance for Dutch companies and local partners	Promotion of Dutch companies and their local partners by missions, demonstrations, consortia building and the Dutch Desk of Invest International
		Fragmented market	Solar Market Place

Executive summary

Access to energy and the potential for energy transition will make a world of difference in unlocking the economic potential of Nigeria and will foster and support urban and rural economic development, including participation of youth and women through the development of a strong local solar value chain. Nigeria continues to focus on electrifying where as much as 5 per cent of the population remains without electricity access. In a country where a majority (51 per cent) of the population lives in rural areas, less than 40 per cent of rural dwellers have access to power, compared to 83.6 per cent of the urban population with access. Based on the sustainability objectives of access, affordability and elimination of CO2 emissions, solar is the most appropriate means of providing regular, cleaner and cheaper electricity, especially for the rural communities in Nigeria.

Currently, the Nigerian off-grid solar market is among the fastest growing in Sub-Sahara Africa, increasing at a 22 per cent average annual rate during the past five years. The Nigerian mini-grid market today has reached an inflection point - costs are competitive with alternatives like diesel and petrol generators, and projects are moving away from grant funding to commercial investment. One of the reasons for this growth of solar energy are the high diesel and petrol prices. This combi-track will focus on off-grid solar mini-grids for productive use of energy in agriculture. Besides this niche, solar solutions in other sectors are also relevant, for example the health sector. The ultimate goal of this approach is to stimulate more business, more jobs and CO2 reduction.

Despite the high cost for fossil fuels, pre-financing of solar systems is (almost) always required in the African markets. Limited access to loans and supportive mechanisms discourage potential investors and hinder the growth of the sector. And there are more challenges. The landscape of organizations who work on solar is fragmented while customers are seeking for cost effective and tailor made solar solutions and high quality of solar components and services, especially for monitoring and maintenance. Additionally, the absence of clear guidelines and incentives for solar power development creates uncertainty and deters potential investors. Another challenge is a shortage of skilled professionals and technicians with expertise in solar energy systems in Nigeria.

Foreseen activities of the Combi track

The solar marketplace
An important activity of the Solar Combi-track in Nigeria is the solar marketplace, that will bring together supply and demand and focus on matchmaking, unlocking business opportunities and building clusters of business partnerships. This also includes matchmaking with key enablers, like financial institutions for investments and technical training/programs for access to skilled workers. The solar marketplace will bring action, with room for demonstration projects, pilots and roadshows to support potential business deals.

In addition to straightforward B2B matchmaking of buyers and sellers, we see the solar marketplace's biggest added value in the electrification and access to energy agenda, scaling up the markets for off-grid solar and productive use in agriculture. In Nigeria, governments, developers, international and local financial institutions and financiers, productive use equipment suppliers and associations are already working to accelerate the deployment of mini grids to electrify rural areas and increase agricultural development and business, but they have a hard time finding relevant partners to forge clusters around business opportunities.

Agricultural appliance companies (cold chain, fridges, egg incubation systems, irrigation systems and agro processing) make products that need electricity. They stand to benefit from electrification programs through market expansion and may also become potential co-investors. The solar marketplace's matchmaking facility aims to position Dutch suppliers for increasing opportunities in electrification roll-out. Farmers in rural areas stand to benefit from electrification schemes by increasing yield and production, with possibilities to start investing in food processing solutions, potentially with Dutch partners.

There is a wide array of financing and investment opportunities available for a multitude of stakeholders, which provides opportunities for Dutch private sector players to tap into. Aside from the number of business support instruments made available by the Dutch government through RVO and Invest International (CERF, PIB, Impact Clusters, etc), there are emerging finance schemes with new players (like FinTech), performance based grants (like this one by SE4All), subsidy schemes of the Nigerian government and Climate Finance options. We are also looking into Carbon Credits for smallholder farmers in Nigeria with this study. Unlocking these options of access to finance will be part of the combi tracks matchmaking facility.

Capacity building projects
The capacity building projects will focus on knowledge institutes and solar companies in Nigeria. A small part will also be available to train the staff of the CG and the embassy. Expertise and knowledge will be provided through to development of a tailor-made Nigerian curriculum for solar energy and training programs. The goal is to improve technical installation and maintenance skills and business development skills in the solar sector. The capacity building projects will be promoted by the solar marketplace.

