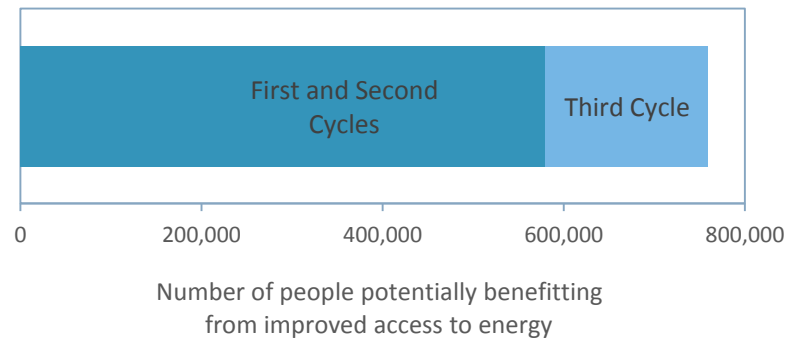
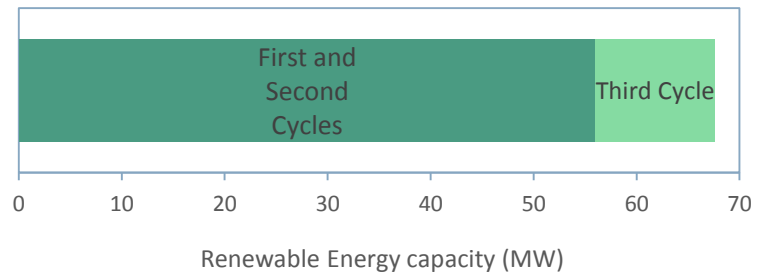
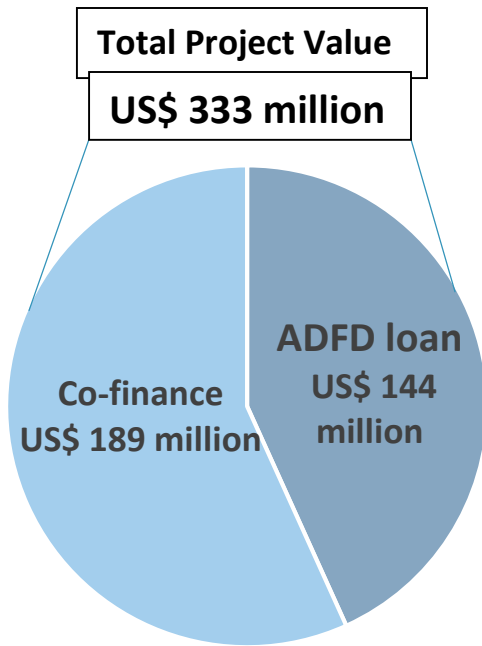
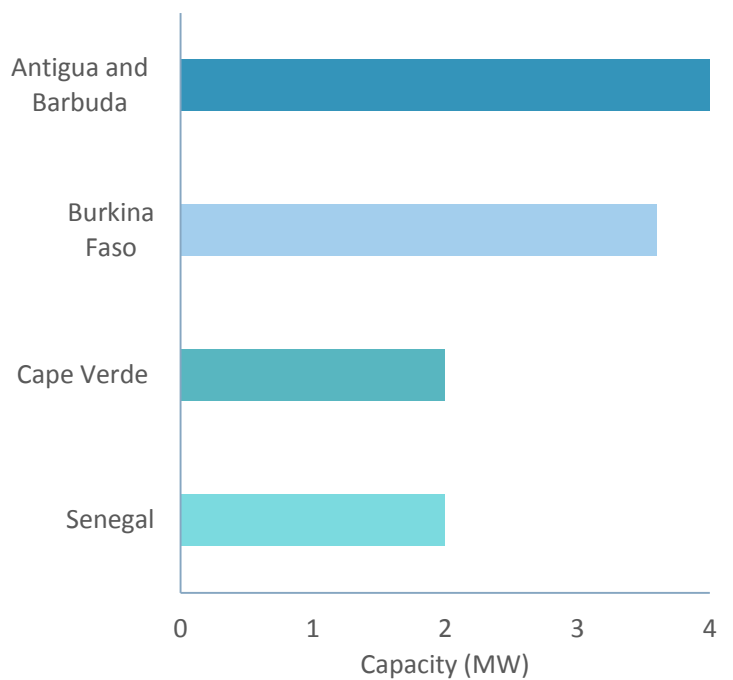
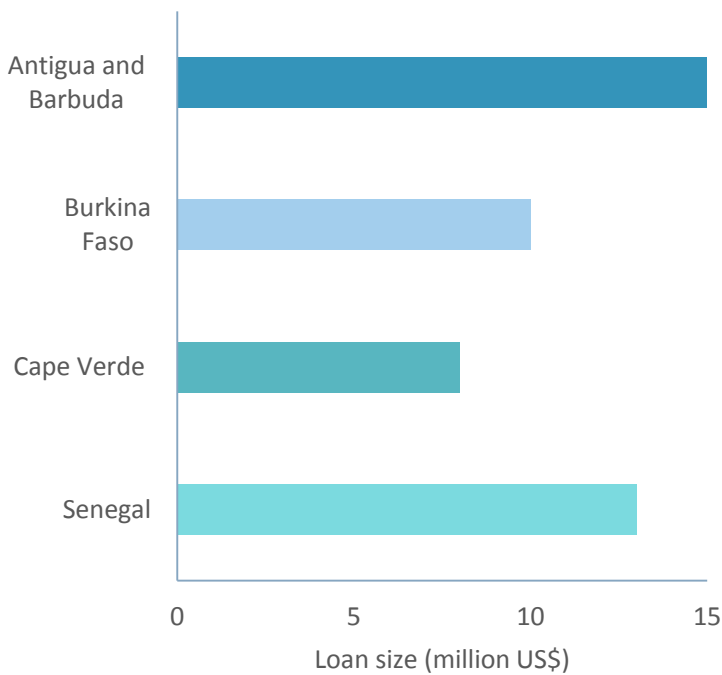


