



## **ACADÉMIE DE LA BEI DÉDIÉE AUX BANQUES DE PME ET À LA MICROFINANCE EN AFRIQUE DE L'OUEST ET DU CENTRE 2020 – 2021**

### **THE EIB WEST AND CENTRAL AFRICA SME BANKING AND MICROFINANCE ACADEMY 2020-2021**

**Carina Dunker**

Green Finance - Building healthy loan  
portfolios with climate relevant loans



[www.msmefinanceta.eu/eib-academy-event](http://www.msmefinanceta.eu/eib-academy-event)

# I Introduction

What is green finance?

Why financing green?

Green=Sustainable?

# What is green finance?

## Activity

### What is your personal experience with green finance?

1. I myself **invested in green technologies**, such as renewable energy or energy efficiency measures
2. I **accompanied the financing of green projects**, e.g. as loan officer or credit analyst
3. I **advised on green finance issues** and respective policy approaches
4. I am constantly annoyed about electricity outages, increasing fuel and electricity prices and I hope **green technologies can help**
5. I read about the topic but **never actively engaged in any green finance project**
6. I am hearing about **green finance for the first time** in this webinar



IPC Environment  
and Energy





# What is green finance?

## Activity: Green or not green?

Little starting exercise

- We will show brief descriptions and pictures of different investment cases
- After each slide please decide: Is this a green investment or not?
- To answer please use the quiz options which should pop up automatically on your screen



IPC Environment  
and Energy



This project is funded by  
the European Union



# What is green finance?

**A small-scale farmer engaged in cultivation of tomatoes and other vegetables.**

The farmer currently irrigates her fields naturally, i.e. by relying solely on rainwater. She thinks of investing in a new solar water pump. Is this green?



IPC Environment  
and Energy



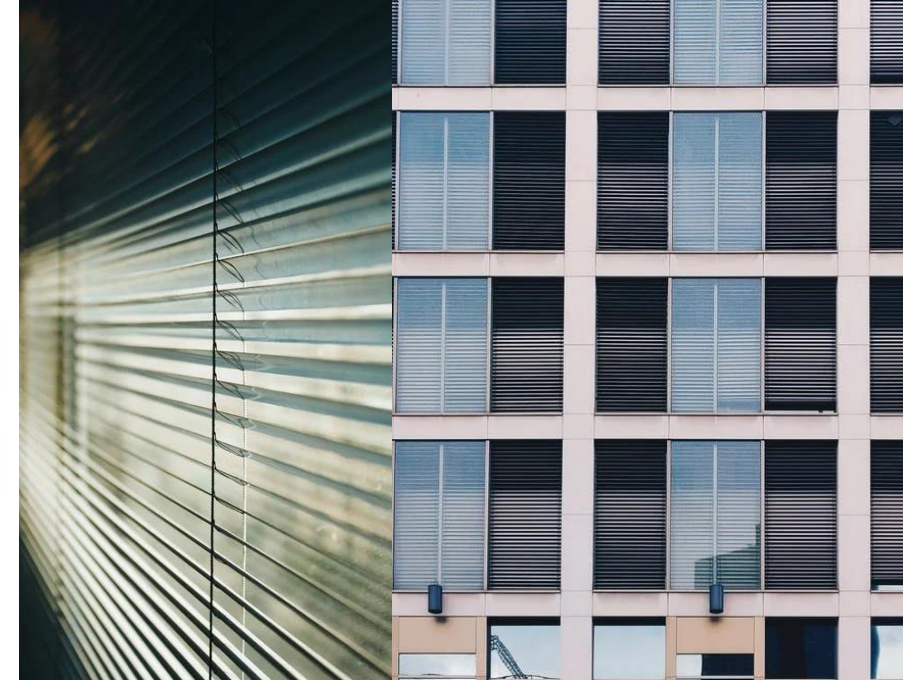
This project is funded by  
the European Union



# What is green finance?

## A five star hotel near the beach.

The manager thinks about investing into an automatic shading system. With help of a sensor, the window shades are pulled down or up according to the intensity of the solar incidence. Is this green?



