



The Two-Steps Public Investment Planning Model in Lithuania

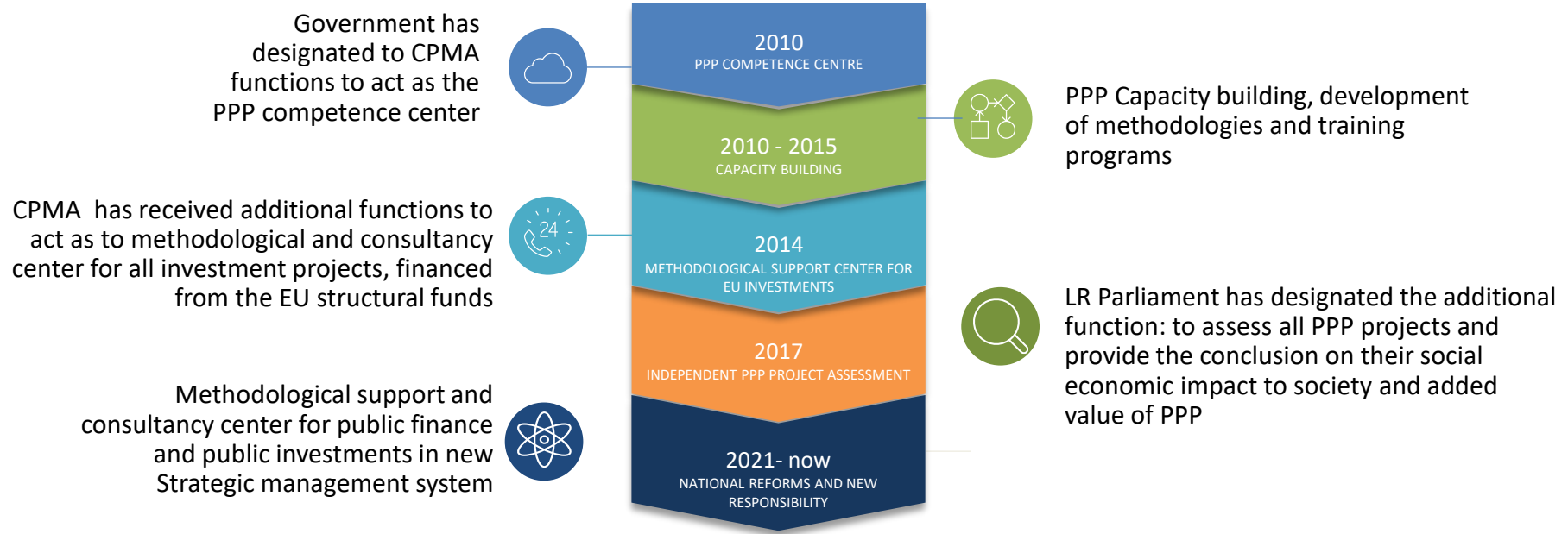
*Methodological Support and Consultancy Centre
at the CPMA*

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What are the opportunities and challenges to making cost-benefit analysis, investment and budget planning more effective and successful in practice?

Methodological Support and Consultancy Centre

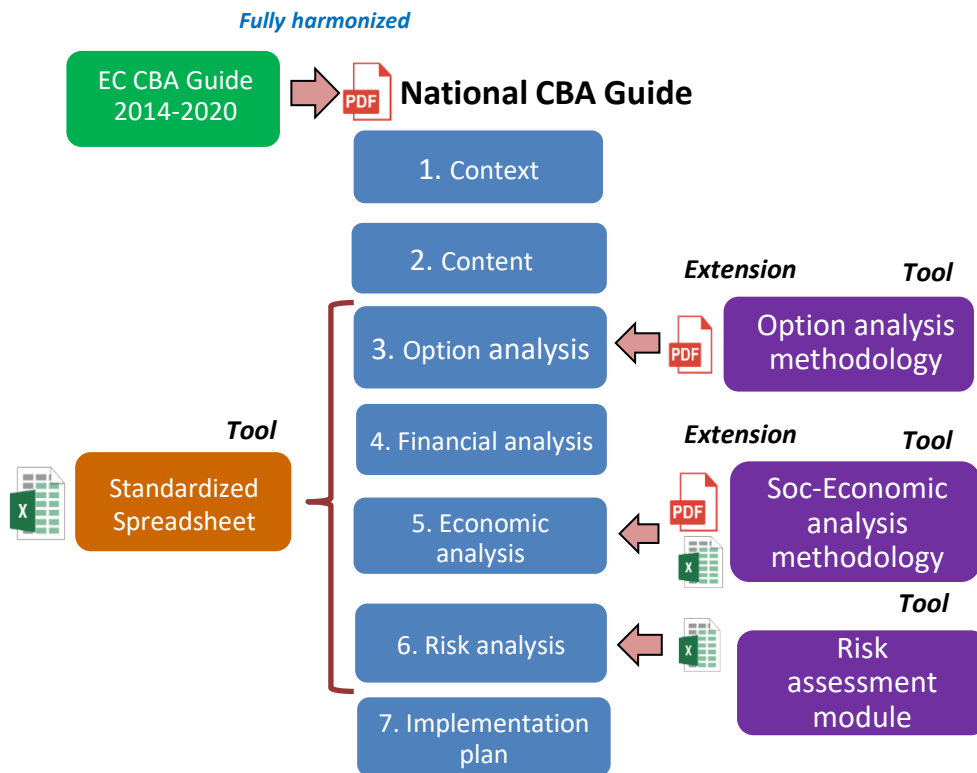
The center is subordinate to the Ministry of Finance