IRENA/ADFD PROJECT FACILITY 3RD CYCLE UPDATE



3RD CYCLE PROJECTS SELECTED



ANTIGUA AND BARBUDA

TECHNOLOGY	CAPACITY	LOAN SIZE	PROJECT NAME
Wind and solar	4 MW	\$15 million	Transformation and Resilience Building of the Water Sector in Antigua and Barbuda

PROJECT OUTLINE

This project has been put forward by the government of Antigua and Barbuda as part of a wider scheme to transform the water sector and provide energy to key services within the country. The ADFD funding will contribute to 4 MW out of the total 25 MW project.

The project involves the generation of renewable electricity from wind turbines and solar PV panels, using batteries as storage where necessary. Some of the electricity will be used for the desalination of water as well as providing electricity to hospitals, community clinics and government buildings. This project will enable these services to have back-up power through the provision of batteries, which will improve resilience during extreme events such as droughts and storms.



PROJECT IMPACTS

SOCIO-ECONOMIC

Antigua and Barbuda has been suffering from severe droughts over the past few years leading to water stress across the country. This desalination project will aid the provision of reliable water services in times of low supply and benefit vulnerable communities through increased water access.

RELIABILITY

Using renewable energy to produce potable water will diversify the energy sources for the country whilst actively moving towards more reliable and affordable electricity.

ENVIRONMENT

Currently, Antigua and Barbuda is entirely dependent on fossil fuels for electricity generation. The government has a national objective to obtain 20% of electricity from renewable sources by 2018 and this project will therefore contribute directly to this. The project will also help meet the national mitigation targets set out under the UNFCCC Paris agreement by reducing greenhouse gas emissions by 8,275 tons of CO₂ per year.

BURKINA FASO

TECHNOLOGY	CAPACITY	LOAN SIZE	PROJECT NAME
Solar	3.6 MW	\$10 million	Rural Electrification by Photovoltaic solar system, PV/Diesel and power distribution mini-grids

PROJECT OUTLINE

This project involves the rural electrification of 42 localities in Burkina Faso with mini-grids, grid extensions and solar home system technologies. The proposed approaches are in line with national energy policy objectives to expand access to modern energy services across the country and promote the use of renewable power.