IPC Environment  
and Energy

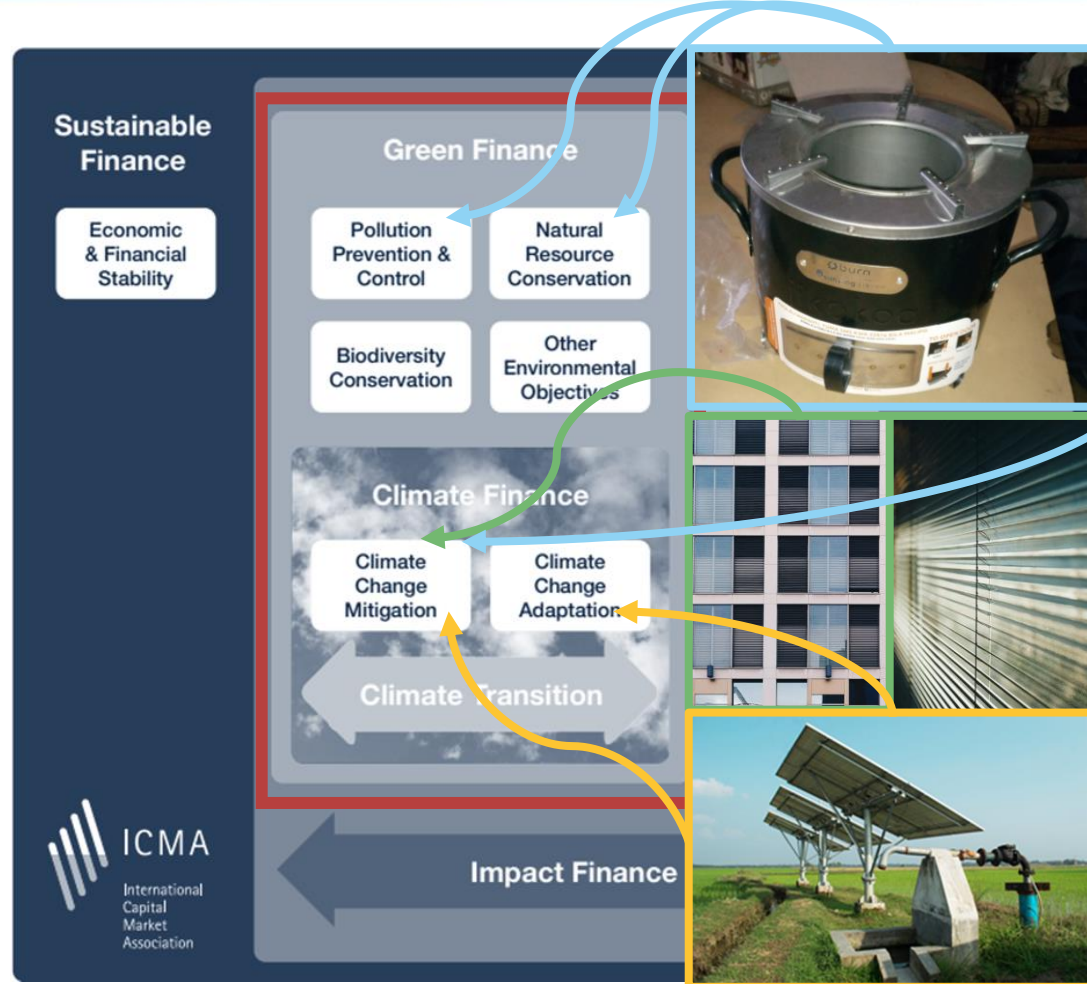


This project is funded by  
the European Union





# What is green finance?



Source: ICMA (May 2020)

- Sustainable and/or green finance is oftentimes used interchangeably
- There is no single definition of what sustainable finance is

**Mitigation finance:** Investments that help in reducing, i.e., mitigating, the impact of climate change and effectively reduce greenhouse gas emissions (for instance *renewable energy* investments or investments into *energy efficiency*)

**Adaptation finance:** Investments that help businesses in coping, i.e., adapting, with climate change, for instance investments into research for heat resistance crops



