IT-DAMEE:
a regional application to assess the macro-effect of the RDP fund in Emilia Romagna

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2014-2020 RDP in Emilia-Romagna

The Rural Development Programme (RDP) is the main policy to stimulate and encourage actions to support agriculture sector in the long run period in order to preserve and value the environment and the sustainable growth of regional rural areas but also to help the rural areas to meet the wide range of economic, environmental and social challenges of the 21st century.

The new 2014-2020 European financial programming period sets **1.18 billion euros** for the RDP in Emilia Romagna.
This is a very consistent amount of funds to boost a strategic sector such as agriculture and agri-food industry for Italian economy.

I *Integrated*

T *Tool of*

-

D *Dynamic*

A *Accounting*

M *Matrices of*

E *Economy and*
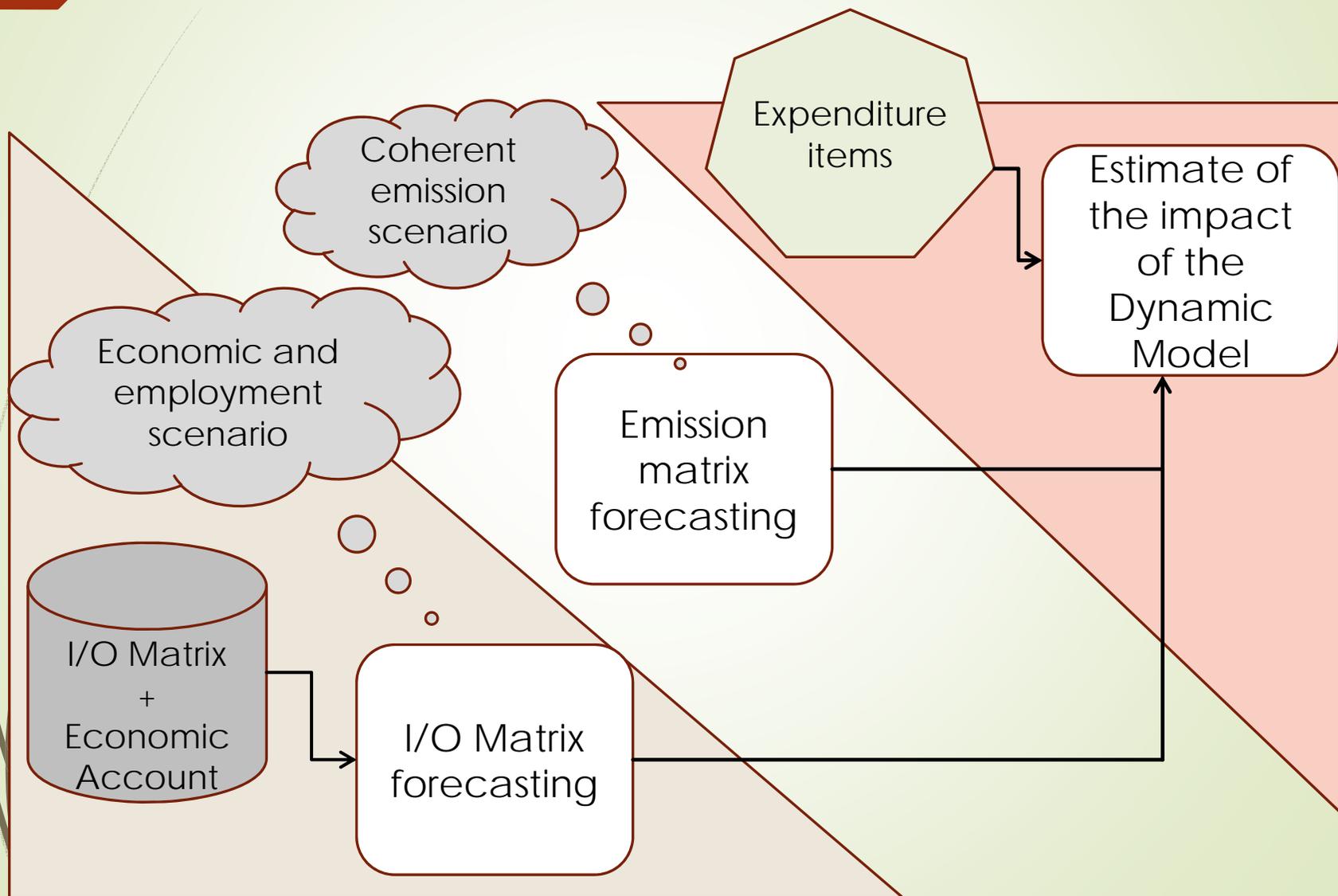
E *Environment*

It uses two accounting systems:

