

The logo features a stylized house outline with a lightbulb inside, containing a small green plant. The house is composed of three horizontal bars on each side.

LOCAL GoGREEN

FINANCING



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ABOUT THE LOCAL GoGREEN PROJECT



Clean Energy Transition process in 6 small European municipalities

8 partners from 7 European countries leading the capacity building, participatory decision-making and collaborative actions for the design and implementation of integrated climate and energy plans.

Aims:

- Provide **technical assistance** to local pilots in a comparable transnational framework
- Improve **synergies among public & private stakeholders** in implementing ICEPs
- **Facilitate the deployment of targeted investments** provided by the European Funds for improved ICEP planning
- Replicate & upscale the integrated measures for CET through **transnational municipal cooperation**
- Enable green & circular climate & inclusive decarbonisation **plans that support sustainable development**

300 stakeholders with increased skills in the area of Clean Energy Transition

90 local and regional authorities committed to accelerate the implementation of ICEPs

5GWh/year of renewable energy generation

1,600tCO₂/year CO₂ reduction in the 3-year period & 4,500 tCO₂/year in the period 5 years after the project

2.94GWh/year of energy savings in the 3-year period & 8.4 GWh/year in the period 5 years after the project



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AGENDA

- Economic analysis and terminology
- Financing options
- EU financing programs
- White certificates (where there is a WC scheme)
- National and regional financing programs

LEARNING OBJECTIVES OF THE TRAINING



After this training you will have:

- Awareness of:
 - Financing options and terminology
 - Financing Options: using money on hand, borrow (Loan or Bond), leasing
 - Performance Contracting Terminology: Contract Structures, Benefits and Risks, and M&V terminology
- Ability to:
 - Predetermine the most suitable type of financing for a given project
 - Identify the financing program(s) to get financial support from



ECONOMIC ANALYSIS & TERMINOLOGY



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WHY TO DO AN ECONOMIC ANALYSIS OF OUR PROJECTS?

The need of analysis

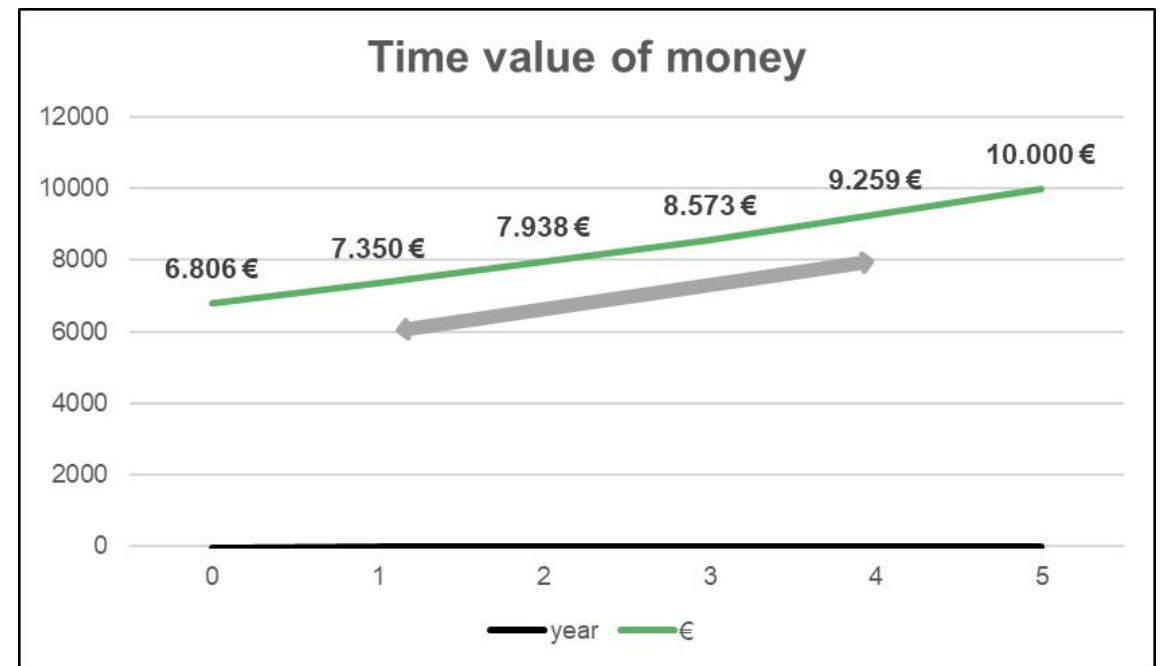
- Sustainability projects should be financially sustainable.
- Ecological transition must not burden citizens' economy
- Life cycle cost of projects have to be equal to 0 or negative. It is to say "*the project produces wealth*" or at least it does not destroy it
- A logical and comprehensive way to make decisions about:
 - Whether or not a project is cost-effective, or
 - Which one of several projects is most cost-effective



THE VALUE OF MONEY

- Going forward: money **GROWS**... (at a slope related to the interest rate)
- Going back in time: money is **discounted** in the same way

What is the present value of €10.000 to be received in 5 years in the future?