IPC Environment  
and Energy

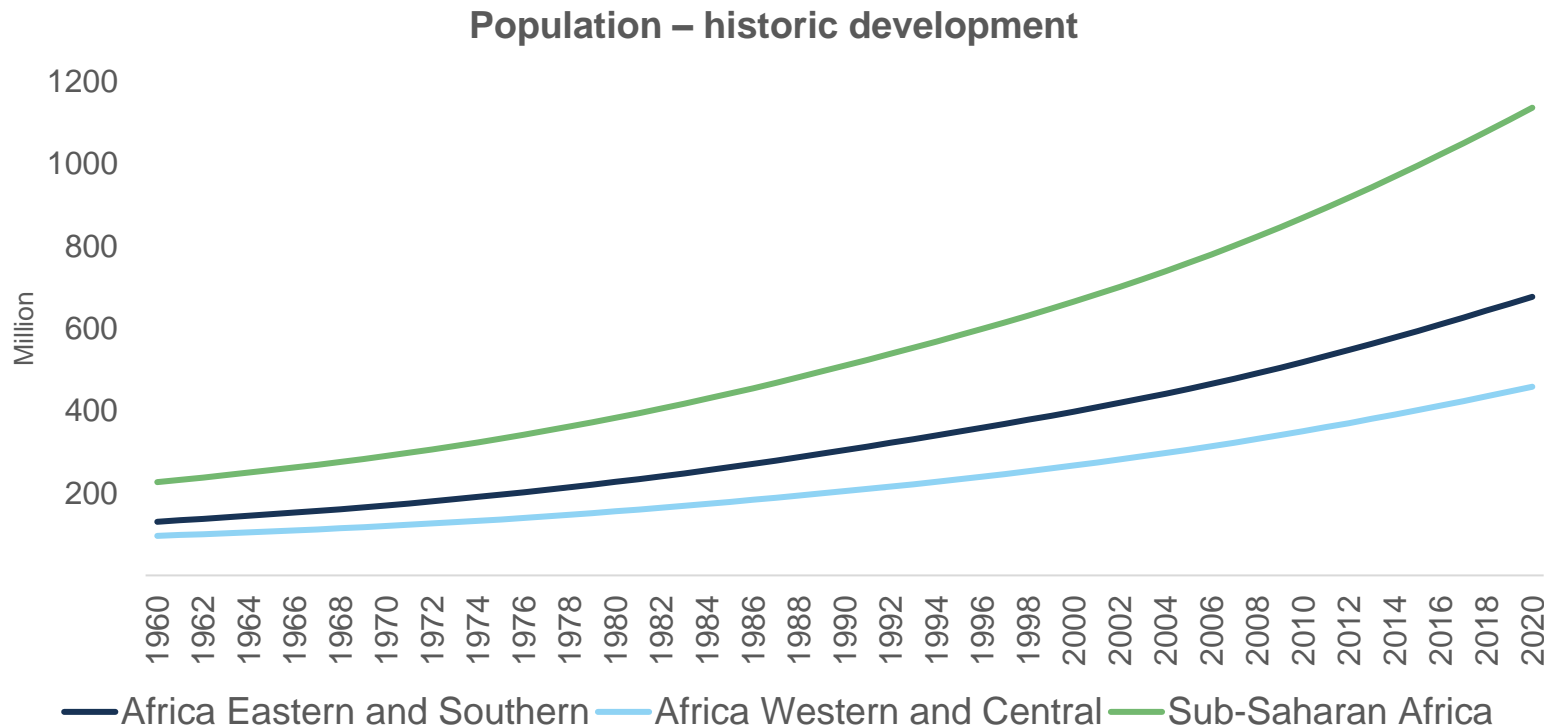


This project is funded by  
the European Union



# Why finance green?

Rising population, urbanization and industrialization translates into increasing energy demand



Source: World Bank database (accessed 29.09.2021)

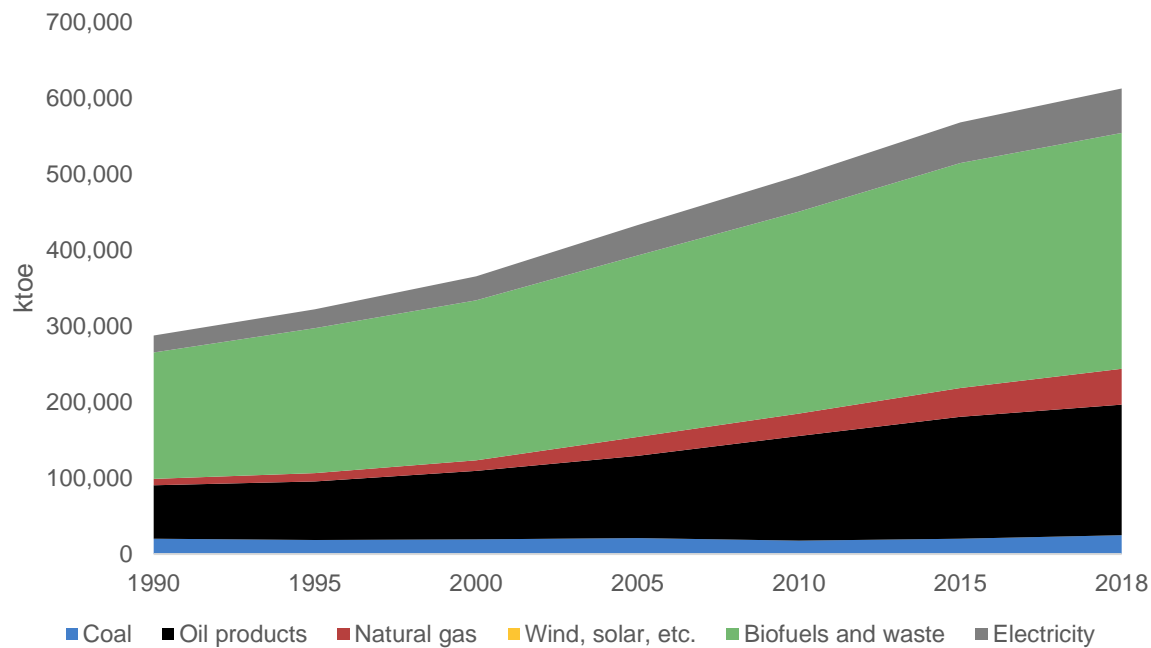
“Africa is projected to have the fastest urban growth rate in the world: by 2050, Africa’s cities will be home to an additional 950 million people.” (OECD 2020)



