

Crowdfunding Specialist Module



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 785081. Disclaimer: The content of this material does not reflect the official opinion of the European Union. Responsibility for the information and views expressed lies entirely with the author(s).

Before we get started – what is this Crowdfunding Specialist Module (... and what it is not)

This module is ...

- An **introduction to the financial concept of Crowdfunding**
- able to **consider impact of Crowdfunding on EE and REN**
- hands-on and suitable for **capacity-building** initiatives
- **Builds on concepts** (such as NPV and IRR) covered in other learning materials of this series

This module is not ...

- an **exhaustive and complete** list of all crowdfunding activities
- a **scientific study** comparing different evaluation methods and proposing “one best” method
- **applicable to all countries** without reflection of local conditions
- a **blueprint** for launching a crowdfunding campaign



Learning outcomes

- By the end of this module participant should be able to:
 - Explain what crowdfunding and how may someone use it
 - Distinguish between different kinds of crowdfunding
 - Understand the importance of choosing the right platform and support organization
 - Identify what are the benefits of crowdfunding and the opportunities related to crowdfunding for energy efficiency

Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



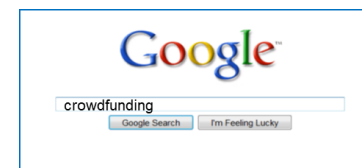
- Crowdfunding (CF) is “the practice of getting a large number of people to each give small amounts of money in order to provide the finance for a business project, typically using the internet”



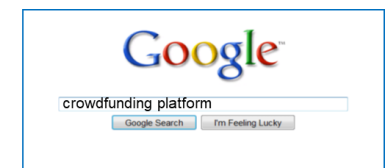
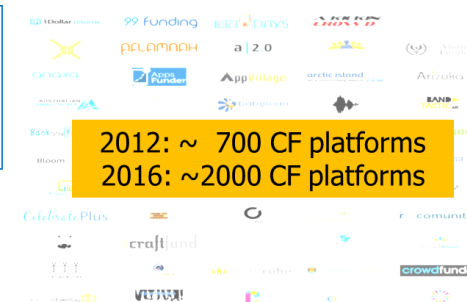
crowd + funding = **crowdfunding** → outsourcing of raising capital to the crowd
This makes crowdfunding an **alternative form of financing**.

Increasing popularity:

- Crowdfunding has been made increasingly popular with the appearance of the internet. However, crowdfunding was not born on the internet and has been around for a long time. Crowdfunding examples include Cathedrals across Europe and even the Statue of Liberty!
- The number of Google searches for crowdfunding has skyrocketed and also there has been an increase in crowdfunding platforms and other related actors (contributors, initiators, owners)



30.300.000 results
(July 2018)



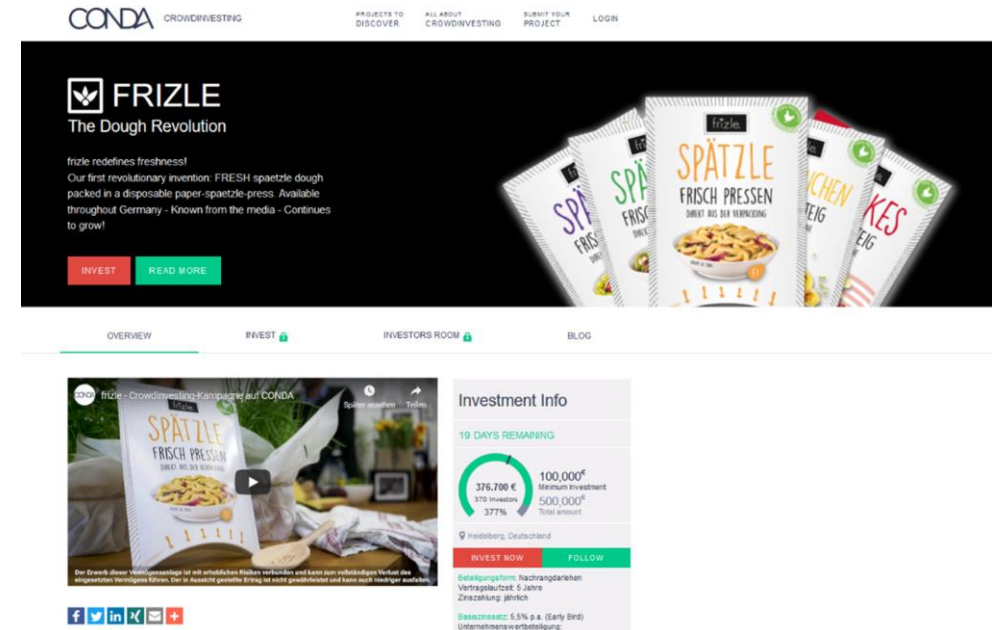
16.500.000 results
(July 2018)

Relevant CF-related terms:

- The appeal for funds made to the general public in support of a project or company is known as **crowdfunding campaign**.



- The campaign is typically conducted through a **campaign page** launched on an intermediary internet platform, called **crowdfunding platform**.



FRIZLE
The Dough Revolution

frizle redefines freshness!
Our first revolutionary invention: FRESH spätzle dough packed in a disposable paper-spätzle-press. Available throughout Germany - Known from the media - Continues to grow!

INVEST **READ MORE**

OVERVIEW **INVEST** INVESTORS ROOM BLOG

frizle - Crowdfunding-Kampagne auf CONDA

Investment Info

19 DAYS REMAINING

376.700 €
370 Investors
377%

100.000€
Minimum Investment
500.000€
Total amount

Heidelberg, Deutschland

INVEST NOW **FOLLOW**

Beteiligungsform: Nachrangbarkeiten
Vertragslaufzeit: 5 Jahre
Zinszahlung: jährlich

BRANDPREIS: 5,5% p.a. (Early Bird)
Unternehmenswertbeteiligung:

This example shows the campaign page for Frizle on the Conda platform



Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



- There usually are 4 relevant actors in CF projects:
 - Campaigners
 - Contributors
 - Platforms
 - Support Organizations
- Simply put: **Campaigners** raise funds from **Contributors** through a **Platform**. **Support Organizations** provide assistance at different stages and to different stakeholders



Who?

Description

Campaigners

- **Individuals with the initiative which needs investments**
- Also called creators or founders
- Anyone with a good idea or a good network can launch a crowdfunding campaign

Contributors/Supporters

Individuals that offer funds for a crowdfunding project

Investors	Equity-based Crowdfunding
Lender	Lending-based Crowdfunding
Backers	Reward-based Crowdfunding
Donors	Donation-based Crowdfunding



Ideas are usually crowdfunded in **their early stages**. This allows the campaigners to:

- Test **marketing**
- **Channels & target audience**
- **Promote** their different products
- Obtain **market validation** from a specific sector of products
- Understand **consumer's motivations and expectations**
- Connect with a **new audience**



Relevant Actors: Campaigners



- Successful campaigns often enrol significant portions at the **launching phase**, where it is easier to get support from family, friends, and network.
- They also see a bump in enrolment towards the **closing phase** when time to enrol is ending.
- Displaying the funding percentages is important as it influences the behaviour of the contributors.
 - Most campaigns that are able to pass 10% of initial funding level are successfully funded



- Platforms are intermediaries between campaigners and contributors, connecting them via internet, allowing the financial support and the information flow.
- These crowdfunding platforms have gradually appeared over the last 10 years and nowadays they can be found by hundreds.

Crowdfunding Model	Geographical Coverage	Project Type/Focus	Campaign success model
They can be donation-based , a reward-based , a loan-based or equity-based crowdfunding platform.	Some are global . However there are multiple regional and local platforms which are often more appropriate and provide better service depending on the project. Most of the European platforms only cover regional areas.	Many kinds of project can be crowdfunded, they can range from charity to investments. Different kinds of investors prefer different platforms . E.g. investors focusing on sustainability projects might prefer a platform that focuses on such investments.	“Keep it all” The defined funding goal is not binding. All the money raised is transferred to the project. “All or nothing” (most common) only after meeting the funding goal the money actually gets to the project, otherwise it is refunded.