FINANCIAL TERMS

Present value = PV

For a given a discount rate, the PV is the present value of a future payment OR the PV of a stream of cash flows in the future.

Future value = FV

FV is a one-time positive OR a negative cash flow in the future.

- Dismantling cost is an example of a future value 'one time cash flow'

FINANCIAL TERMS

A = Annual Cash Flow also known as an “Annuity”

A series of equal cash flows that occur evenly spaced over time.

N = Number of Compounding Interest Periods

The number of compounding interest periods, payments (or savings cash flows).

Interest Rate (i, r)

Interest rate is the amount charged by a lender, expressed as a % of principal.

FINANCIAL TERMS

Discount Rate (i, r)

The discount rate refers to the interest rate used in discounted cash flow analysis to determine the present value of future cash flows (or the future value of a series of cash flows).

Hurdle Rate = MARR

- A company's **Hurdle Rate** is also called the Minimum Acceptable Rate of Return (MARR).
- The hurdle rate may incorporate “risk”, where “high-risk” projects must meet a higher hurdle rate.

Many companies define a special (lower) hurdle rate for projects related to sustainability / ecological transition

FINANCIAL TERMS

Internal Rate of Return (IRR)

IRR is the Discount Rate such that the PV of Future Cash Flows = PV of Costs

If a project's IRR > the MARR, then the project is usually approved.

NPV = Net Present Value

$$NPV = (PVBenefits) - (PVCosts)$$

NPV is commonly used in capital budgeting and investment planning to analyze the feasibility of a projected investment or project.

An investment with a positive NPV will be profitable.

*An investment with a **negative** NPV will result in a **net loss**.*



FINANCIAL TERMS

Life Cycle Cost (LCC)

LCC = addition of the value of all cash flows brought to the present time

Example of LCC analysis use

You can buy a gasoline-fueled car for €30,000, which costs €3,000 in fuel each year. Alternatively, you can buy an electric vehicle for €40,000, which only costs you €500 per year. Assuming a 10% discount rate and a life of 7 years, which car has the lowest LCC?

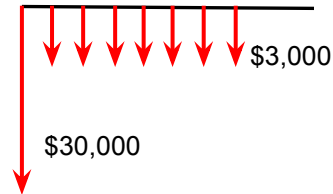
Hint: which car has the least negative NPV (which car has the lowest total cost of ownership)

FINANCIAL TERMS

Example of LCC analysis use

You can buy a gasoline-fueled car for €30,000, which costs €3,000 in fuel each year. Alternatively, you can buy an electric vehicle for €40,000, which only costs you €500 per year. Assuming a 10% discount rate and a life of 7 years, which car has the lowest LCC?

Gasoline-Fueled Car:

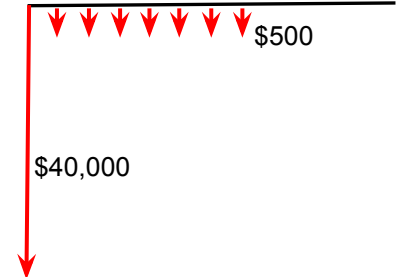


LCC = Initial Cost + PV Cash Flows

$$= -\text{€}30,000 + [-\text{€}3,000 (10\%, 7\text{years})]$$

$$= -\text{€}44,604$$

Electric Car:



LCC = Initial Cost + PV Cash Flows

$$= -\text{€}40,000 + [-\text{€}500 (10\%, 7\text{ years})]$$

$$= -\text{€}42,434$$

Thus, the Electric Car has a lower projected LCC or “total cost of ownership”

The logo for LOCAL GoGREEN features a stylized house icon on the left. Inside the house, there is a lightbulb with a green plant sprout growing from it. To the right of the house icon, the word "LOCAL" is written in a smaller, green, sans-serif font, and "GoGREEN" is written in a larger, green, sans-serif font below it.

LOCAL GoGREEN

FINANCING OPTIONS



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WHY OUR PROJECTS NEED FINANCING?