# Why finance green?

**High dependence on fossil fuels and traditional biomass paired with increasing energy demand requires exploration of cleaner solutions.**

**Total primary energy consumption in Africa**



Source: IEA database (accessed 29.09.2021)

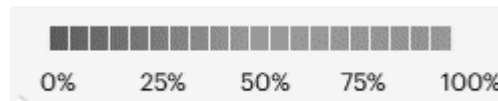
“

The challenge in sub-Saharan Africa remains acute, with a deteriorating picture: only 17% of the population have clean cooking access.”

(IEA SDG 7 data and projections; accessed 29.09.2021)



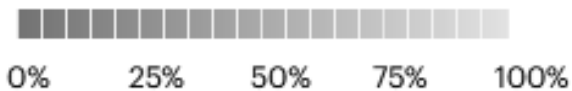
**Proportion of population with primary access to clean cooking facilities (2018)**



(IEA SDG 7 data and projections; accessed 29.09.2021)

# Why finance green?

## Proportion of population with access to electricity (2019)

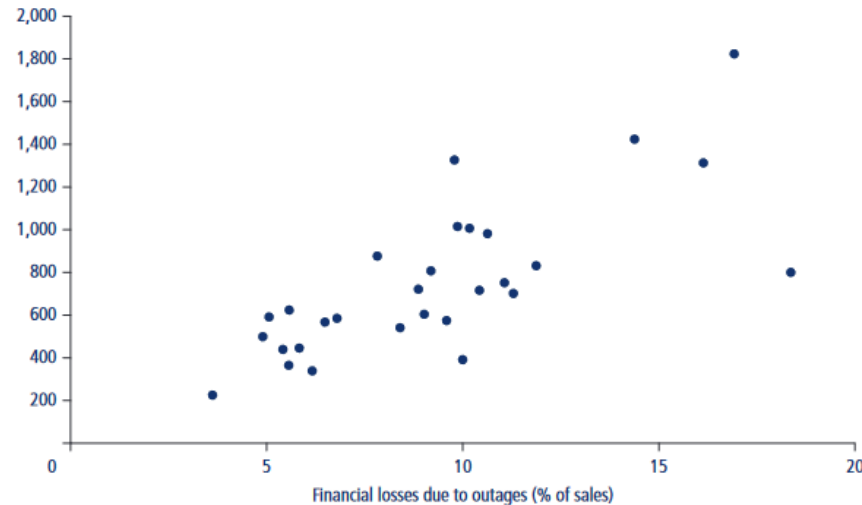


Source: IEA SDG 7 data and projections; accessed 29.09.2021)

## Positive correlation between firm's financial losses and number of total outages faced

FIGURE 2.1 Reducing power outages boosts overall firm performance

Average total time of outages (hours per year)



Source: Cole and others 2018.

Note: Financial losses are positively correlated with the average total time of outages.

Source: Cole and others (2018) in Worldbank, *Doing Business 2020* (2020)

## Overall companies' competitiveness can be improved through

- stable electricity access
- low electricity cost
- reduce dependence on noisy, costly and polluting generators

**Achieved through a combination of renewable energy sources and energy efficiency measures**



IPC  
Environment  
and Energy

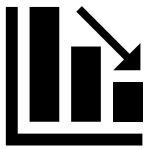


This project is funded by  
the European Union



# Why finance green?

## Financial market view



**Growing concern about risk of stranded assets** in the infrastructure sector due to physical and transition risks



**Shifts in Debt** (Green / Climate Bonds) **and Equity Markets** (Corporate and Financial Disclosure) towards sustainable products.