They can be largely categorized in two fields:

Finance Stakeholders → Individuals or organizations that would join you as an investment project, performing an specific job or expecting a profit upon the completion of the project

- **Financing institutions:** companies operating with money transactions such as deposits or loans (e.g. Banks)
- **Investment companies:** companies investing and making profit off trading shares of projects
- **Business angels:** individual investors who also can serve as mentors



They can be largely categorized in two fields:

Public and intermediaries → Usually, non-profit organizations that contribute to the project in different aspects such as providing advice or financial support.

- **Funding Institutions:** agencies that contribute to regional development through financial instruments and funding
- **Incubators, Accelerators and business support agencies:** firms offering support for early-stage companies. They may offer mentorship, provide a working space, provide assistance in business development or access to financing
- **Chambers and Associations:** NGOs representing workers can provide advisory and information services

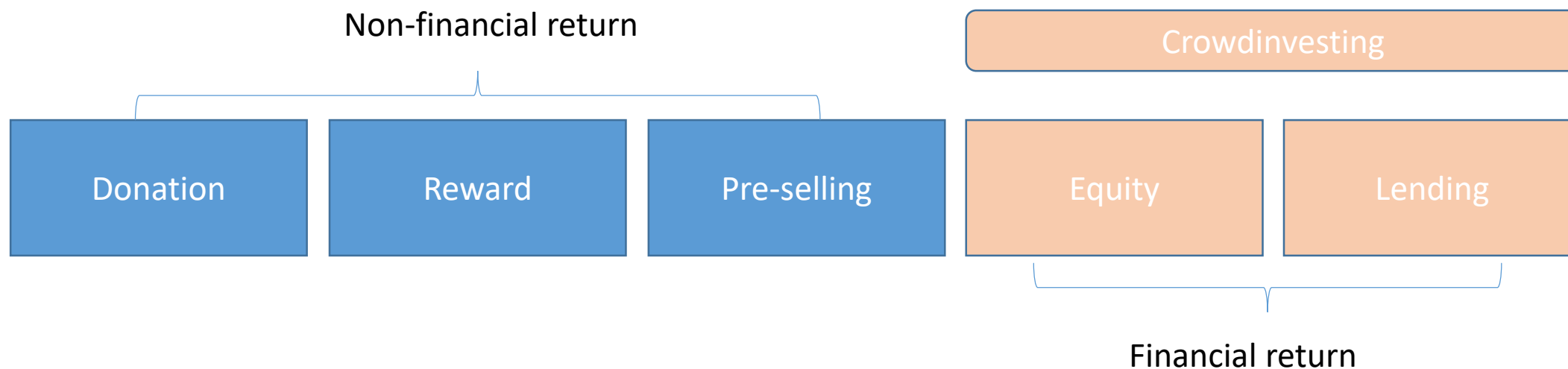


Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



- The two main kinds of crowdfunding are **non-financial return crowdfunding** and **financial return crowdfunding**. These can be divided into 5 subgroups.



- Primary motivation for support of a non-financial crowdfunding campaign can be
 - Emotional attraction to the campaign
 - Symbolic gift or reward
 - Attractiveness of the product

Donation-based

Original and most popular. Used to support social, political, academic, project, etc. Donors don't receive anything in return.

Reward-based

The contributor usually gets a symbolic return. The value of the reward is not proportionate to actual financial contribution (e.g.. Handwritten thank-you note). Motivation is similar to donation-based crowdfunding.

Pre-selling

Campaigner offers a prototype or the finished product or service for the contributors of the campaign. Model is often used in pages such as Kickstarter



Benefits for contributors

- Supporters can buy products early
- Supporters can make the support public
- Supporters receive additional products, which are often not available

Benefits for companies

- The funds received do not have to be paid back
- In addition to the procurement of funds, the customer base can already be built
- It can reach a much larger audience
- Marketing tool for further development





Example of a Crowdfunding project

You and me, together for the kindergarten in Pregrada

- X** Naša radost was established in 1997 and is currently the only kindergarten in the small city of Pregrada.
- X** Aim of investment: repair the roof & install insulation to improve energy characteristics of the building
- X** Financing mix:
 - X** 40%: grant support from national Environmental Protection and Energy Efficiency Fund
 - X** 40%: city budget
 - X** 20%: through a CF campaign on Croenergy.eu
- X** Target amount: EUR 13,000 using donation and reward based crowdfunding models.
- X** The campaign lasted 6 months and was a complete success, exceeding initial funding target. Works on energy renovation were completed in summer of 2016.

The Project

Main activities	Raising funds for energy renovation of a kindergarten through donation-based crowdfunding model
Region	City of Pregrada, Croatia

Project Goal and Main Investments

Project goals	<ul style="list-style-type: none"> ▪ Improvement of energy characteristics of the building
Main investments	<ul style="list-style-type: none"> ▪ Thermal insulation and repair of the roof
Investment size	<ul style="list-style-type: none"> ▪ Approximately 60,000 EUR

Expected Results

Operational results	<ul style="list-style-type: none"> ▪ Lower energy consumption ▪ Lower financial costs for heating and cooling ▪ Higher comfort
Investment profitability	<ul style="list-style-type: none"> ▪ Financial savings – 1.500 EUR/year ▪ IRR (with grants and donations) - 11.6% ▪ Payback period (with grants and donations) - 6.4 years

Source: E-FIX Case study analysis of alternative financing of energy projects, 2018

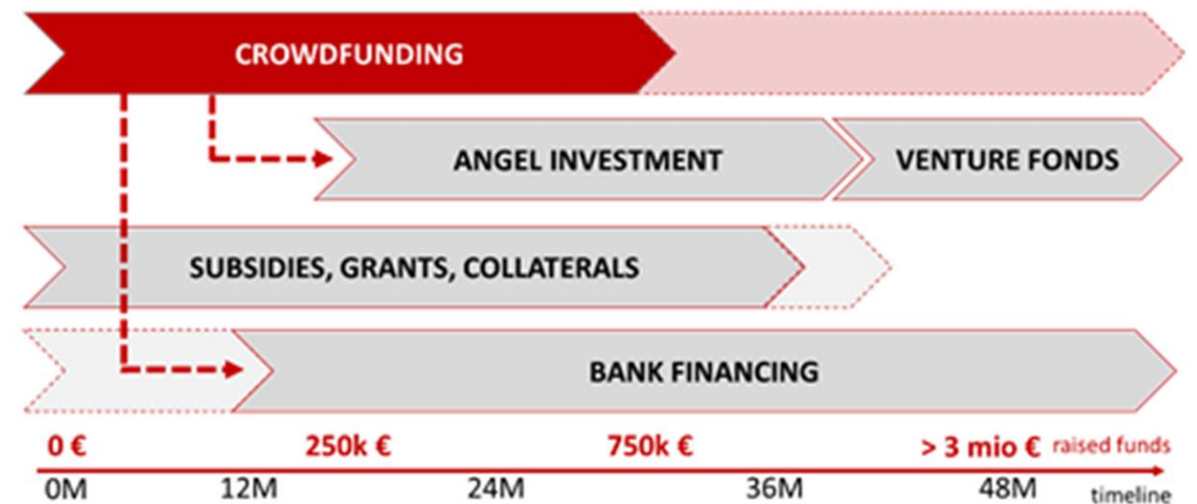


The crowd could **invest** in early-stage companies (equity-based) or **offer loans** to SMEs under specific legal conditions (lending-based).

Why would a company be interested?