National CBA methodological documents for IPs

Since 2015

- National CBA guide as a practical tool:
Guide + Spreadsheet + Supporting methodologies
- CBA is used for all IPs of which capital investments exceed **1 m Eur** (300.000 EUR in 2015 – 2019)
- The CBA tool is officially included in legal strategic planning documents and is the main method for evaluating investments



Standardized Spreadsheet for IP

Features of spreadsheet

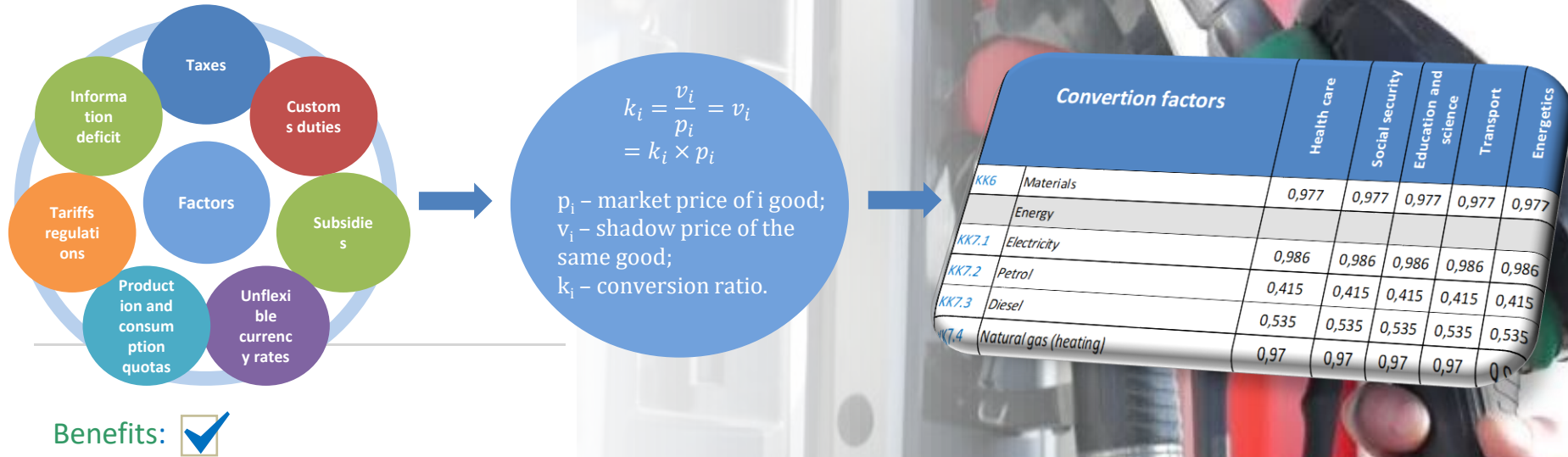
- ❖ Automated calculation of all indicators
- ❖ Automated financial sustainability check
- ❖ Automated VAT calculation

Observed benefits:

- ☒ No mistakes in calculation
- ☒ Less specific knowledge is needed – saved money on on consultations
- ☒ Easier and shorter assessment process

Economic analysis: conversion factors (CFs)

CFs convert market prices into the shadow (real economic) prices



Benefits:

CF are centrally calculated and fully integrated into the spreadsheet –
no additional work, no mistakes and more accurate results