**Blended Finance** new „buzzword“ to overcome the financing gap for addressing SDG / NDC investment needs



**Leveraging innovative climate finance solutions** to address adaptation finance gap and existing climate damages, i.e., index-based insurance, catastrophe bonds



IPC  
Environment  
and Energy



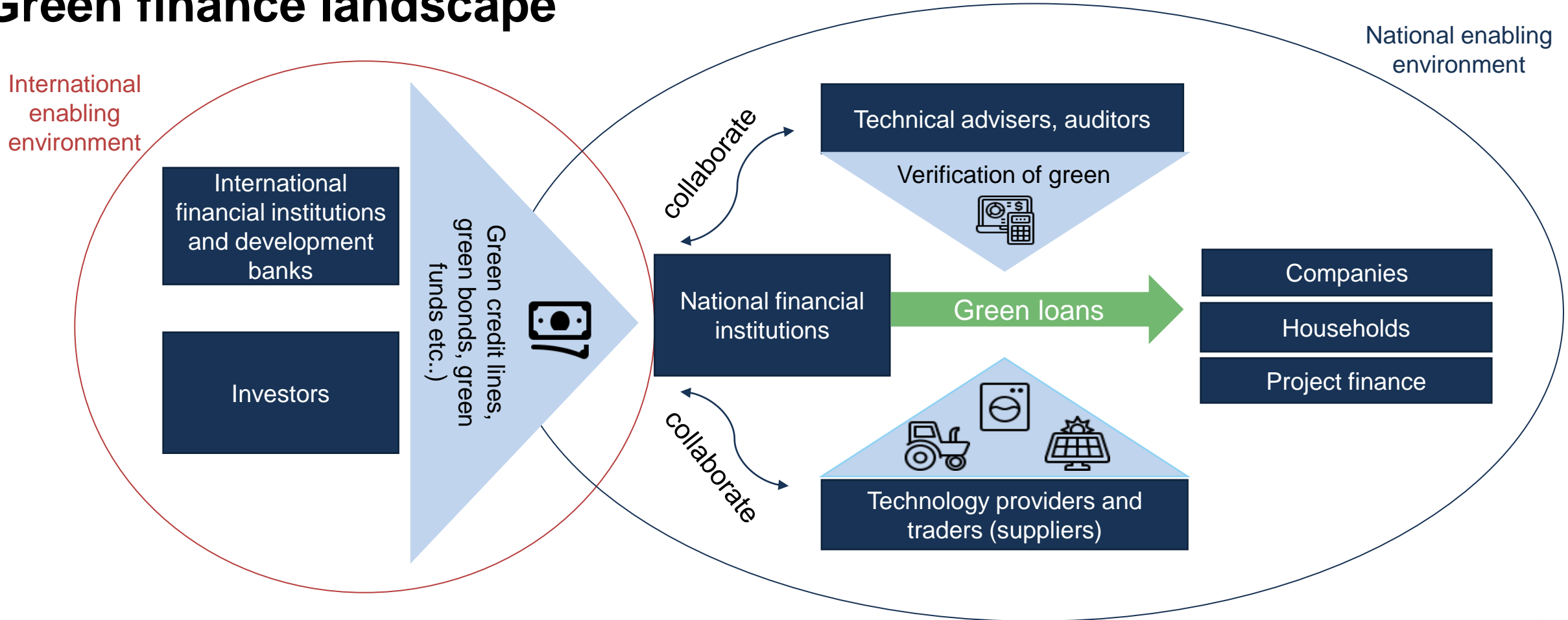
This project is funded by  
the European Union





# What is green finance?

## Green finance landscape



## II Green Finance Opportunities

### Where lies the green potential?



IPC  
Environment  
and Energy



This project is funded by  
the European Union



# Activity

## What sector is your institution active in?

1. Transportation
2. Residential
3. Social services (e.g. health and education sector)
4. Hotels and restaurants
5. Housing
6. Food processing
7. Manufacturing and production
8. Agriculture



# Green finance opportunities

EE/RE Technology	Agriculture	Housing	Residential	Transportation	Health and Education	Manufacturing/ Production
Solar water pumping	X					
Solar water heater		X	X		X	
Drip irrigation	X					
Rooftop solar		X	X		X	X
Lighting (LED)		X	X		X	X
Air conditioning		X	X		X	X
Fridge			X		X	
Improved cook stoves			X		X	
Vehicle conversion (Diesel to LPG)	X		X	X	X	X
EE tuktuks/Electric cars				X		
Insulation		X	X		X	X
Concrete blocks/AAC blocks		X	X		X	X
Efficient motors and/or machinery						X

