

Capacity Development Project on  
Nationally Appropriate Mitigation Actions (NAMAs) in the  
Republic of Serbia

# Importance of Financial Analysis and Finance Options for Serbian NAMA

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Capacity Development Project on Nationally Appropriate Mitigation Actions (NAMAs) in the Republic of Serbia



1. Project Evaluation and Financial Analysis
2. Overview of Financial Analysis
  - Basic Concepts
  - Methodology
3. Finance Options for Serbian NAMA

## Project Evaluation and Financial Analysis

### *Why Financial Analysis?*

#### Project Analysis

- Technical feasibility & Financial feasibility
- to determine whether the project is acceptable or to compare with other projects
- Economic analysis: national profitability of project, Financial analysis: commercial profitability from the view point of investors

#### Competitive NAMA Project

- Investors are looking for viable and reliable projects
- Financial analysis is to show the viability and reliability of the projects



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## Basic Concepts of Financial Analysis

- **To provide financial information to investors to make decision**
  - ✓ How much return can be expected?
  - ✓ Profitability
  - ✓ How much is the investment amount?
  - ✓ How many years does it take for the project to produce profit?
  - ✓ How much subsidy is required for the project to be viable?
  - ✓ to set the tariff level



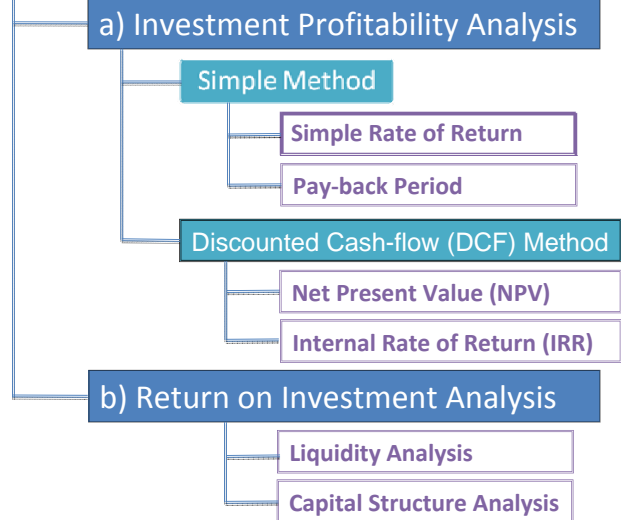
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# Methodologies of Financial Analysis

## Financial Analysis



# Financial Analysis: Pay-back Period

## Simple Method

- *do not take into consideration the whole life span of the project but rely on one model period*
- Somehow less precise, but in some cases could be sufficient and the only possible alternative

- Simple Rate of Return
- Pay-back Period

# Financial Analysis: Pay-back Period

## ■ Pay-back Period

*Time needed for a project to recover its total investment through its net cash earnings*

- Step 1: Calculate total investment of the project
- Step 2: Calculate annual cash earnings
- Step 3: Calculate annual net cash flow during the project's life
- Step 4: Find out the number of years, in which net cash flow becomes positive.
- Step 5: The year net cash flow turns zero is the pay-back period. It includes the construction period.

# Financial Analysis: Pay-back Period

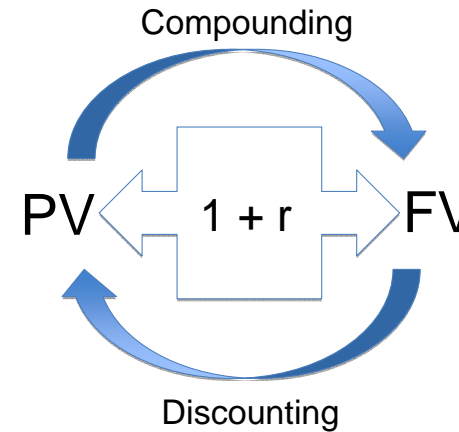
## ■ Pay-back Period

Year	Investment	Earnings	Capital at the end of a year
1	100		-100
2	100		-200
3		30	-170
4		35	-135
5		35	-100
6		35	-65
7		35	-30
8		35	5

Pay-back period:  
7.8 years

## Discounted Cash-flow (DCF) Method

- The choice of method depends on the objectives, economic environment and the availability of data
- take into consideration the entire life of a project and the time factor by discounting the future flows and outflows to their present value (NPV)
- Most popular method for the CDM Project; UNFCCC Guideline also uses this method in the financial analysis calculation



**Why discount?**  
 Value of money 100 as of today is different from the value of money 100 as of 4<sup>th</sup> Feb. 2014

## NPV and FIRR

### ■ Net Present Value (NPV)

*The difference between the present value of its future cash inflows and outflows*

*Value of future cash flow to be evaluated at present*

$$NPV = \sum_{t=0}^n (CI - Co)_t at$$

at: discount factor

### ■ Financial Internal Rate of Return (FIRR)

*Internal rate of return is the rate of discount that reduces the net present value of a project to zero*