Economic values

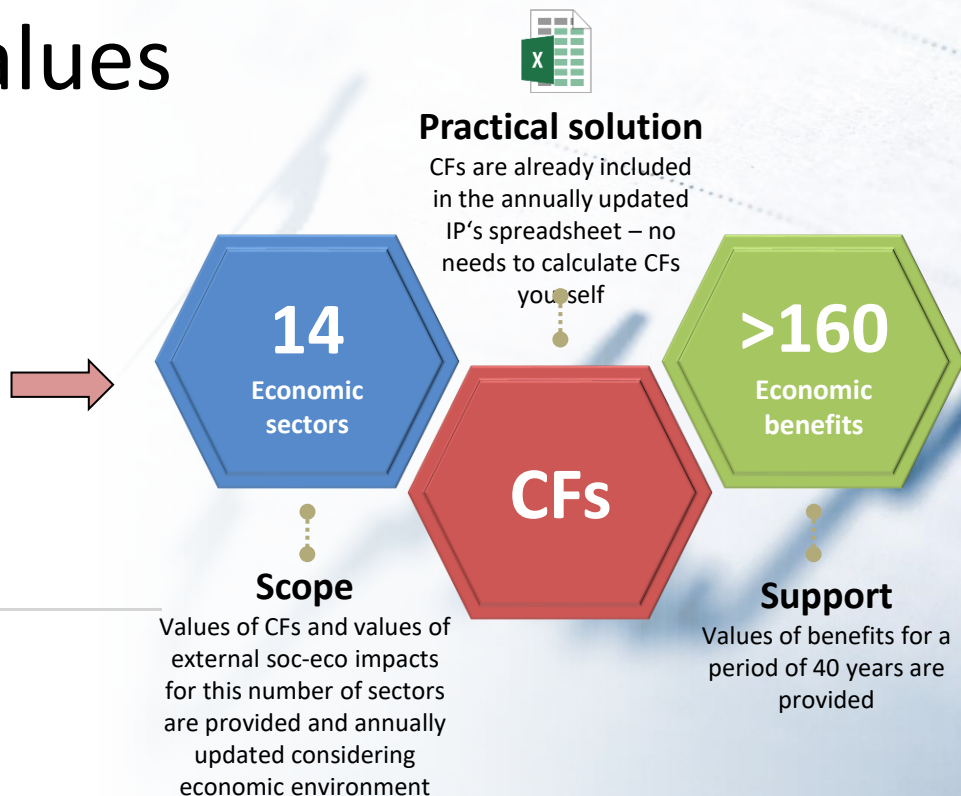
Time value?

Value of statistical lifetime?

Value of pollution reduction?

Value of GHG reduction?

Value of other effects/impacts?



Sectors:

1. Health care

2. Social security

3. Education and science

4. Transport

5. Energetics

6. Development and information society

7. Environment protection

8. Urban development

9. National defence

10. Justice / law enforcement

11. Public security

12. Tourism

13. Public inf. for business

14. Culture

Values of Economic Benefits



Values in euro

Sector	Component	Units (of which an estimate is multiplied)	2024	2025	2026	2027	2028	2029	t+n	2065
Health care	1. Value of statistical lifetime	Person	706 513	731 391	756 603	779 611	802 761	829 462	---	2 693 854
Health care	2. Value of 1-year statistical lifetime	Expected years of person's life	36 341	37 620	38 917	40 101	41 292	42 665	---	138 565
Health care	3. The value of a lost working day due to illness	Working day	105	108	112	116	119,44	123	---	400

Observed benefits :



Less subjectivity on economic analysis



Time saving on rutin tasks



Less specific skills needed – more time left to focus on demand and cost analysis



Better quality of IP preparation

Specific templates for more complex impacts: e.g. house renovation



Integrated in the Spreadsheet

Year	Calendar year	Actual energy consumption before the renovation (kWh)	Actual energy consumption after the renovation (kWh)	Renovation measures	Energy saving measures	Actual energy consumption after the renovation (kWh)	Financial results	Social impact results
2013	2013	100	90	10	10	90	10	10
2014	2014	100	90	10	10	90	10	10
2015	2015	100	90	10	10	90	10	10
2016	2016	100	90	10	10	90	10	10
2017	2017	100	90	10	10	90	10	10

Financial results



Social impact results



Observed benefits :