# Green finance opportunities

## Example Green Finance opportunity in the market - cold/freezer storage

**Main Sectors:** health care providers, food cold/freezer storage, cold/frozen transport services

### Common situation in African SMEs:

- Lack of back-up systems in many cases leading to unsafe health conditions
- Most systems are either under or oversized due to poor advice from technicians causing either damage to the equipment or unnecessary energy cost, respectively
- No or improper usage of cooling or freezing vehicles to transport cooled or frozen food.
- Direct exposure of cooling facility, cooled/frozen products and/or compressor to solar radiation

**Proposed solution:** resizing equipment to energy needs and to use freeze blaster technology as well as the use of an automatic timer.



# Green finance opportunities




## Water efficiency in cleaning food production lines

**Main sectors:** Food processing and medical production

### Problem:

- Water intensive sectors
- High hygiene needs
- Cleaning the production line after the processing of each batch consumes not only high amounts of water but also of electricity and cleaning agents

**Proposed solution:** Implementation of a clean-in-place systems (CIP); Costs: starting at EUR 100,000

	Before			After
Water usage	27 m <sup>3</sup> /day		52% savings	13 m <sup>3</sup> /day
Electricity needed for water heating	6,400 MJ/day		68% savings	2,080 MJ/day
Cleaning agents	100 kg/day		52% savings	48 kg/day