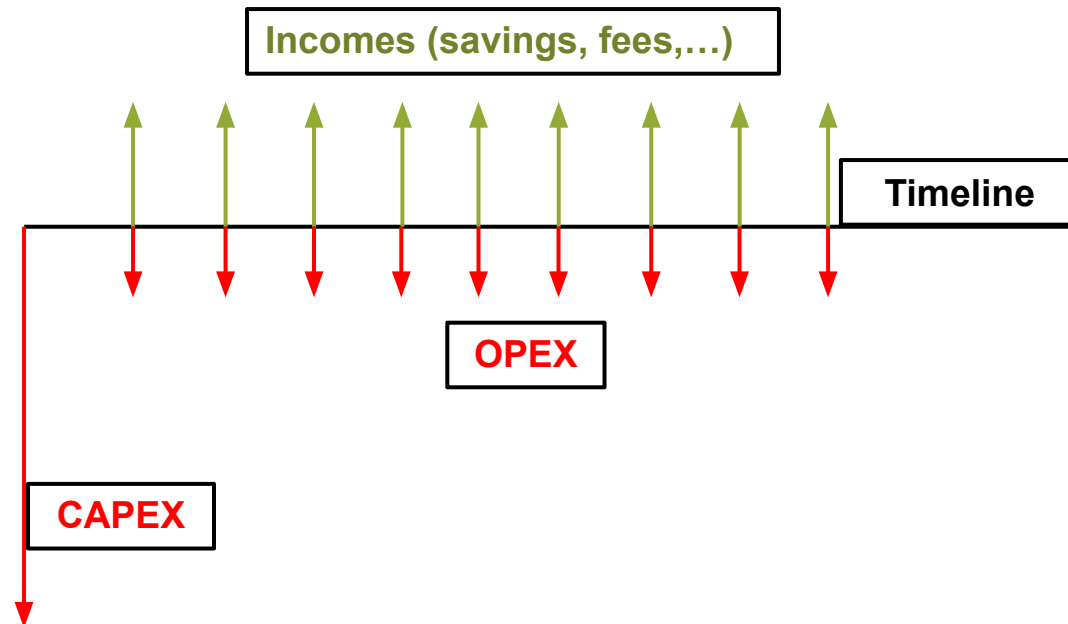
The need of financing

- Any project requires goods and services to be executed
- Goods and services providers must be paid
- Therefore, projects need financing
- Financing is needed to:
 - Pay the preparatory tasks (labor, consultancy, engineering, call for tenders and contracts preparation, etc.)
 - Face the initial investment (upfront cost) - CAPEX
 - Pay for operation & maintenance expenditures - OPEX

COULD OUR PROJECTS BE SELF-SUFFICIENT?

Project cash flow

- CAPEX
- OPEX
- Incomes / revenues
 - Energy savings
 - Energy sales
 - Other OPEX savings
 - Fees
 - Grants
 - Utility rebates



TRADITIONAL FINANCING

Own resources

- Using cash on hand
- The simplest
- No 3rd party approval is required
- Less delays in project implementation
- Since financing is not infinite, possible competition between projects may exist
 - Need to develop selection criteria
- Public bodies should allocate funds for the **Project** in the annual budget



TRADITIONAL FINANCING

Borrow (loans and bonds)

- Loans and bonds are very similar in structure and cash flows
- Borrow €€ and payback over time
- Similar to a mortgage
- Loan: a financial entity lends €€ to the borrower and is paid back with an interest rate (set by the lender) over the upfront capital.
- Bonds: the borrower borrows €€ from the market and private and public lenders lend €€ to the borrower. Interest rate is set by the borrower.

TRADITIONAL FINANCING

Loan Guarantees: Lenders are concerned by the way the borrower guarantees the payback of principal and interests

Project finance

- Scheme applied to finance projects to produce net positive cash Flow (enough to payback the loan), i.e. medium and large renewable power generation plants (PV, Wind)
- The guarantee is the Project itself (and the benefits it Will generate)
- If the borrower fails in attending the due payments to the lender, the lender will take the Project ownership and use the Project benefits to get its money back.

Corporate finance

- The guarantees are the assets in the balance of the borrower (buildings, cash, or bank accounts, stock market shares and other belongings)
- If the borrower fails in attending the due payments to the lender, the lender will claim to be repaid with any borrower's belonging.