Less subjectivity on economic analysis



Time saving on rutin tasks



Standardized risk assessment

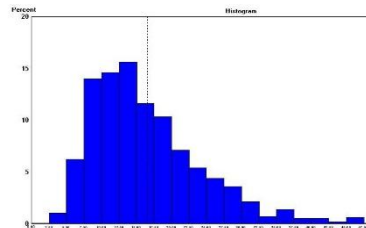
Sensitivity analysis
Scenario analysis,
Probabilities,
Monte Carlo



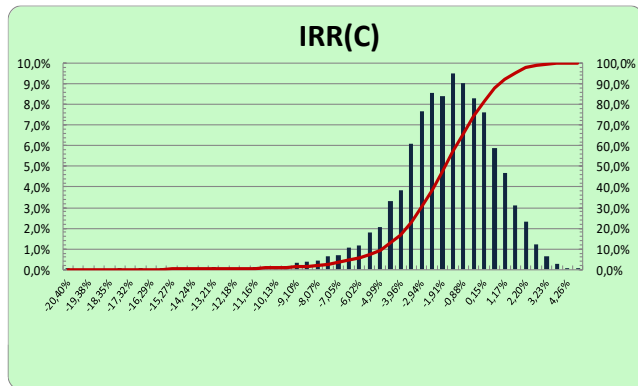
70%
confidence
level



**MS Excel Spreadsheet
Risk assessment module**



Statistics is based on
Lithuanian experience
in IP implementation



Observed benefits:



Lithuania specific risk estimates are calculated – less subjectivity



Risk analysis is easy to perform – less specific skills are required



Time saving

Development measure – new step into the planning process

Became the 2^{dn} step

Investment project (IP) appraisal often takes place only at the final evaluation stage, after key decisions have already been made. This underscores the need to introduce appraisal earlier and apply it more broadly to support comprehensive planning and evidence-based decision-making.



Introduced as the first step

“Development Measure” addresses identified problems by tackling their root causes and mitigating their effects. Institutions assess alternative sets and combinations of activities to identify the most cost-effective option—one that delivers the best outcomes and greatest impact.



Investment activities



Regulatory activities



Communication activities

Options of Development Measure

Option 1

Regulatory actions

Investment actions

Communication actions

Option 2

Regulatory actions

Communication actions

Option 3

Communication actions



The ability to plan and evaluate complex change and impacts.

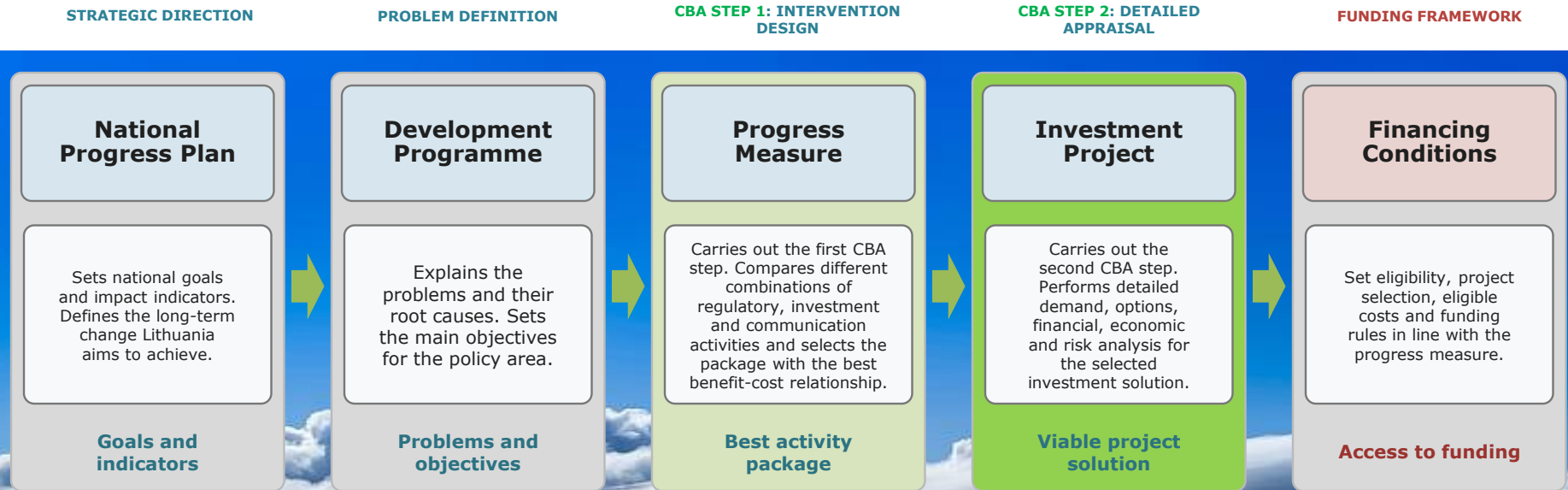


The opportunity to combine institutional efforts and goals



Intervention logic in Lithuania's strategic planning system

From national goals to a detailed and fundable investment decision



CBA starts at the Progress Measure and continues through the Investment Project

Step 1 selects the best activity package > Step 2 appraises the selected investment solution in detail