- Primarily because it can serve as a **complementary** form of financing

CROWDFUNDING AS A COMPLEMENTARY INSTRUMENT IN THE INNOVATION FINANCE MIX



Source: ISN – innovation service network GmbH

- This type is often called **Crowdinvesting** and Contributors are often **Crowdinvestors**, particularly in German speaking countries.
- Small investors acquire shares in a company
 - SMEs
 - Startups
 - Real Estate
 - Special Projects
- Risk is **limited** to the **participation amount**
 - Successful businesses can have attractive yields. Unsuccessful businesses result in the loss of the investment
- The investment sum can be very low (depends also on the platform)
 - Often starting from 100 Euro per project





Example of Crowdfunding Project

Citizen Participation 2.0

- X** Oekostrom AG was the first in the German-speaking countries to start a CI campaign aiming to increase its equity capital.
- X** 48 hours after the campaign launch in 2017, the shares offered by Oekostrom AG have been sold out. In total 439 investors have secured company shares in AT largest independent energy provider worth one million Euros.
- X** Aim of funding: expand power plant facilities for renewable energy
- X** Contract details:
 - X** Shares issued: 11,323 registered shares
 - X** Price: EUR 100, -
 - X** Trading: via the trading platform of Oekostrom AG on aktie.oekostrom.at
 - X** Dividend disbursement for new shares: for the first time for in 2017 (payment in 2018)
 - X** Voting rights: for the first time at the 2017 Annual General Meeting

The Project

Main activities	Renewable energy (wind and solar projects)
Region	Vienna, Austria

Project Goal and Main Investments

Project goals	<ul style="list-style-type: none"> ▪ To supply 75.000 customers until 2020
Main investments	<ul style="list-style-type: none"> ▪ Build more wind turbines
Investment size	<ul style="list-style-type: none"> ▪ About 1 Million after 48 hours (share-based Crowdfunding)

Expected Results

Operational results	<ul style="list-style-type: none"> ▪ Move towards 100 percent to renewable energy in 2040 ▪ Developing the energy market ▪ Ready to plug-in photovoltaic system ▪ Since 2008 56.000 customers ▪ Since 2015 distribution of dividends
Investment profitability	<ul style="list-style-type: none"> ▪ Share issued, 11.323 registered shares EUR 100 each

Source: E-FIX Case study analysis of alternative financing of energy projects, 2018



- This type is often called **Crowdlending or peer-to-peer-lending** particularly in German speaking countries.
- Contributors lend their money (private microloans) to a certain person directly or through a crowdfunding platform
 - Contributors receive back the principal sum and interest payments negotiated in advance. The interest rate is related to the individual risk of each project and also supply and demand
- This is “mezzanine capital”. In case of insolvency **all other** creditors have priority for receiving their money





Example of a Crowdlending Project

Sunny roofs of the City of Križevci

- X** Aim of investment: on grid solar power plant of 30 kW set up on the roof of the Križevci Entrepreneurial Center (KEC). The electricity produced at the site is sold to KEC at market prices and after a ten-year period KEC becomes the owners of the PV plant.
- X** CF Model: crowd-lending investment with a target of EUR 30,000. The amount was collected in 10 days by 53 small investors, based on micro-loans model.
- X** Minimum investment = EUR 130
maximum investment = EUR 1,300
→ target regular citizens and not professional investors
- X** The loans will be returned to investors with 4.5% of interest over a period of 10 years, from the income generated by electricity production of the solar power plant on the roof.

The Project

Main activities	Crowdfunding project for installation of solar power plant on the roof of Križevci Entrepreneurial Centre
Region	City of Križevci, Croatia

Project Goal and Main Investments

Project goals	<ul style="list-style-type: none"> ▪ Engaging citizens as investors in local energy efficiency projects
Main investments	<ul style="list-style-type: none"> ▪ 30 kW solar power plant
Investment size	30.000 EUR





Expected Results

Operational results	<ul style="list-style-type: none"> ▪ Successful integration of citizens in the financing of renewable energy
Investment profitability	<ul style="list-style-type: none"> ▪ 4,5% loan interest rate for 10 years for citizens-investors

Source: E-FIX Case study analysis of alternative financing of energy projects, 2018



Comparison with other financing alternatives

 Bank financing	 Venture capital	 Crowdfunding	 Crowdfunding
<ul style="list-style-type: none"> • The bank is not willing to take high risks. • Interest charge is often high. • Several guaranties are expected from the borrower. 	<ul style="list-style-type: none"> • High growth rates are required. • Close liason with investors, who are entitled to have a say. • “Hardcore business” • Relies on the exit option. 	<ul style="list-style-type: none"> • Both idea and growth are important. • Investors have no say in the business. • Exit option is not mandatory. 	<ul style="list-style-type: none"> • Enabling and/or supporting a good cause or interesting product/service is most important. • Contributors have no say in the business.

Primary **distinction** between **crowdfunding** and **crowdfunding**:

- Crowdfunding: Receives support from individuals expecting a financial profit.
- Crowdfunding: Receives support from individuals that support a cause or want a specific product/service)

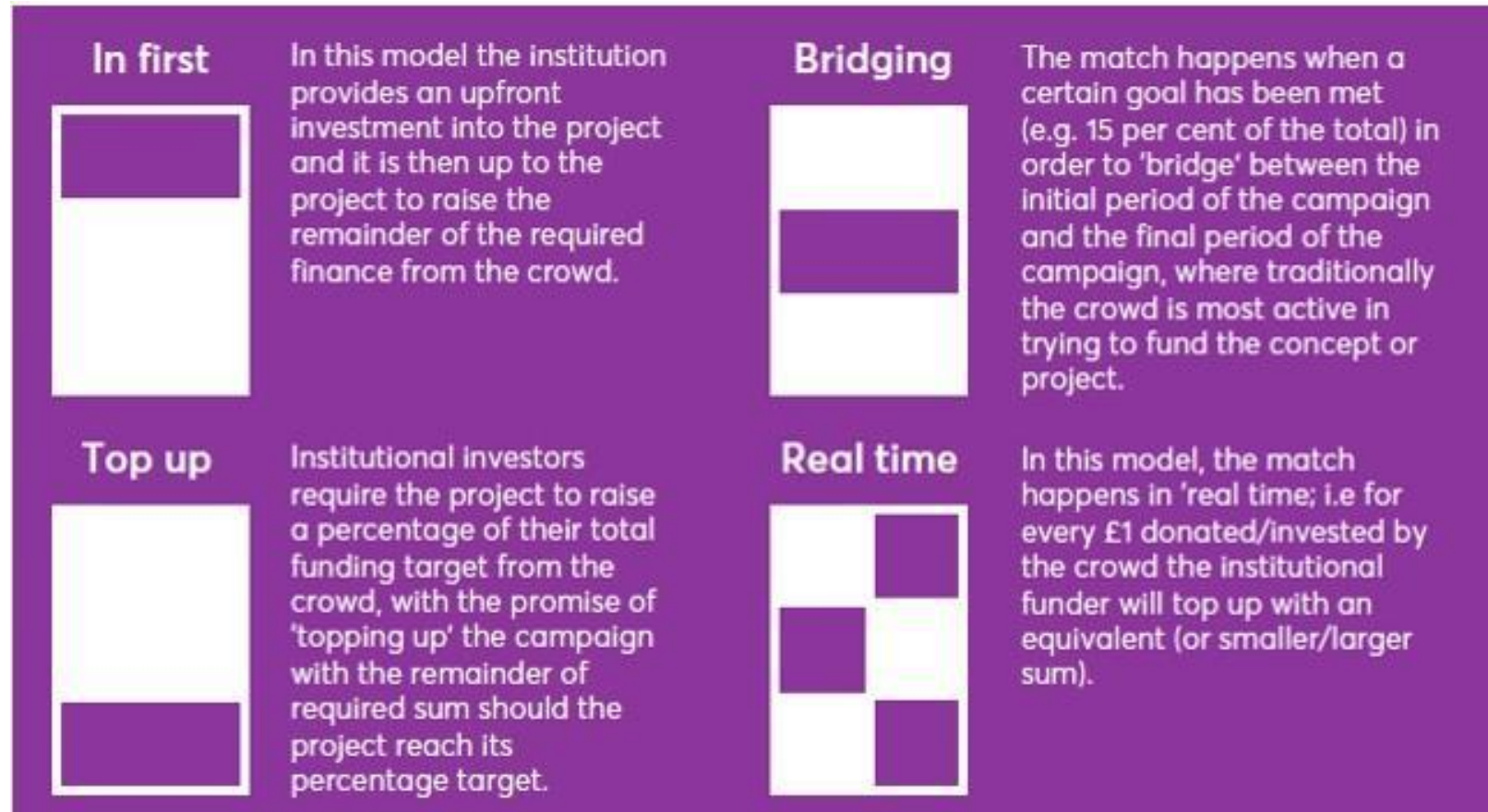
For investors

- Investors benefit from the annual interest rates
- You participate in the success of the company (or property)
- Investors often receive special "goodies" from the companies
- Investors know exactly where their money is flowing and have direct contact with the entrepreneurs

For companies

- Strengthens the capital structure of the company
- Marketing Tool: The projects receive a lot of attention as well as a long reach
- The community gives the companies direct feedback
- Interaction: companies have personal contact with customers and prospects
- With investors, companies gain loyal customers and brand ambassadors





- Crowdfunding can complement traditional financing at different stages and in different ways

By now you might be wondering?
When is crowdfunding appropriate
Who should crowdfund?
How does a perfect textbook example of crowdfunding look like?