The project utilises a holistic approach by matching the most suitable and cost-effective technology with each end user. For example, in rural trading localities where populations are sufficiently dense, mini-grids provide a technical and economical competitive advantage over grid connection or individual solar kits. In sparsely populated areas, households are most cost-effectively served with individual solar kits.



PROJECT IMPACTS

ACCESS TO ENERGY

Improving access to energy is as a key component of the government's strategic development plan. In 2011, the country's national electricity access rate was 27%, with around 4% in rural areas. This project will provide energy to more than 12,400 households, businesses and community centres.

SOCIO-ECONOMIC

The provision of electricity to villages initiates a transformative change to end beneficiaries by enabling communities to move up the socio-economic development ladder. There are multiple benefits to local communities through improved living standards, access to education and health services as well as improving local air quality. The electricity produced from solar PV and hybrid sources is more cost effective than diesel alternatives in rural areas. It will support income generating activities and allow the set-up of small enterprises, stimulating inclusive economic growth.

ENVIRONMENT

The production of renewable electricity in this project will contribute to a reduction of CO₂ emissions of 2,500 tons each year.

CAPE VERDE

TECHNOLOGY	CAPACITY	LOAN SIZE	PROJECT NAME
Hybrid (wind/solar)	2 MW	\$8 million	100% Renewable Energy Island Solution (100% REI©)

PROJECT OUTLINE

This project is aiming to meet the entire demand for electricity and fresh water on the Island of Brava through renewable sources. The 100% REI© concept has been developed by the Associated Energy Developers, along with Cape Verde Wind, who will coordinate with the existing water distribution company, Agua Brava, to implement this project. These companies will be working with the support of the towns on Brava to organise a Private-Public-Partnership (PPP) to fund the 100% REI© solution.

The project will utilise a combination of wind turbines and solar PV panels to produce renewable electricity and includes a grid stabilisation mechanism. Electricity will be directly fed into the grid from the wind and solar plant and will also power a system to produce anhydrous ammonia (NH₃). This can be stored and then used to power electrical generators in remote villages or at times of low output from the wind or solar plant. The renewable electricity produced from this project will also power desalination plants that will provide approximately 500,000 liters of fresh, potable water per day for the population.



PROJECT IMPACTS

SOCIO-ECONOMIC

The combination of technologies used in this project will result in a 100% renewable solution for the Island of Brava, fulfilling a national goal. The project will provide affordable and renewable electricity to the entire island, displacing expensive diesel generation. Communities will benefit from the jobs created through this project as well as having enhanced access to fresh water. Remote villages will especially benefit from local desalination plants, which will reduce the distance needed to travel in order to collect fresh water.

RELIABILITY

The energy storage solutions presented by this project will enhance the reliability of electricity supply on Brava and therefore improve the stability of the system.

ENVIRONMENT

The 100% REI© project will result in a reduction of CO₂ emissions of approximately 4,665 tons each year as well as improving local air quality.

SENEGAL

TECHNOLOGY	CAPACITY	LOAN SIZE	PROJECT NAME
Solar	2 MW	\$13 million	Promoting renewable energy for rural electrification

PROJECT OUTLINE

This project is a rural electrification scheme that aims to electrify 100 villages located in isolated regions of Senegal using solar PV technology. This project supports the government’s national electrification program which aims to provide universal access to energy by 2025-2030. The project will power medium sized, remote villages using solar PV mini-plants which feed into mini-grids. The mini-grids include solar battery storage devices to provide power during the evenings.



PROJECT IMPACTS

ACCESS TO ENERGY AND SERVICES

The rural electrification rate in Senegal was 29% in 2014. This project will electrify 100 rural villages, enhancing energy access for approximately 80,000 people. This project will provide a stable electricity source for critical services such as medical facilities and schools. Electrified health facilities will improve treatment of patients, enable better sanitation and permit longer storage of medicines.

SOCIO-ECONOMIC

Energy costs will be reduced by using solar technology instead of expensive imported fuels. This will enable productive machinery, such as water pumps and grain mills, to be used without consideration of high fuel costs. Providing electricity to households will also improve indoor air quality through the replacement of traditional fuels such as wood and charcoal whilst increasing the number of productive hours for families.

ENVIRONMENT

Overall the project will reduce CO₂ emissions by 3,200 tons per year. It will also contribute to lower rates of deforestation in the area as less traditional fuels are used.