TRADITIONAL FINANCING

Operating Leasing (aka True Lease)

- It is a rental agreement. The tenant (aka lessee) rents the **project assets** to the lessor
- The payments are tax-deductible
- The tenant does not own the asset at the end of the term
- The asset must not be included in the financial balance of the tenant (nor in its inventory)

TRADITIONAL FINANCING

Capital lease (aka Financial lease)

- It is treated like a loan for tax purposes
- Tenant / lessee:
 - Can deduct “interest” portion of finance payments
 - Can claim “depreciation” (tax benefit)
 - Does own equipment at the end of term

Tip to make a difference between leasing schemes:

If there is a “buy-out” option (for any value) at the end of term... it must be called a “capital lease”



TRADITIONAL FINANCING

Financing rates

- The financing rate is dependent on:
 - Customer credit,
 - Contract terms,
 - Project complexity (aka: “Performance Risk”)
- Financing payments are also called “debt service”

Upfront project costs are typically paid by (and secured by) customer, with funds from the bank/financier

TRADITIONAL FINANCING

How financing can add value (and avoid delays from 'lack of cash')

- Very effective if the minimum acceptable rate of return (MARR) of the project is high (over 25%) and finance rate is lower (10% or less).
 - Both of the conditions are common

Let's see the example on next slide... where the MARR (discount rate is 30%).

MARR = Hurdle Rate

A company's Hurdle Rate is also called the Minimum Acceptable Rate of Return (MARR).



TRADITIONAL FINANCING

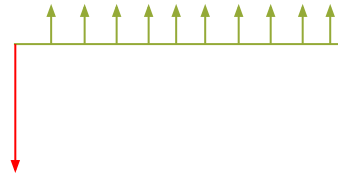
What way of financing produces the higher net present value?

Project Cost = €1 Million; Equipment Life = 10 years; Savings = €400k/year; Discount Rate = 30%, Tax Rate = 25%

Purchase (own resources)

- Use Straight Line Depreciation... (= 100k/year)
- Taxable Income after Depr.: $400k - 100k = 300k/\text{year}$
 - Taxes = $(€300k \cdot 0.25) = €75k/\text{year}$
 - Savings After Taxes = $(400k - 75k) = €325k/\text{year}$

The Cash Flow Diagram:

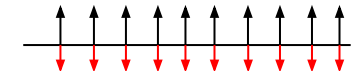


- Present Value_{Savings} = €1,004,737.5
- Net Present Value = €1,004,737.5 - €1,000,000
- NPV = 4,737.5

Loan @ 8% Finance Rate

- Finance Payment = €149k/year
 - ~100k is "principal payment"
 - ~49k is interest expense (averaged), which is deductible
- Taxable Income after Payment: $400k - 49k = 351k/\text{year}$
- Taxable Income after Depr.: $351k - 100k = 251k/\text{year}$
- Taxes = $(€251k \cdot 0.25) = €62.75k/\text{year}$
- Savings After Taxes = $€351k - 62.75k/\text{year} = 288.25k$
- Principal paid back to bank = $288.25k - 100k = 188.25k$

The Final Cash Flow Diagram:



- Present Value_{Savings} = $(3.0915) \cdot (€188.25k) = €581,975$
- NPV = 581,975 (there is no upfront investment)

PERFORMANCE CONTRACTING – ENERGY SERVICE COMPANIES

The ESCo - Energy Services Company:

- Identifies, installs “savings-based” projects at a customer’s facility, and guarantees the savings.
- Usually arranged with loans, bonds and leases, such that the “savings guarantee” is greater than the financing payments.
- *Sometimes, the ESCO can finance projects internally, but most would rather focus on their “core business” (Performance Contracting margins are much higher than financing margins)*

The tenant and the ESCo sign a contract (Energy Performance Contract) that regulates the business relationship