It depends!
**There is no clear answer
at the moment**

Different kinds of Campaigners often involve

- Individuals
- SMEs
- Startups
- Artists
- Social Businesses
- Charities
- Communities
(municipalities,
schools, hospitals)

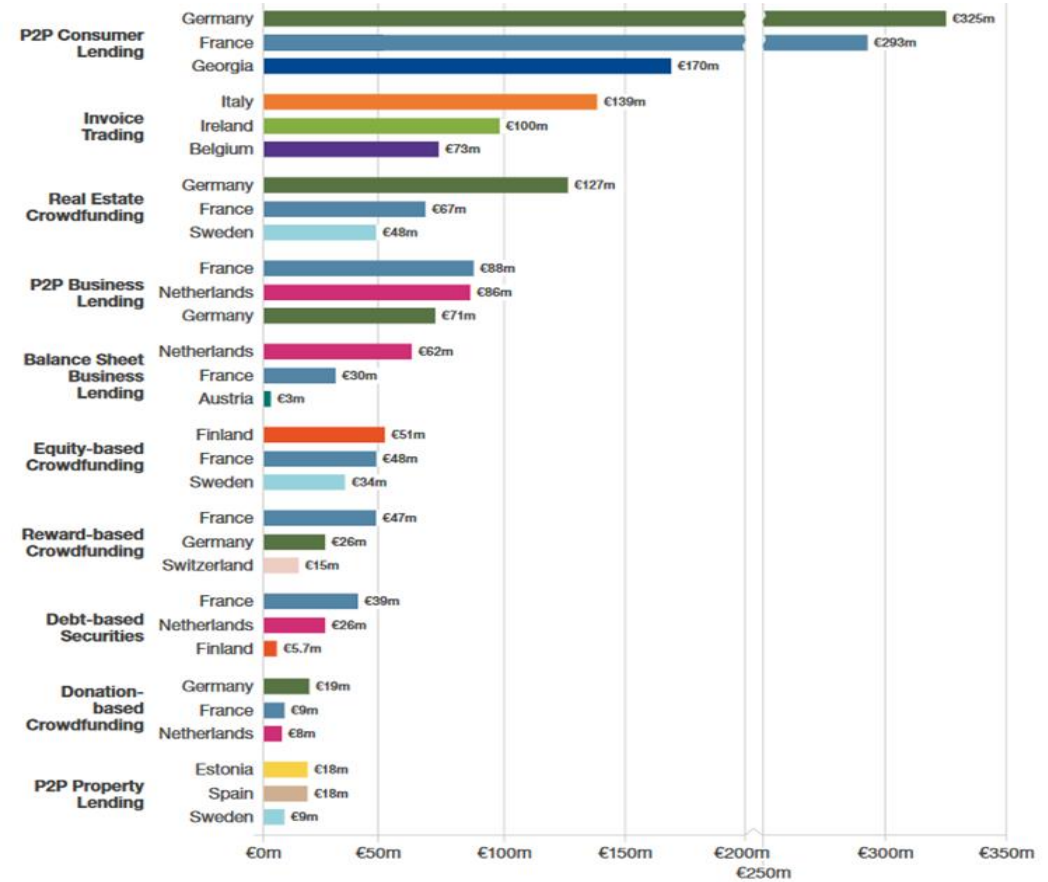
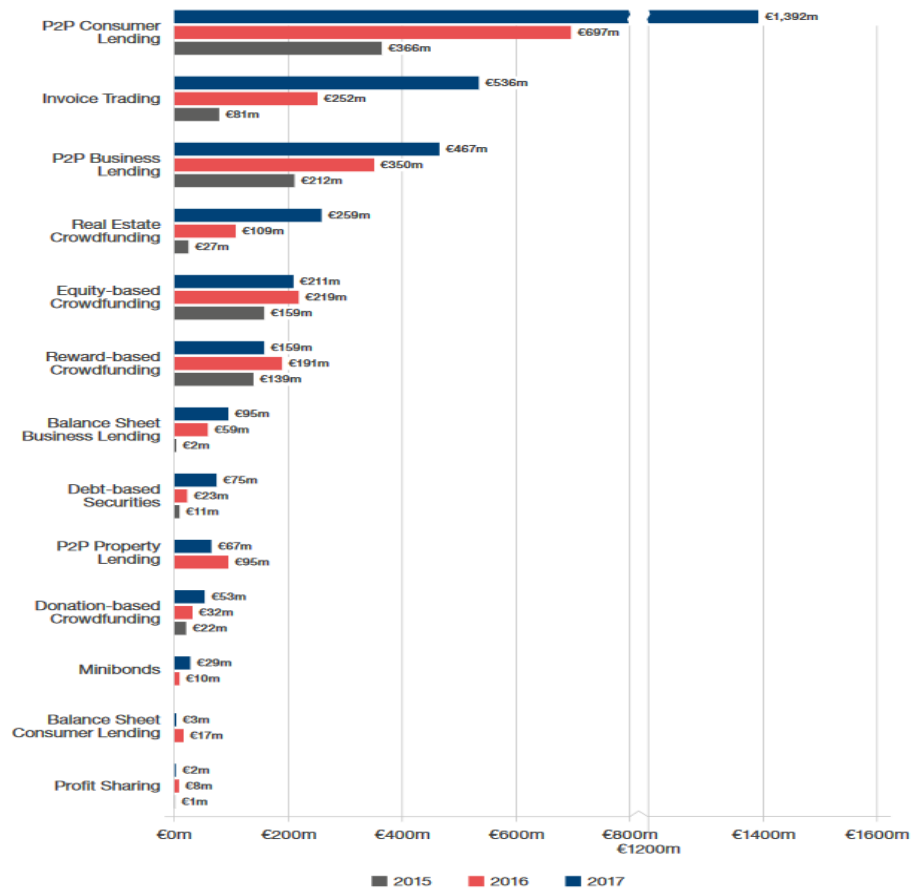


**But anyone that
needs access to
capital can use this
model**



Which type is more popular in Europe?

Which kind of crowdfunding also depends by region/country. However, there seems to be consensus that **lending-based crowdfunding** is most popular in Europe.