## Discounted Cash flow and NPV, FIRR

### ■ NPV (at 8% Discount Rate), FIRR

Year	Investment	O & M	Total Cost	Revenue	NetCashFlow
1	100		100		-100
2	100		100		-100
3	50		50		-50
4	50		50		-50
5		5	5	70	65
6		5	5	70	65
7		5	5	70	65
8		5	5	70	65
9		5	5	70	65
10		5	5	70	65
11		5	5	70	65
12		5	5	70	65
13		5	5	70	65
14		5	5	70	65
15		5	5	70	65
Total	300	55	355	770	415
PV	255	36	281	500	86
				FIRR	12.61%

### How to evaluate the result?

- FIRR=12.5%; Good or Bad?
- FIRR=9.5%; Good or Bad?
- Investors normally compare the return with other projects.
- One of the parameter is interest rates of deposits, bonds
- PV: Size of the project, and necessary capital investor needs to prepare for investment
- NPV: Amount of return at today's value

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## Finance Options for Serbian NAMA

## Finance Options

### Investment to low profitability projects

Negative factors

- Low profitability (FIRR)
- Too big in size (investment amount)

Options to assist

- Incentive, Subsidy, Grants
- PPP
- Formation of consortium

## Finance Options

### Project funding and financial analysis

- Funding scheme depends on Type, Size, Risk, Profitability, public necessity, etc., of the project
- To show the viability and reliability of the projects, detail information on the financial analysis is normally required ⇒ *FS study*

### Finance options

- Domestic source
- International Source
- PPP
- Incentive, Subsidy, Grants

## Finance Options

### Domestic source

- Government Budget (central and local)
- Guarantee
- Private investment
- Primary market (bond issuing)
- Bank loan, Private fund
- Concession loan (PPP)

### International source

- Official development assistance (ODA)
- Private loan
- Specific financial tools

## Finance Options

### Specific financial tools

- Debt Equity Swap
- Carbon Credit
- Concession loan
- Incentive, Subsidy, Grant

## Finance Options

### Example of regional economic community program

- Guarantee (Loan Guarantee Instrument for trans-European transport network projects (LGTT), The Multilateral Investment Guarantee Agency (MIGA), etc.)
- EU Programmes:
- Instrument for Pre-Accession Assistance (IPA) ([ec.europa.eu/regional\\_policy/funds/ipa](http://ec.europa.eu/regional_policy/funds/ipa))
- TACSO Project (Technical Assistance for Civil Society Organizations) ([www.tacso.org](http://www.tacso.org))
- European Agency for Reconstruction (<http://ec.europa.eu/enlargement/archives/ear/serbia/serbia.htm>)
- Special Climate Change Fund (SCCF) ([www.climatefinanceoptions.org](http://www.climatefinanceoptions.org))
- Climate Funds ([www.climatefundsupdate.org](http://www.climatefundsupdate.org))
- Green Climate Fund ([unfccc.int/cooperation\\_and\\_support/financial\\_mechanism/greenclimatefund](http://unfccc.int/cooperation_and_support/financial_mechanism/greenclimatefund))

## Finance Options

### Incentive and Subsidy

For the project, financially not profitable but economically feasible, government may consider tools to promote private investment

- Incentive such as feed in tariff, development right
- Subsidy
- Concession loan
- Grants

# Finance Options for Project Implementation

## UNFCCC Form: “NAMA Seeking Support for Implementation”

### F.1.2 Type of required financial support

- Grant
- Loan (Sovereign, Private)
- Concession loan
- Guarantee
- Equity
- Carbon finance
- Other

F Support required for the implementation of the mitigation action



United Nations  
Framework Convention on  
Climate Change

F.1.1 Amount of financial support 0.00  
Conversion to USD <to be filled automatically>

F.1.2 Type of required financial support

- Grant
- Loan (sovereign)
- Loan (Private)
- Concessional loan
- Guarantee
- Equity
- Carbon finance
- Other <Pls enter Other text here>

F.1.3 Comments on Financial Support <Pls enter Comments on Financial Support here>

F.2.1 Amount of Technological Support 0.00  
Conversion to USD <to be filled automatically>

F.2.2 Comments on Technological Support <Pls enter Comments here>

F.3.1 Amount of capacity building support 0.00  \$ (Dollars)  man/hours  
Conversion to USD <to be filled automatically>

F.3.2 Type of required capacity building support

- Individual level
- Institutional level
- Systemic level
- Other <Pls enter Other text here>

# Finance Options for Project Preparation

## Example of financial options for preparation

- 1) Private Investment
  - 2) NAMA Registry “NAMA Seeking Support for Implementation”
  - 3) Donor/international organization scheme
- <Example>

- Ministry of the Environment, Japan  
“Feasibility Study Programme on New Mechanism”  
(€400,000 – €650,000/ study)  
[http://gec.jp/main.nsf/en/Activities-Climate\\_Change\\_Mitigation-nmfsrepDB-List](http://gec.jp/main.nsf/en/Activities-Climate_Change_Mitigation-nmfsrepDB-List)
- Ministry of Economy, Trade and Industry (METI), Japan  
“Global Warming Mitigation Technology Promotion Project”  
(€400,000 – €1,600,000/ study)  
[http://www.meti.go.jp/english/press/2012/0426\\_03.html](http://www.meti.go.jp/english/press/2012/0426_03.html)

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**Thank you for your participation!!**

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