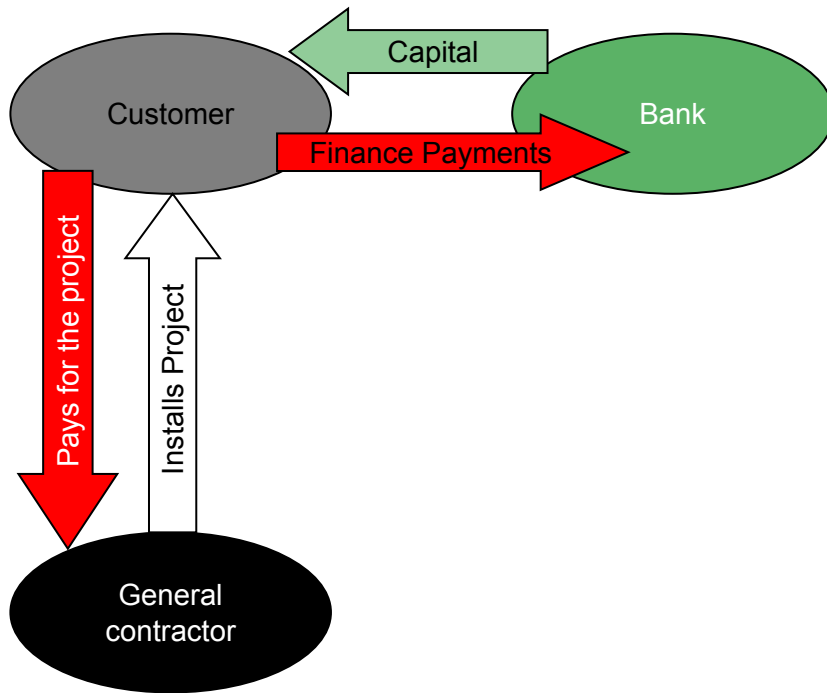
Payments to the ESCo are related to the actual benefits obtained (= net savings from the project)

EPCs are commonly used at public owned facilities (less risk to the ESCO, because the customer will likely not go out of business during a long-term contract)

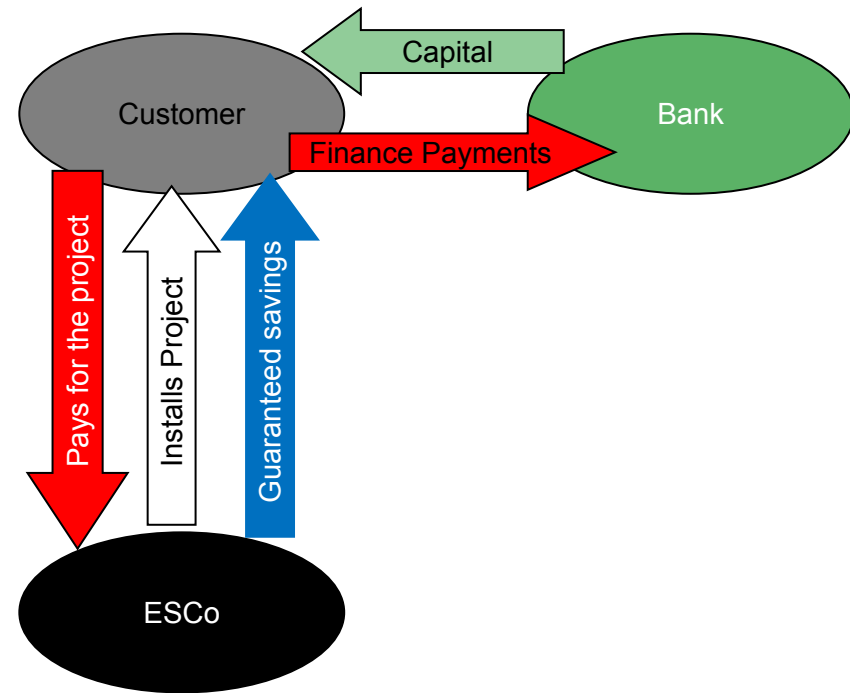
In EPCs, the lender is a partner in the project makes the investment and share the benefits