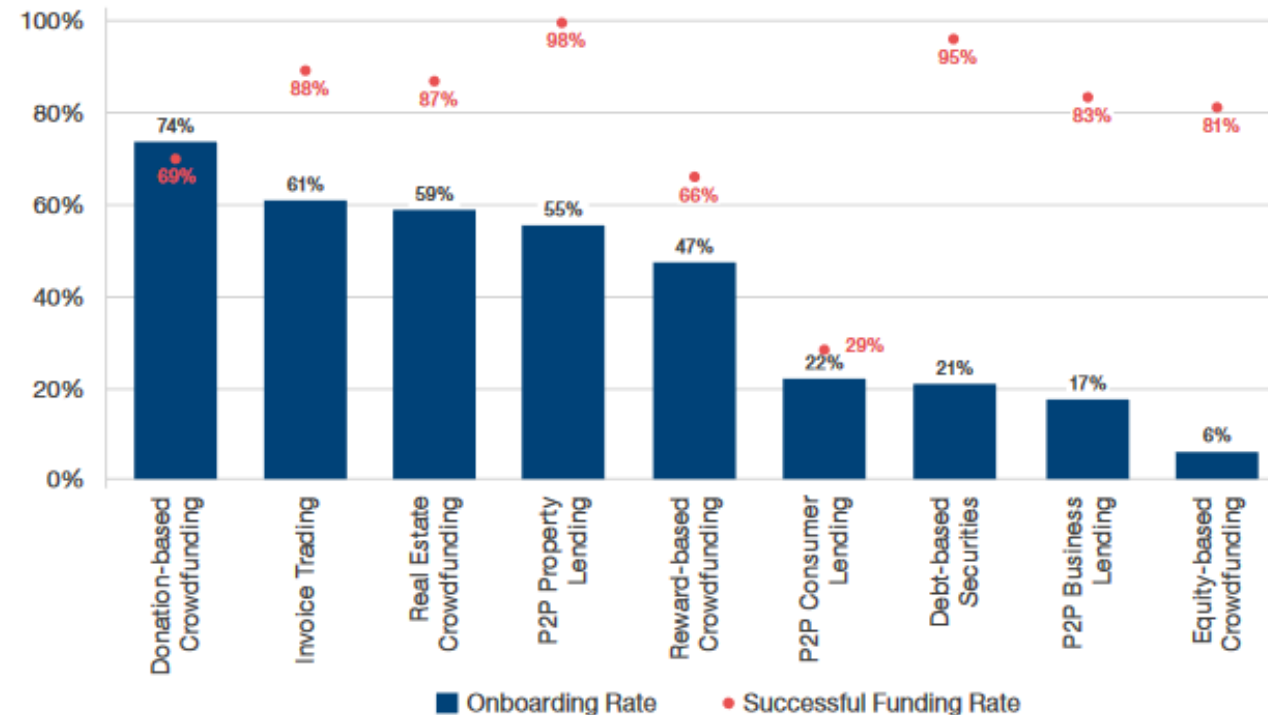


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 785081. Disclaimer: The content of this material does not reflect the official opinion of the European Union. Responsibility for the information and views expressed lies entirely with the author(s).

Which type is more popular in Europe?

Prior to raising funds on an alternative, finance platform, a fundraiser must first go through a series of **checks and assessments** to determine their suitability. This is measured in this graph with the **‘Onboarding Rate’**

Interestingly, equity-based crowdfunding has some of the lowest onboarding rates while donation-based some of the highest.



Financial Return - Contributors

- Investors benefit from the annual interest rates
- Participate in the success of the company (or property)
- Investors often receive special "goodies" from the companies
- Investors know exactly where their money is flowing and have direct contact with the entrepreneurs
- Interaction: companies have personal contact with customers and prospects
- With investors, companies gain loyal customers and brand ambassadors

Financial Return - Companies

- Strengthens the capital structure of the company
- Marketing Tool: The projects receive a lot of attention as well as a long reach
- The community gives the companies direct feedback

Non-financial Return - Contributors

- Contributors can buy products early
- Contributors can make the support public
- Contributors receive additional products, which are often not available

Non-financial Return - Companies

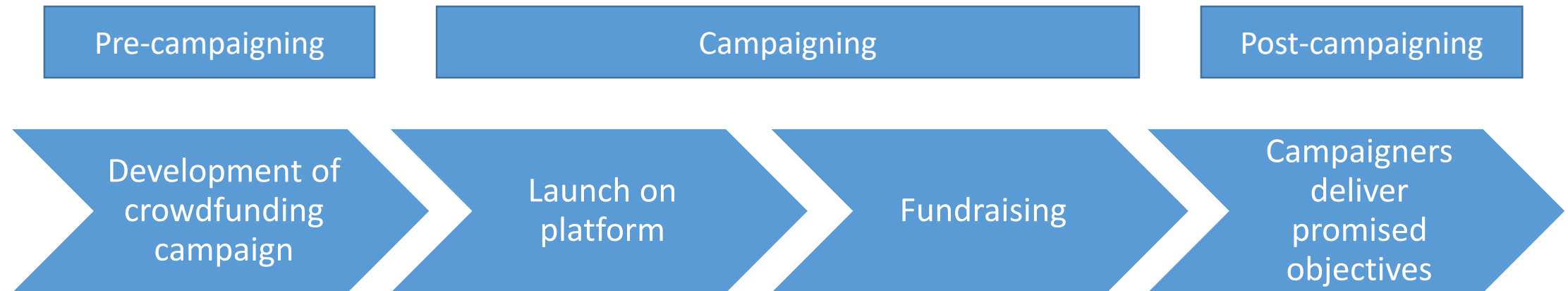
- The funds received do not have to be paid back (often)
- In addition to the procurement of funds, the customer base can already be built
- it can reach a much larger audience
- As with crowdfunding, it is also marketing tool for further development

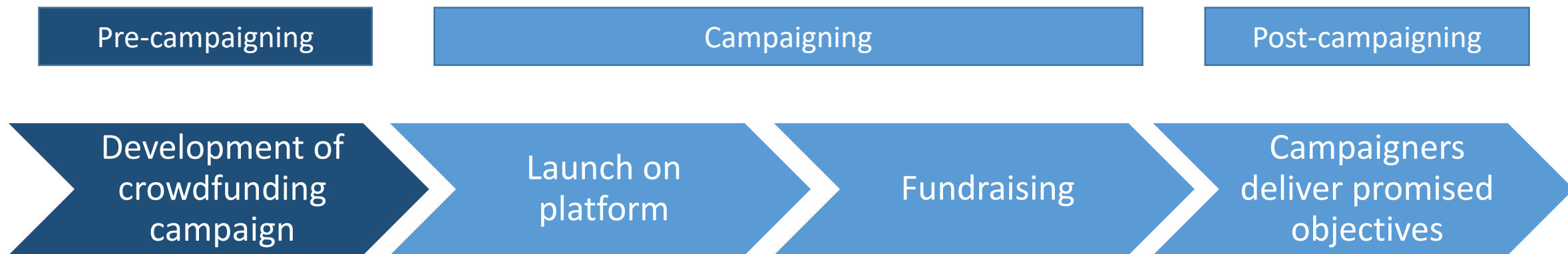


Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



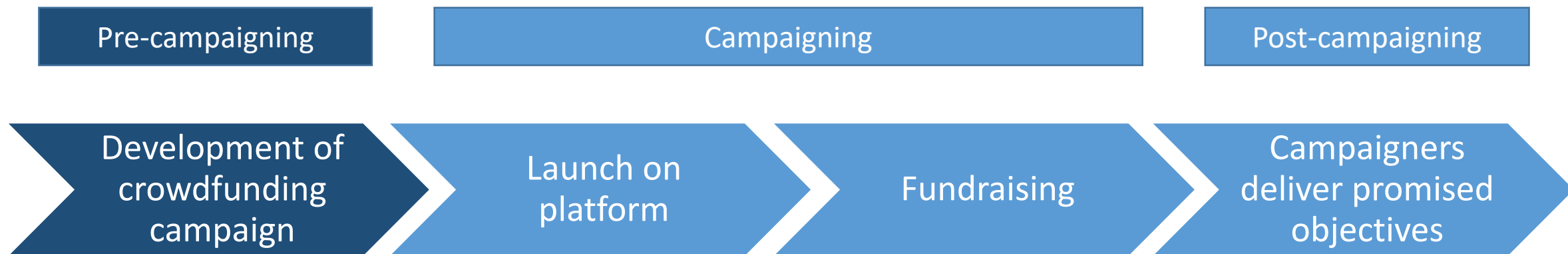




This phase is dedicated to all the necessary activities for the preparation of the campaign.