# Green finance opportunities

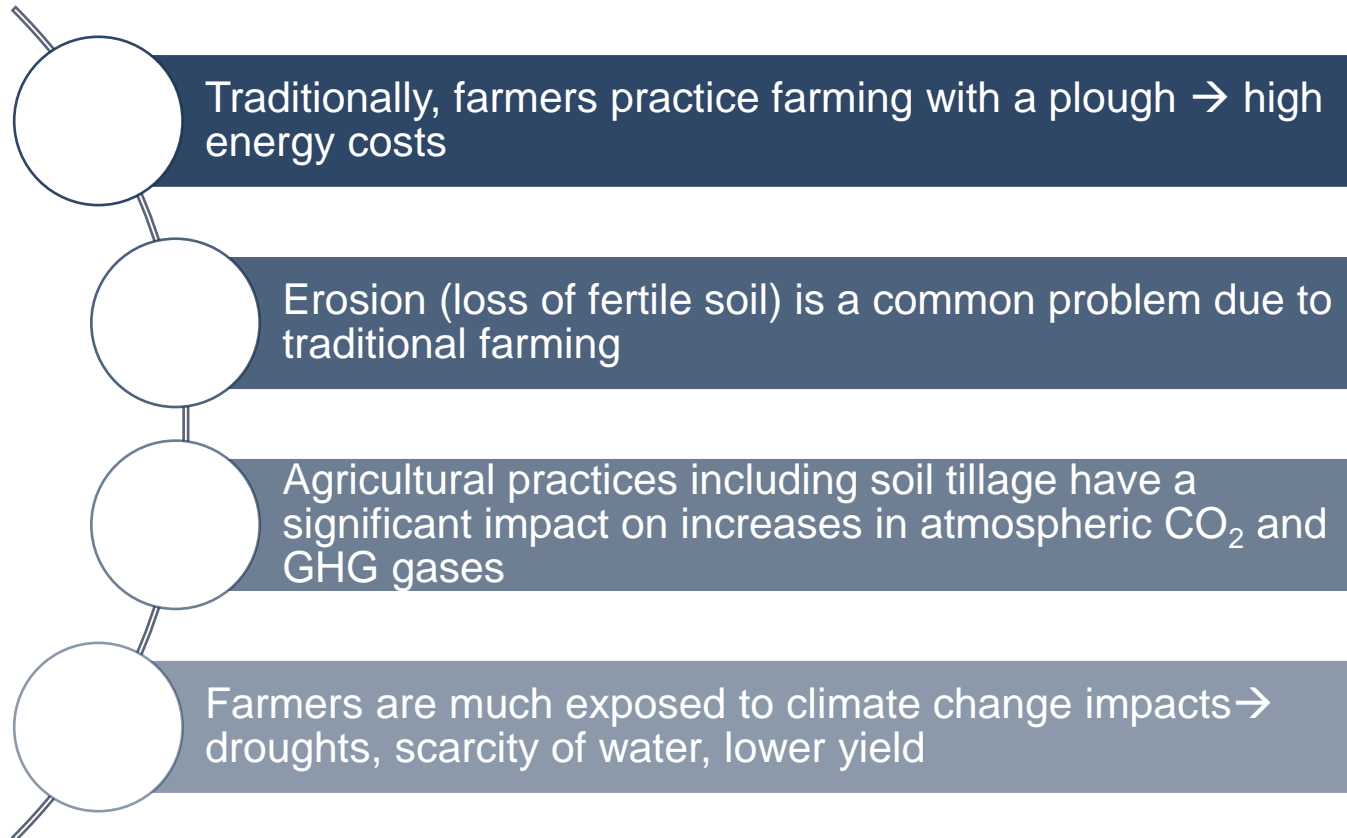
## Green mortgage example

Figure 6: Green mortgage example

	Standard building: Standard mortgage	Green building: Green mortgage			
Base purchase cost	50,000	50,000	HIGHER AMOUNT	<ul style="list-style-type: none"><li>• Additional cost of efficiency measures</li><li>• Costs can be lowered if EDGE is utilized early in the process</li></ul>	
Green measures (3% higher costs)		1,500			
20% down payment	(10,000)	(10,300)			
Loan amount	40,000	41,200	3%	TERM CAN VARY	
Rate	11%	11%			
Term	20 yrs	20 yrs			
Monthly payment	\$413	\$425			
Utility savings (20%)		(20)			
Cost of monthly ownership	\$413	\$405	-2%	WIN-WIN	<ul style="list-style-type: none"><li>• Lower bills for the borrower</li><li>• Higher income for the bank</li></ul>
Bank income (yr 1)	4,371	4,502	3%		

Source: IFC, *Green buildings* (2019)

# Green finance opportunities



## III Green Finance: What does it take and how to start?



# Green finance: How to start?

01 Know your market (big picture – energy demand and competition; most attractive sectors for EE/RE)

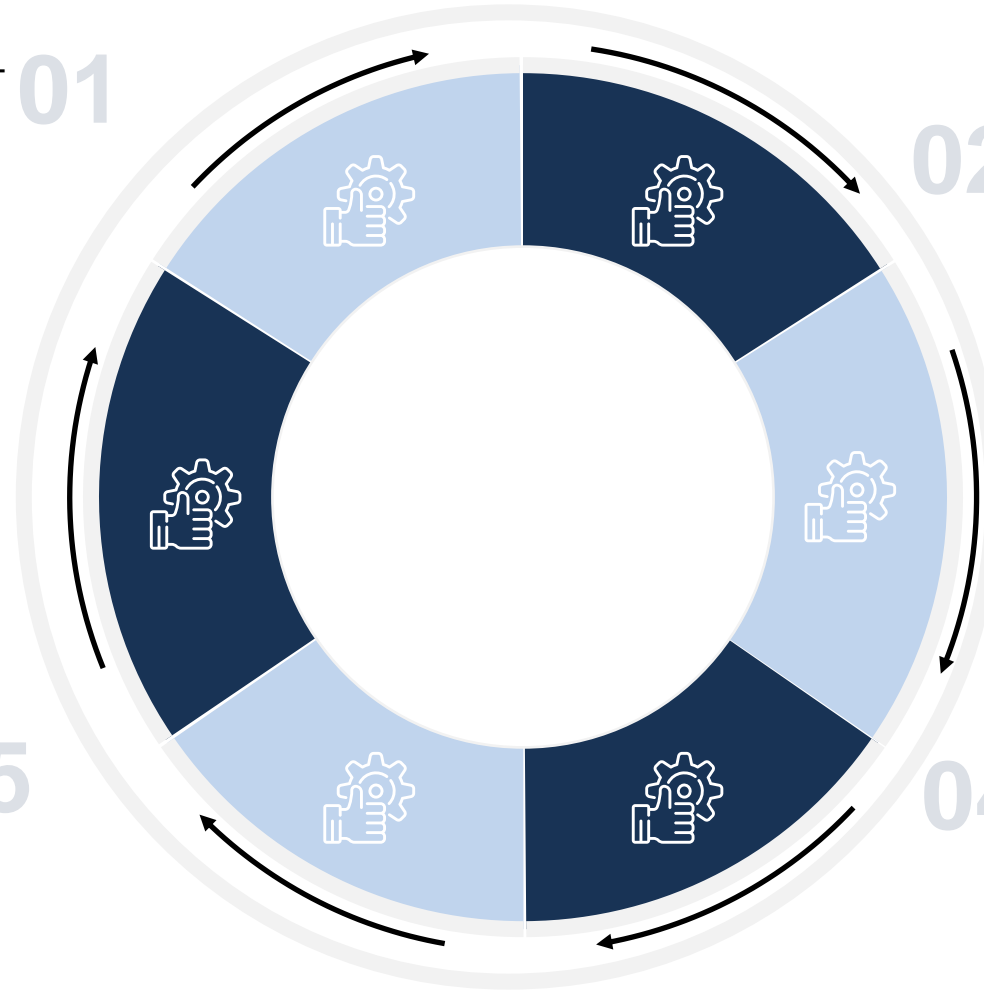
02 Know your portfolio – which of your customers fits the market situation; what technology is in use