PERFORMANCE CONTRACTING – CASH FLOWS

Business as usual: 3rd party financing

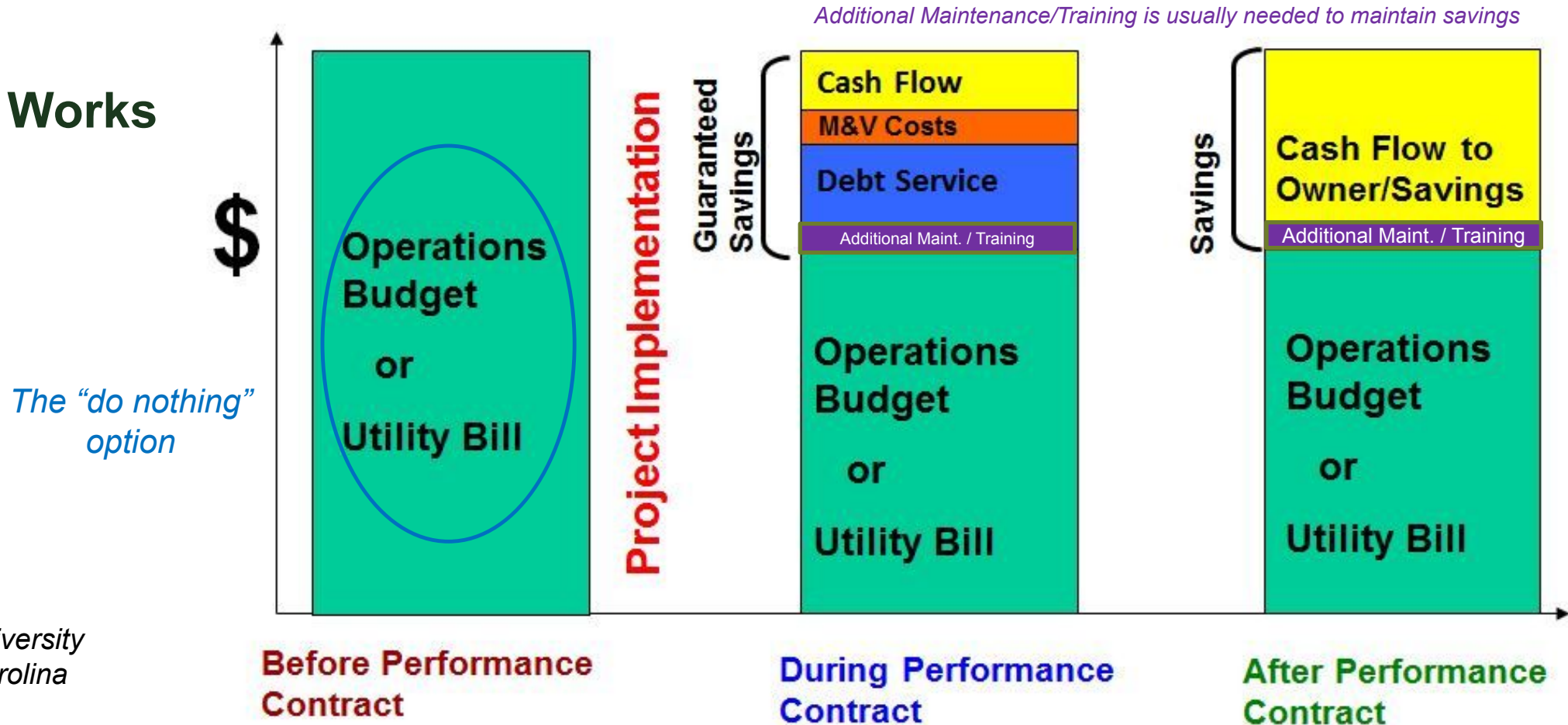


Performance contracting



PERFORMANCE CONTRACTING

How it Works



Source: University of North Carolina



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PERFORMANCE CONTRACTING

Contract structures

- **Shared Savings** (the original PC): documented savings are shared (usually on a percentage basis)
- **Guaranteed Savings**: a “minimum” savings amount is guaranteed. Additional savings are kept by the customer

Risks

- EPC development is complicated and takes time and transaction cost (studies, credit rating)
- Long term commitment with multiple parties: political influences, timelines and technical risks

Benefits

- Might be the only way to get a project approved and implemented
- Neutral or positive cash flow
- An ESCO can bring extra value: better maintenance practices, experience, processes improvement, etc.

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LOCAL GoGREEN

EU FINANCING



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TYPES OF FINANCING

The EU provides financing through various programmes in the following forms:

- Grants: Non-repayable funds provided by a government or organization to help a project cover high upfront costs. These are typically linked to calls for proposals.
- Subsidies: Financial assistance given to support industries or businesses for a specified period (e.g., supporting a new business or maintaining low electricity prices). They are usually managed by national or local authorities.
- Loans at special rates: Loans offered at reduced interest rates, often subsidized to eliminate commercial profits.
- Guarantees: Financial guarantees provided to borrowers to enhance creditworthiness.

EU financing adheres to strict control procedures to ensure that funds are used transparently and responsibly.