Some of the main tasks include:

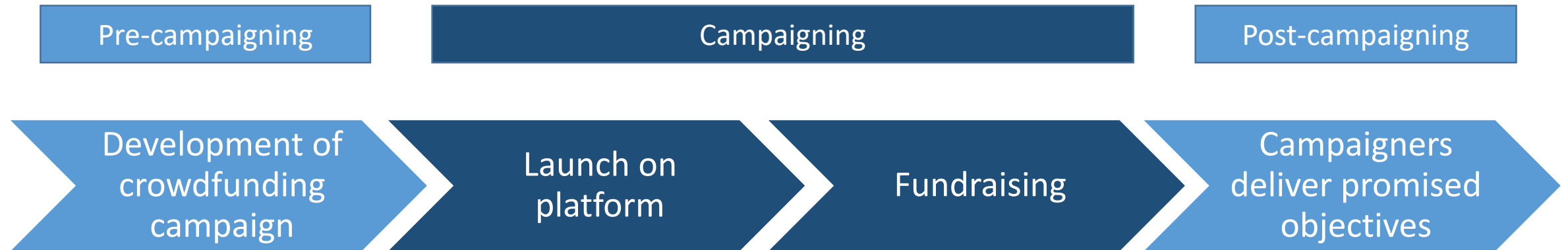
- Building a team
- Consulting experts
- Conducting research on similar projects
- Choosing the most appropriate platform
 - Often there will be an assessment of project eligibility conducted by the platform



Further actions include

- Defining the campaign parameters (length, goal and, if applicable, rewards)
- Developing and writing a business plan
- Clarifying the relevant legal aspects
- Preparing the online presence of the project on the campaign page (including descriptions, video, pictures/graphics)
- Identifying and pre-activating the crowd

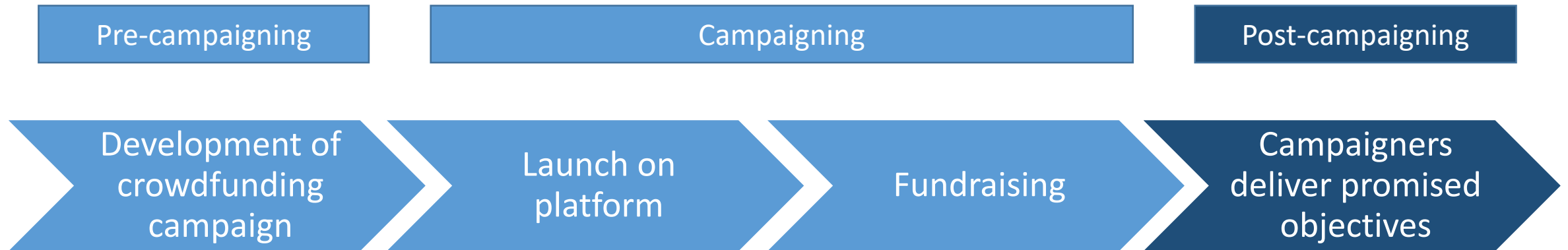




This phase revolves around the **implementation of pre-campaign planned measures** and the **online presence** on the crowdfunding platform and the campaign page.

Besides the actual launch of the campaign and the general promotion of the project campaigners must:

- Answer all incoming questions or requests
- Regularly update the contributors
- Attract new contributors



Post-campaigning – implementation of the crowdfunded project

Finalize crowdfunding related activities

- issuing bills,
- communicating with the contributors
 - In the case of an unsuccessful campaign experts recommend transparent communication and explaining why the campaign failed
- sending the rewards/product
- informing contributors of the next steps

At this point, reflecting on and doing an assessment of the finalized campaign is highly recommended



Success: important Considerations

Your crowd

- Analyze your crowd
- Establish a relationship with them
- Understand who is your target

The right platform

- Platforms can look similar
- After determining your crowd, analyze platform offerings

Your campaign

- Use a strategy!
- Pay attention to the rewards!



Fraud

- Fraud is one of the biggest threats to crowdfunding campaigns
- Fund-seekers might not aim to ever raise funds again (no reputational concerns). Platforms on the other hand, are incentivized to protect against this.
- Laws may not be individually enforceable due to low amount of contributions. Small investments are often not subject or investigations or report.

Incompetence

- Given the low barriers for someone to launch a campaign, inexperienced (or experienced) entrepreneurs might just fail due to carelessness.



Lack of secondary markets

- Slow development of the secondary market affects the primary market. Investors may join the project but can have difficulties reselling their shares or setting the right prices.
- Experienced investors may prefer a more active marketplace.

Unclear taxation

- Donors are often not able to obtain tax deductions for their contributions.
- Tax relief varies depending on whether companies finance their R&D through earnings, equity, debt.



Unclear regulation

- Non-financial return types of crowdfunding receive less regulation attention. Reward-based crowdfunding receives traditional consumer protection like breach of contract. However, safety standards can be unclear.
- Financial return crowdfunding receives more attention from regulators since lending-based crowdfunding competes with banks (which are heavily regulated) and equity-based deals with share emissions (relies on local authorities).



Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



How much investment is needed?

Global Annual Investment Need (2014-2035, IEA)

2014 Ceres Global:

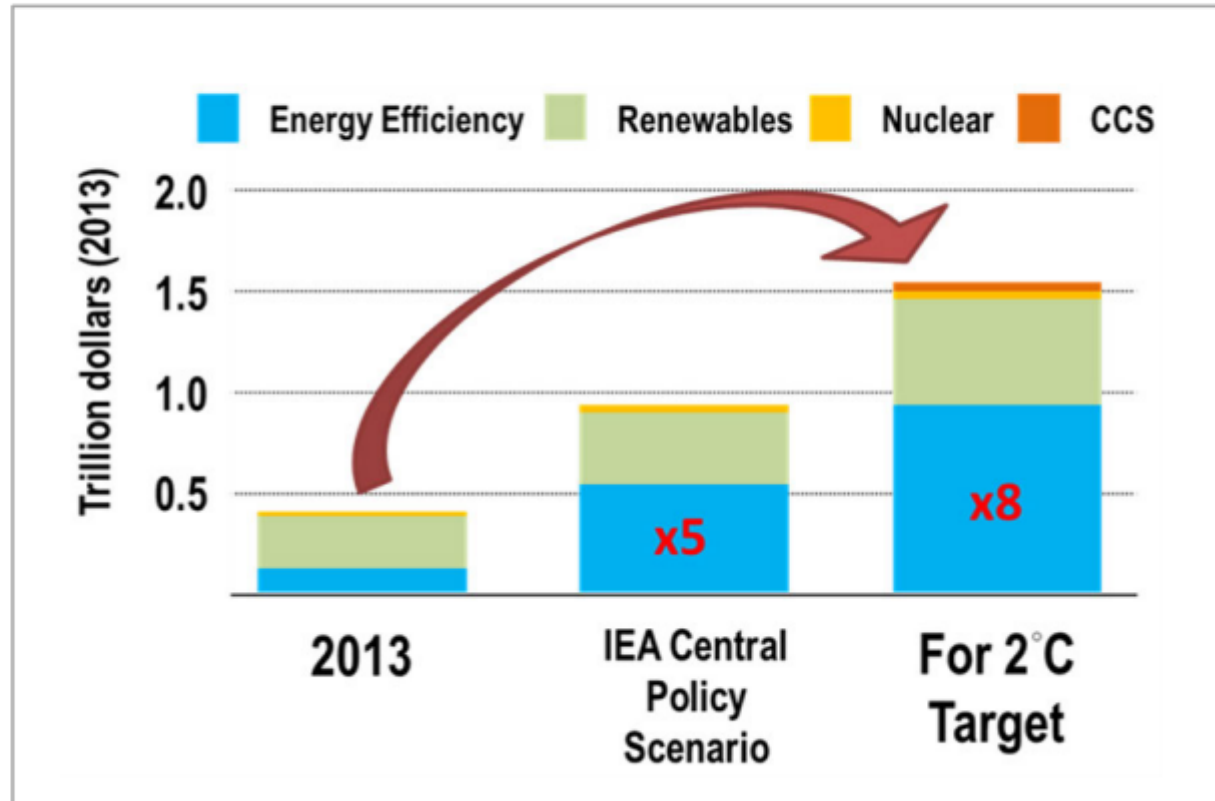
Projects global annual investment need (2010-2020) to limit global temperature rises to a 2°C scenario:

- \$300 billion in buildings' energy systems
- \$30 billion in industry

EU needs to invest:

(for 2°C scenario, IEA)

- \$1.3 trillion in energy efficiency in buildings from 2014-2035
- \$154 billion in energy efficiency in industry



(Source: International Energy Agency, 2018)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 785081. Disclaimer: The content of this material does not reflect the official opinion of the European Union. Responsibility for the information and views expressed lies entirely with the author(s).