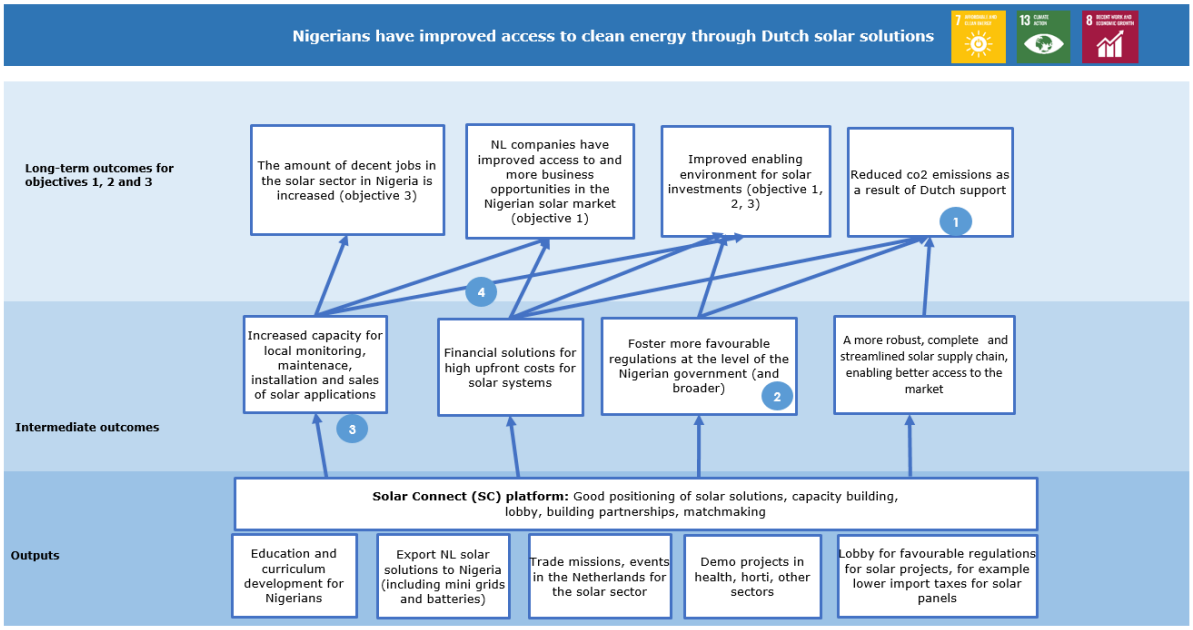
Demonstration projects
Demonstration projects are important for the acceptance of solar by showing what works and proving financial feasibility. One demonstration project will focus on cooling. After that, there is the possibility for demonstration projects in agro-food production, horticulture and the health sector (cooling of vaccines, energy supply). Demonstration projects will be part of the capacity building projects and will be promoted by the solar marketplace.

Business development activities
More insight is needed in the stakeholders with potential interest in Nigeria. Agricultural equipment manufacturers are an interesting group of potential beneficiaries for electrification. Also, more promotion on the Dutch solar field is needed. It is planned to organize 1 or 2 business events each year and to organize business development activities in collaboration with the solar marketplace.

PMEL Nigeria Solar Combi track

This section describes the relevant Planning, Monitoring, Evaluation and Learning (PMEL) processes in place at the level of the combi-track and the rationale behind them. Please keep in mind that as each combi-track is unique, the PMEL plan is tailored to the specific needs of this combi-track and might differ substantially from other Combi-track PMEL plans.

Visual of Intervention Logic (Theory of Change)



Assumptions of the Intervention Logic

#	Description	Evidence
1.	The solar energy that is generated as a result of the combi-track replaces existing sources of non-green energy (in a lot of cases diesel generators), hereby reducing CO2.	
2.	The Nigerian government is willing to enact and implement more favorable regulations in the solar sector.	"The Nigerian government has high climate ambitions. In 2030 they want to reduce CO2 emissions by 20% and in 2060 they want to be completely CO2 neutral. Financing is important to achieve these ambitious climate goals. This would require 70 billion. Besides the Ministry of Environment, the National Climate Change Council has been established to implement climate policy. The solar mini-grids subsidy, implemented by the REA and funded by the Worldbank is also an important instrument for stimulating off-grid solar solutions."
3.	Individuals in the local community are interested in engaging with solar technologies and are motivated to participate in training and capacity-building activities.	
4.	Increased capacity will be sustained over time. This implies that ongoing support, further training opportunities, and market viability will continue to exist beyond the initial intervention.	"Dutch companies who are active in de off-grid solar market in Nigeria want to organize the maintenance and monitoring of their off grid solar solutions locally with their Nigerian partners. Part of the materials will be produced locally (cables, poles), the aim is to

		produce more locally in the future. Engineering skills and proper technical knowledge are needed for maintenance, monitoring and also for (parts of) the production of mini-grids. This means training and jobs”

Learning questions at the start of the Combi track

Learning Questions
Which leads led to prospects and deals, and what was the role of the different combi-track activities
How do mobilized private finance and innovation contribute to digital and green transitions?
How do the green and digital transition create opportunities for Dutch businesses?

Results Framework

To track progress against the intended results, the results need to be accompanied by measurable indicators. For the Combi Approach, a standardized results framework consisting of quantitative and qualitative indicators/learning questions is defined. Quantitative indicators are tracked for accountability purposes and to aggregate results across different combi tracks, while qualitative indicators/learning questions are the primary tool for adaptive programming and steering a track towards the intended outcomes.

Objectives	Related Result	Indicator	Disaggregation (m/f) (youth)
Objective 1: stronger NL trade- and investment position in combination countries	Exports increased for the businesses concerned	1a. When type of closed deal = export As a result of participation in this project, NL companies have: Exported to combi country, value in €	Value of export per NL company vs value of export per combi-track as a whole
	Mobilised private finance (investment) for development, climate and biodiversity	1b. When type of closed deal = investment As a result of participation in this project, NL companies have: • Invested in combi country, value in €	Value of investment per NL company vs total mobilized private finance per combi-track as a whole
Objective 2: Increased green and/or digitalisation ambitions in combination countries	Emissions reduced or sequestered (climate mitigation)	2a. Tonnes of carbon dioxide equivalent (Mt CO2eq/yr) emissions reduced, avoided or sequestered by 2030 (ex-ante estimate) as a result of Dutch support	Emissions reduced or sequestered (climate mitigation)
Objective 3: Decent work and sustainable economic growth in combination countries	Private sector development focusing on a strong local business climate (strong SMEs, inclusive economic institutions, legal and policy reforms)	3b. # of companies with a supported plan to invest, trade or provide services	Origin company (Dutch/non-Dutch/other)
	Decent work (living wage, improved labour conditions), particularly for women and young people	3d. # of direct jobs supported	Gender (male/female/other) Age (youth/non-youth) Optional: green/non-green (at company level)