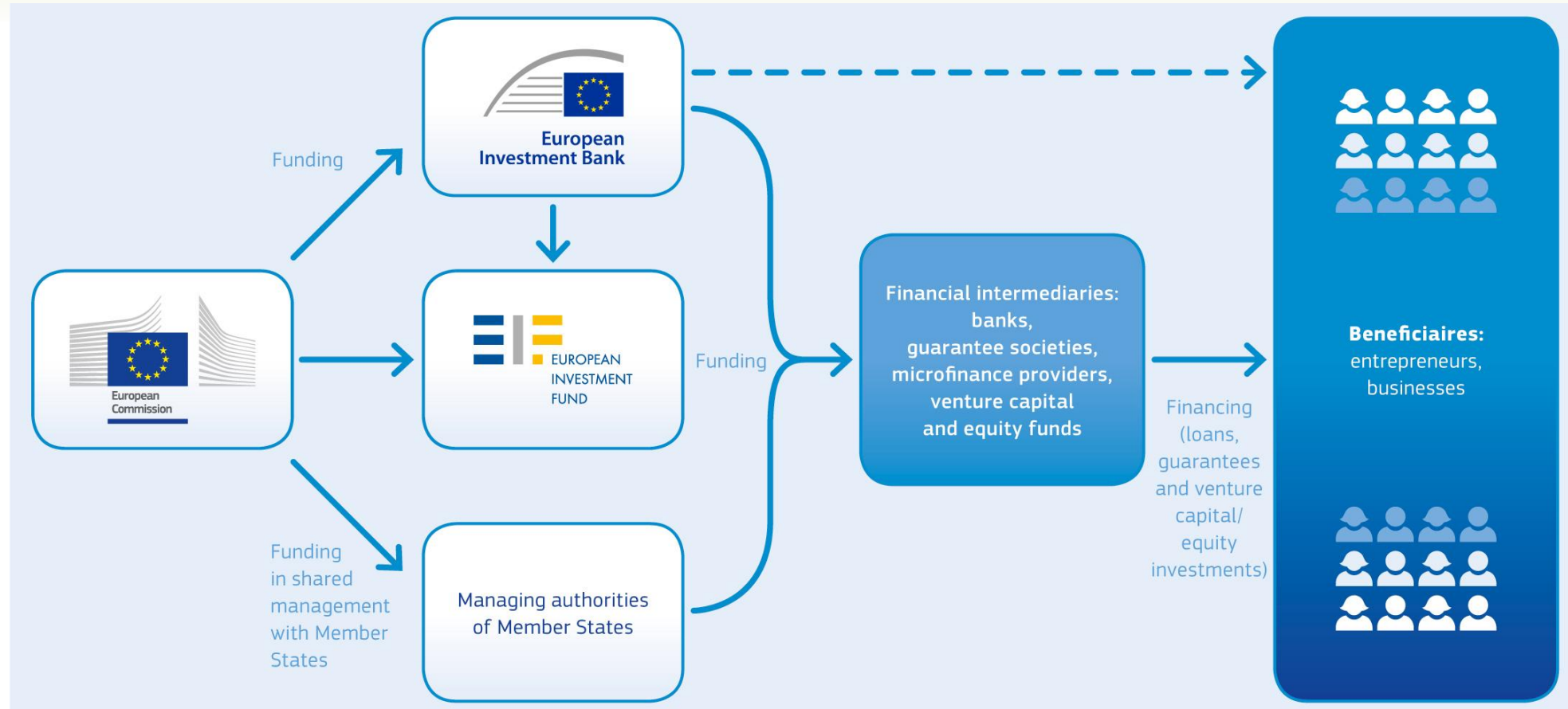


EU FINANCING MANAGEMENT

The EU financing is managed in different forms:

- Directly managed by the EU: usually grants for selected projects related to the EU policies. Application by means of participating in call for proposals.
- Shared / mixed: EU funds managed by a territorial structure.
- National: in association with national and regional authorities (approx. 80% of EU budget). There are five main funds:
 - European Regional Development Fund – regional and urban development
 - Cohesion Fund – for less developed regions
 - European Social Fund Plus – social inclusion and good governance
 - Just Transition Fund (JTF) – support for regions most affected by the transition towards climate neutrality
 - European Agricultural Fund for Rural Development
 - European Maritime and Fisheries Fund

EU LOANS



https://youreurope.europa.eu/business/finance-funding/getting-funding/access-finance/sites/default/files/2023-03/how-it-works_en.jpg

RESEARCH AND INNOVATION

Indicative funding amount for Horizon Europe for the period 2021-2027 is EUR 93.5 billion.