- Crowdfunding can play an important role in the energy transition
 - Provide extra funding for sustainable energy projects
 - Finance the value-added of energy projects
 - increase supply of renewable energies
 - **additional energy efficiency savings**
 - Reduce energy costs
 - Support innovative technologies, boost their dissemination
 - e.g. increase the refurbishment rate of buildings (private/public service buildings)
 - e.g. increase the use of energy efficient equipment in businesses/industry: pumps, compressors, air-conditioners, heat-pumps, boilers, lighting, etc.
 - Increased market validation (promotion of EE products)
 - Quality criteria (technical, financial, environmental, social, etc.) ensured



- X** Benefits for promoters (municipalities, businesses)
 - X** Increase the financial benefit of investments (NPV, IRR)
 - X** Promotion and awareness raising effect
 - X** Reduce burden of public budgets
 - X** Use CF/CI as “blending” mechanism with other financing sources
- X** Benefits for the crowd
 - X** Contribute to the “positive energy effect” (more RES, EE)
 - X** Participate in a larger investment which an individual would not go for
 - X** Financial benefit (interest, long-term investment opportunity)
 - X** Personal identification with a project
- X** Environmental benefits
 - X** CO2 emission reduction
 - X** Less demand for resources/energy
 - X** Prioritisation of local resource potentials





Example of Financial Return Crowdfunding

“Bioenergiedorf” Biogas Energy Village

- X** 2 plants that produce biogas through microbiological fermentation → many residents of the village benefit from the bioenergy village, since the production site is connected to the local heating network
- X** Operational management handled by Bema Biogas GmbH
- X** Aim of funding: expand its district heating network so that another 180 households can benefit from green energy
- X** Contract details:
 - X** subordinated loans
 - X** CF platform: GreenVesting
 - X** 7 years duration
 - X** 5,00 % interests
 - X** 1.360.000 EUR Funding Volume
 - X** Repayment: annuity
 - X** interest type: fixed interest rate

The Project

Main activities	Biogas plant village
Region	Müden, Germany

Project Goal and Main Investments

Project goals	<ul style="list-style-type: none"> ▪ Village benefits from green energy
Main investments	<ul style="list-style-type: none"> ▪ 180 households
Investment size	<ul style="list-style-type: none"> ▪ Over 1 Million (funded: 1.360.000EUR)

Expected Results

Operational results	<ul style="list-style-type: none"> ▪ Using different crowdinvesting platforms and get funding from the crowd ▪ Raising awareness for energy transition and sustainable energy usage (since the production site is connected to the local heating network and provides households with heat)
Investment profitability	<ul style="list-style-type: none"> ▪ For investors: 5% fixed interest rate duration of 7 years

Source: E-FIX Case study analysis of alternative financing of energy projects, 2018





Example of Financial Return Crowdfunding

Wind parks financed by the community

- X** Windkraft Simonsfeld AG (WKS) is a SME active along the entire value chain of a wind park: development, construction & operation of wind power plants
- X** WKS issues both shares & bonds → broad public ownership basis with strong integration of the local community
- X** In 2017 WKS raised € 5 million by issuing bonds in the course of a larger financing strategy to construct 13 new wind power plants. After 9 days the threshold was reached and all bonds allocated. Around 370 individuals invested in these bonds where the majority (44%) was from the region.
- X** Benefits of the bonds option: conditions & management of funds are in the hand of WKS

The Project

Main activities	Bonds for development of wind parks
Region	Ernstbrunn, Lower Austria

Project Goal and Main Investments

Project goals	<ul style="list-style-type: none"> ▪ Raising money for the new development stage of wind parks
Main investments	<ul style="list-style-type: none"> ▪ 13 wind turbines
Investment size	5 million EUR as part of a larger investment strategy

Expected Results

Operational results	<ul style="list-style-type: none"> ▪ Successful integration of citizens in the financing of renewable energy. ▪ Raising awareness for energy transition and sustainable energy future.
Investment profitability	<ul style="list-style-type: none"> ▪ For investors: 2% per year over duration of 5 years

Source: E-FIX Case study analysis of alternative financing of energy projects, 2018



Conclusions

- Crowdfunding has become increasingly popular and consists of raising funds through getting several people to commit small amounts of money
- Crowdfunding can be used by a diverse set of people (individuals, SMEs, startups, communities) and for diverse set of purposes (charity, technology, art, sustainability)
- Crowdfunding can be used to complement funds from more traditional financing mechanisms
- Success in crowdfunding requires active communication with several stakeholders
- Crowdfunding provides exciting opportunities to finance energy efficient investments

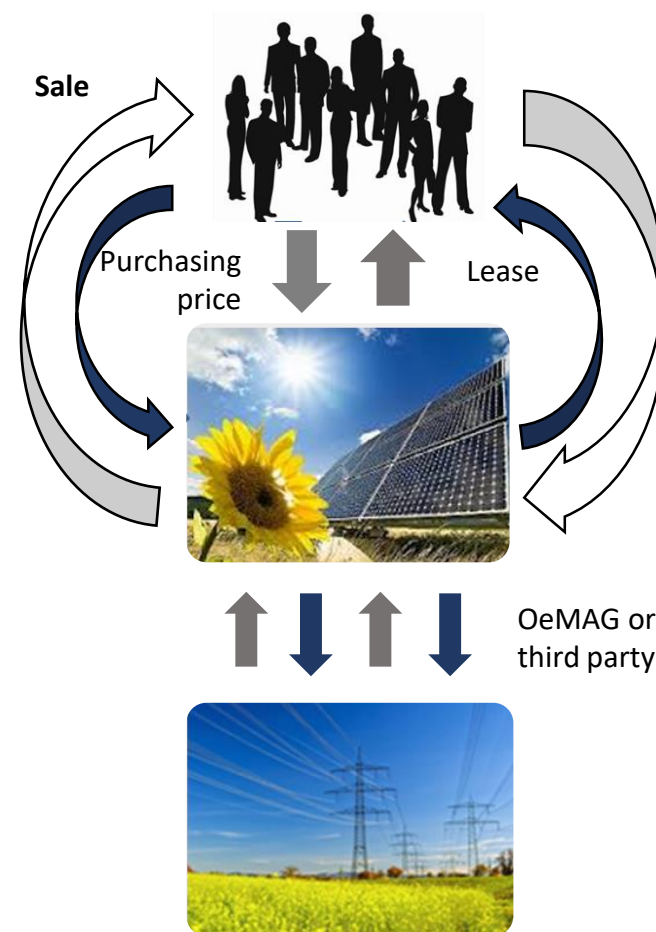
Overview of what will be covered

1	Introduction: Crowdfunding
2	Who are the relevant actors
3	Types of Crowdfunding
3A	Non-financial
3B	Financial
4	Process and Phases
5	Crowdfunding and EE
6	Examples and cases



Project overview & model

- X** Aim of the project: to install photovoltaic systems on the rooftops of buildings owned by two neighboring communities with the financial contribution from local citizens
- X** Approach: crowdfunding based on a ‘Sale and Lease Back Model’
 - X** PV modules sold to local citizens, PV modules leased back by implementing project organization
 - X** lease rate incl. interest rate paid to the investing citizen, feed-in tariff for electricity sold to the grid (via OeMAG, settlement agency for green electricity)
 - X** no banking license, no prospectus requirement
 - X** typically used for PV projects