Different sectors but the same objectives

Sector	Investment actions	Cost of 1 tonne CO2 reduction
Agriculture	Adaptation of the environmental, climate change and other management obligations and innovative, sustainable technologies in agriculture and forestry activities	-31
Agriculture	INCREASING OF THE GHG ABSORPTION CAPACITIES (BY RESTORING THE HYDROLOGICAL REGIME OF SWAMPS (PEAT SOILS))	9
Environment	Promotion of waste recycling and the use of secondary raw materials	20
Energy	Deployment of advanced technologies, gradually transitioning to less use of fossil fuels, prioritizing hydrogen technologies	83
Energy	Increase of the share of the renewable energy sources by ensuring the integration of renewable resources into electricity networks	83
Agriculture	Restoration and improvement of the ecosystems related to agriculture and forestry	93
Environment	Promotion of the development of forests and sustainable development of the forest sector	109
Environment	Increasing of the effectiveness of climate change policy	117
Energy	Implementation of the measures that increase the use of renewable energy resources for the production of heat and cooling in the centralized heat (cooling) supply sector	125
Economics, innovation	Encouragement of companies to shift towards a climate-neutral economy	154
Transport, telecom.	Promote the use of alternative fuels in the transport sector	213
Energy	Implementation of the means of fuel production from renewable energy sources and development of the infrastructure for their use in the transport sector	620
Environment	Promote waste prevention	2 452
Energy	Implement energy efficiency-enhancing measures in central government public buildings, individual residential buildings and companies	52
Energy	IMPLEMENT MEASURES THAT INCREASE THE ENERGY CONSUMPTION EFFICIENCY OF CENTRALIZED HEAT, HOT WATER AND COOL SUPPLY SYSTEMS	195
Environment	To promote the renovation of buildings	342
Environment	Strengthen the prevention and management of negative environmental impacts	75

17 investment initiatives contribute to the national CO2 reduction. They can be compared by effectiveness.

*The investment initiative foresees significant savings of OPEX
More of similar investment initiatives should be promoted*

Reduction of 1 tonne of CO2/year costs 9 EUR only!
More of similar investment initiatives should be promoted

Reduction of 1 tonne of CO2/year costs 620 EUR
248 thousand tonnes of CO2 reduction is purchased for 154 mln. 18 thousand tonnes of CO2 will be reduced in 2030.

Eeconomic benefits of the investment portfolio

Hours, saved by public
sector employees
4 %

Individuals, received
better education
services
8 %

Agricultural entities
promoted
3 %

Individuals, received
additional education
services
4 %

Hours, saved by public
service users
2 %

Other benefits
27 %

Reduction of CO2
emissions
32 %

Energy savings, MWh
4 %

Life expectancy,
additional years of life
11 %

Individuals,
avoiding social
care
5 %

Net present value of the
portfolio

EUR 49 583 million

B/C ratio

1,93

Challenge to overcome

Challenge: The higher and earlier the analysis is performed, the more difficult it is to obtain the necessary data.

Challenge: Few people report having sufficient time and opportunity to read and thoroughly engage with methodological documents.

Challenge: The analysis of alternatives and data collection are perceived as administrative burdens. Consequently, stakeholders often seek simpler analytical approaches or request exemptions from the requirements.

Challenge: Economic benefits are often treated not as a project objective, but merely as a calculated outcome of planned investments.

Challenge: Difficulties in finding actions that would allow achieving the goals within the available budget.

Challenge: Limited technical and analytical capacity.

Challenge: The more additional tools are created, the more the assessment framework become overloaded and complex. Not easy to find balance.

Challenge: No financing to cover the risk. The risks of large projects vary, but little effort is made to assess them specifically.

Challenge: Limited capacity to apply investment appraisal (IA) methods effectively during investment project (IP) preparation, making it difficult to develop a single systemic solution applicable across different projects and institutions.



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