03 Identify target groups and technologies

04 Develop suitable lending products

05 Training staff and stakeholders

06 Marketing and build a portfolio

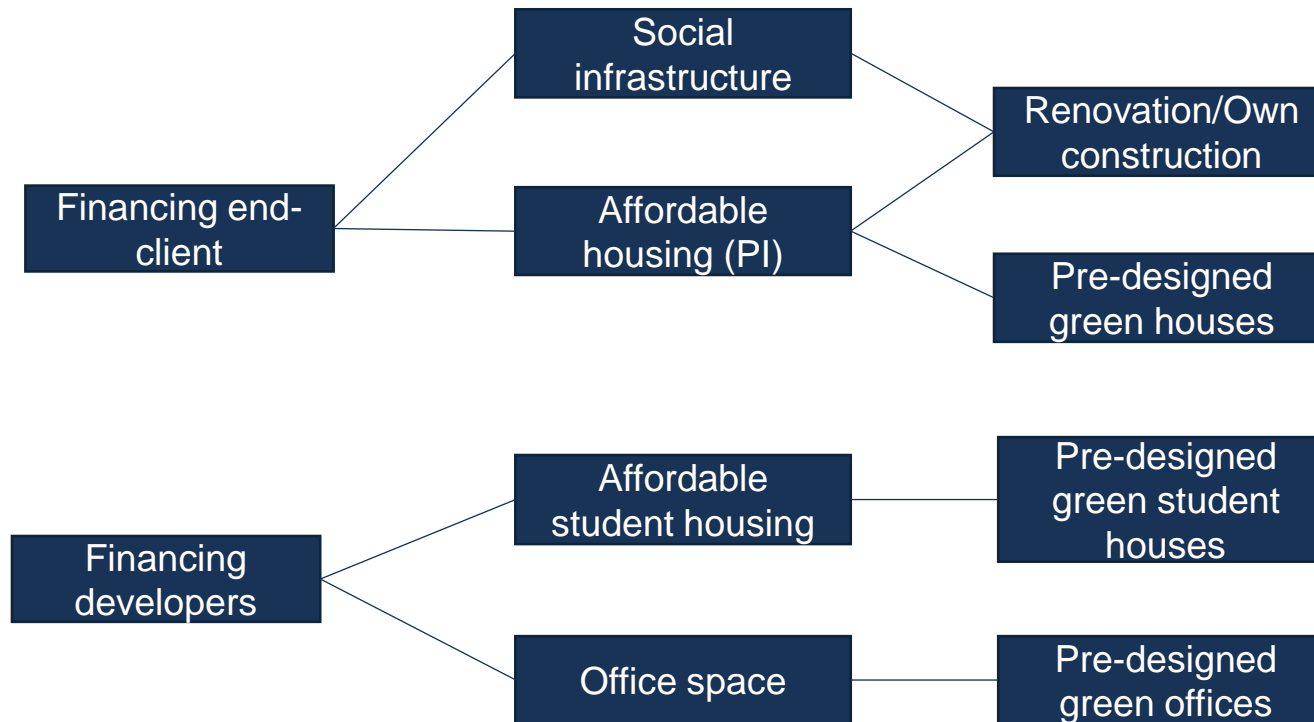


IPC  
Environment  
and Energy



# Green finance: How to start?

## Financing buildings – exemplary business models



- What fits my client profile?
- What are the capacities required and already in my institution?
- What is the ticket size and risk level I am able to assess and manage?
- What additional resources/training do I need?
- What partners do I need?

# What is green finance?

## A financial institution.

A financial institution located in an area with an average temperature of 33 degrees Celsius thinks about loosening the strict dress code for their employees (i.e. allowing for wearing T-shirts or even shorts). Is this green?



IPC Environment  
and Energy



This project is funded by  
the European Union