Source: crowd4energy



X Target groups: people of full age living in the two communities

X Benefits for the crowd investors:

- X** safe regional investment with fairly attractive interest rates supporting the development of the own community
- X** contribution to a sustainable energy supply even without using the own rooftop
- X** development of a sense of ownership for a community project
- X** capital and leaseback guarantee



X Key data on the two photovoltaic systems:

Community	PV location	Dimension [kWp]	Expected annual yield [kWh/year]	No of PV modules
Community A	Storage place for construction material	125	125,000	447
Community B	Waste collection center	140	140,000	500
Total		265	265,000	947

X Local citizens to invest in approx. 950 so-called “solar bricks” with an interest rate of 1.39%

X solar brick = a PV module with a dimension of 1.6 m² and approx. 280 Wp peak performance

X 10 solar bricks generate annual power of approx. 3,000 kWh, which corresponds to the electricity demand of an energy efficient household

X The project gathered 62 contributors from the region



Key figures of the crowdfunding project

No. of available PV modules	947 modules
Purchasing price per PV module	270 EUR/module
Interest rate	1.3925 %/year
Leaseback	22.85 EUR/year
Project life	13 years
No of PV modules available for purchase	2, 4, 6, 8 or 10
Min. financial participation	540 EUR (2 PV modules)
Max. financial participation	2,700 EUR (10 PV modules)
Administration fee in case of early termination of contract	100 EUR

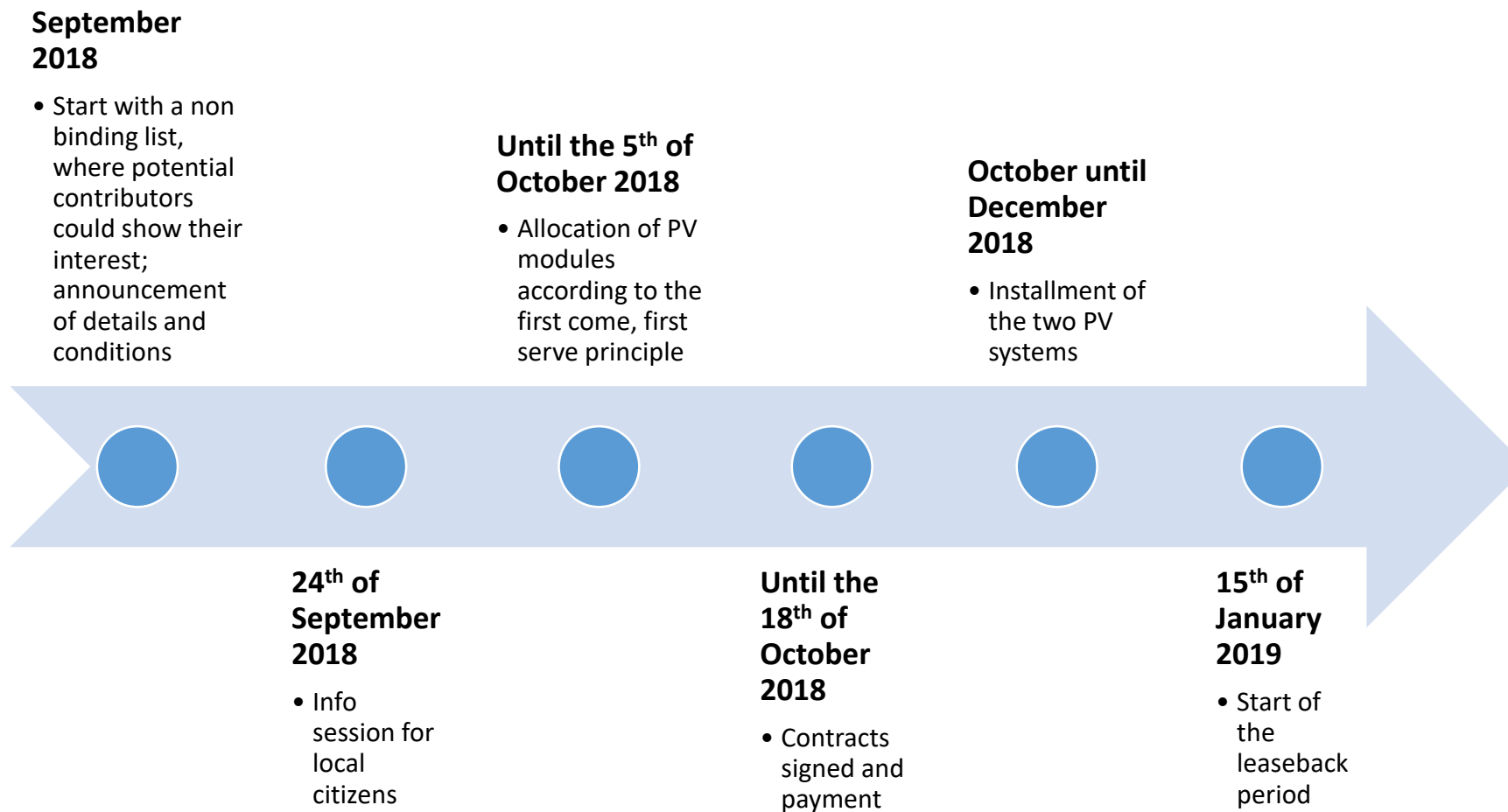


X Calculation for 2 to 10 PV modules for a project period of 13 years

No of PV modules	Contribution [EUR]	Leaseback rate [EUR/year]	Interest rate for the period of 13 years [EUR]	Total repayment [EUR]
2	540	45.7	54.1	594.1
4	1,080	91.4	108.2	1,188.2
6	1,620	137.1	162.2	1,782.3
8	2,160	182.8	216.3	2,376.4
10	2,700	228.5	270.4	2,970.5



Process & project timeline



Cost calculation based on interest rate of 1.4905%

Contribution:	270.00€
Repayment per year:	23.00€
Interests:	29.00€
Total back payment:	299.00€
No of PV modules:	947 modules
Project life:	13 years
Yearly interest rate:	1.4905%
Sum of total interests:	27,463.00€
Size of pv system:	264 kWp
Specific yield:	1,038 kWh/kWp
Yearly degression:	0.4%
Compensation up to 13 years:	0.0791€/kWh
Price for surplus electricity:	0.0400€/kWh
Own requirements:	2%
Yearly increase of electricity prices:	2%
Costs of pv system:	256,000.00€
Costs of pv system:	970.00€/kWp
Subsidy:	%
Total costs without interests:	256,000.00€
Total costs with interests:	283,467.00€
Possible yearly costs:	500.00€
Yearly inflation rate:	2.00%
Margin:	-15,756.00€

Yearly leasing payments: 21,781.00€

Tariff support

Own assumption/data				
Year	Electricity price	Yield	Costs	Cumulative balance sheet
1	0.16	21,678.00	500.00	21,178.00
2	0.16	21,591.00	510.00	42,259.00
3	0.17	21,505.00	520.00	63,244.00
4	0.17	21,418.00	531.00	84,131.00
5	0.17	21,331.00	541.00	104,921.00
6	0.18	21,244.00	552.00	125,613.00
7	0.18	21,158.00	563.00	146,208.00
8	0.18	21,071.00	574.00	166,705.00
9	0.19	20,984.00	586.00	187,103.00
10	0.19	20,898.00	598.00	207,403.00
11	0.20	20,811.00	609.00	227,605.00
12	0.20	20,724.00	622.00	247,707.00
13	0.20	20,637.00	634.00	267,711.00
14	0.21	14,250.00	647.00	281,314.00
15	0.21	14,474.00	660.00	295,128.00
16	0.22	14,701.00	673.00	309,156.00
17	0.22	14,931.00	686.00	323,400.00
18	0.22	15,164.00	700.00	337,865.00
19	0.23	15,401.00	714.00	352,552.00
20	0.23	15,642.00	728.00	367,465.00

All information without guarantee of completeness and correctness

Yearly revenues OeMAG-compensation (without degression):

21,678.00€



Computational Exercises from Business cases presented during Bilateral Master Class