Objectives

- deliver impactful research and innovation across various dimensions,
- including scientific, technological / economic, societal impact an
- strengthening the European research area



https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

RESEARCH AND INNOVATION

Pillar II - Clusters

GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS:

boosting **key technologies** and solutions underpinning **EU policies & Sustainable Development Goals** (6 clusters and JRC – non-nuclear direct actions)



€53.5 billion



https://research-and-innovation.ec.europa.eu/document/download/9224c3b4-f529-4b48-b21b-879c442002a2_en?filename=ec_rtd_he-investing-to-shape-our-future.pdf



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RESEARCH AND INNOVATION

LIFE Programme (2021-2027)

The LIFE Programme is the EU's funding instrument for the environment and climate action.



https://cinea.ec.europa.eu/programmes/life_en

Objectives

- facilitate the shift towards a sustainable, circular, energy-efficient, renewable energy-based, climate-neutral and resilient economy
- protect, restore and improve the quality of the environment, including the air, water and soil
- halt and reverse biodiversity loss
- tackle the degradation of ecosystems

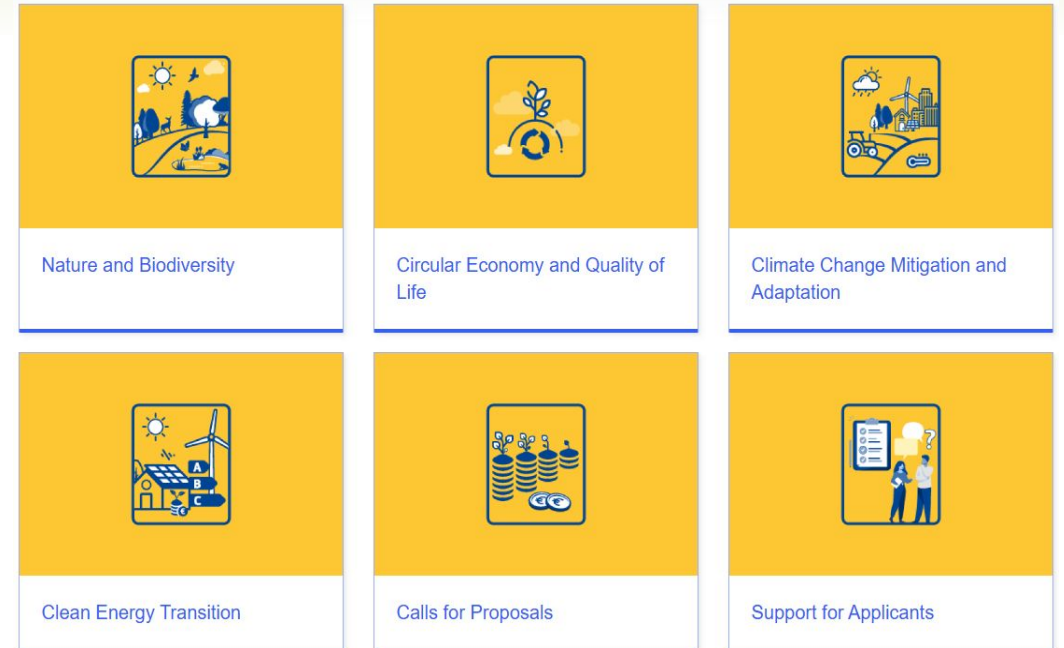
ENVIRONMENT

LIFE Sub-programmes

- Nature and Biodiversity
- Circular Economy and Quality of Life
- Climate Change Mitigation and Adaptation
- Clean Energy Transition

Who can apply?

- a public or private legal entity registered in the EU or an overseas country or territory linked to it;
- a third country associated to the LIFE programme; or
- a legal entity created under Union law or any international organisation.



https://cinea.ec.europa.eu/programmes/life/life-support-applicants_en

JUST TRANSITION MECHANISM

Objective

- As part of the European Green Deal, the Just Transition Mechanism (JTM) was set up **to leave no person and no region behind in the transition towards a climate-neutral economy**

Just Transition Fund (JTF)

The JTM includes the Just Transition Fund (JTF), which will invest EUR 17.5 billion in the 2021-2027 period in the territories most affected by the transition.



https://ec.europa.eu/regional_policy/en/newsroom/news/2021/09/23-09-2021-new-staff-working-document-published-for-the-just-transition-fund



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JUST TRANSITION MECHANISM

The Public Sector Loan Facility under the JTM

- The Public Sector Loan Facility is an instrument under the JTM that helps regions to alleviate the social and economic effects of the transition, ensuring no European citizen is left behind.
- It supports communities heavily dependent on carbon-intensive industries and funds projects addressing social, economic, and environmental challenges arising from the transition.



https://cinea.ec.europa.eu/just-transition-mechanism_en



NATIONAL AND REGIONAL FINANCING PROGRAMS



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NATIONAL AND REGIONAL FINANCING PROGRAMS

Repository of national aid programmes

<https://www.rhc-platform.org/about-us/rhc-accelerator/funding-scheme-catalogue/repository-of-eu-funding-schemes/application-guidelines-and-tips/>

THANK YOU!



Website



LinkedIn



X (Twitter)



YouTube



Instagram



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