Input/Output Matrix for the economic aspects and

NAMEA (National Accounting Matrix with Environmental Accounts) matrix for the environmental and emission data related to each economic sector.
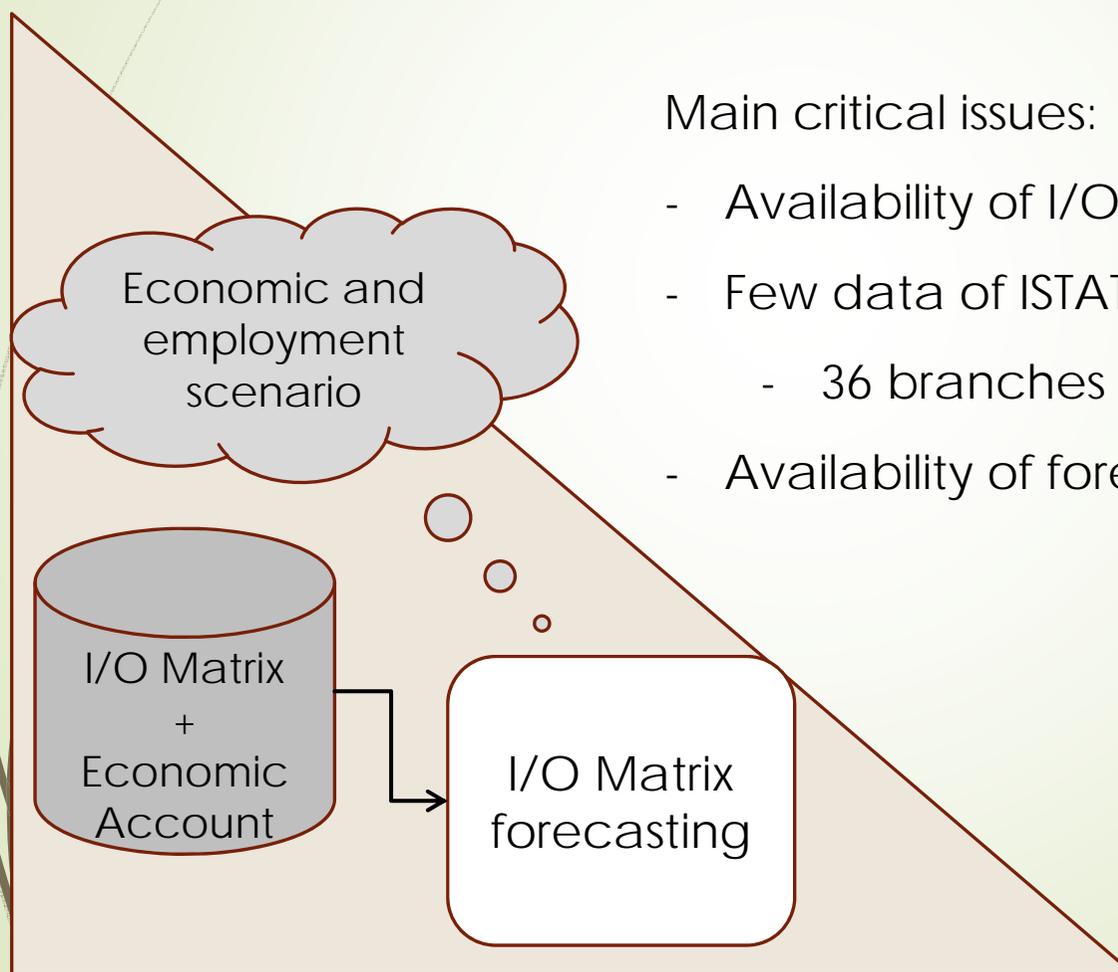
The structure of IT-DAME: input and scenario

How IT-DAMEE works for regional application

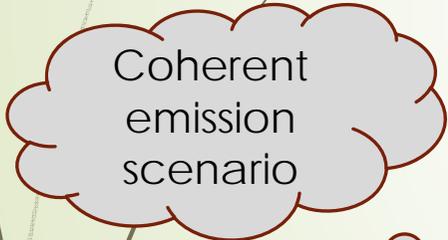Phase I: the forecast I/O Matrix for regional application

Main critical issues:

- Availability of I/O Matrix;

- Few data of ISTAT economic accounting;

  - 36 branches (ISTAT);

- Availability of forecast scenario

Economic and employment scenario

I/O Matrix
+
Economic Account

I/O Matrix forecasting

Phase II: the forecast of emission matrix

Main critical issues:

- Coherence of economic scenario and emission scenario;

- Branches considered: emissions are available only for 36 branches (instead of 64) and households
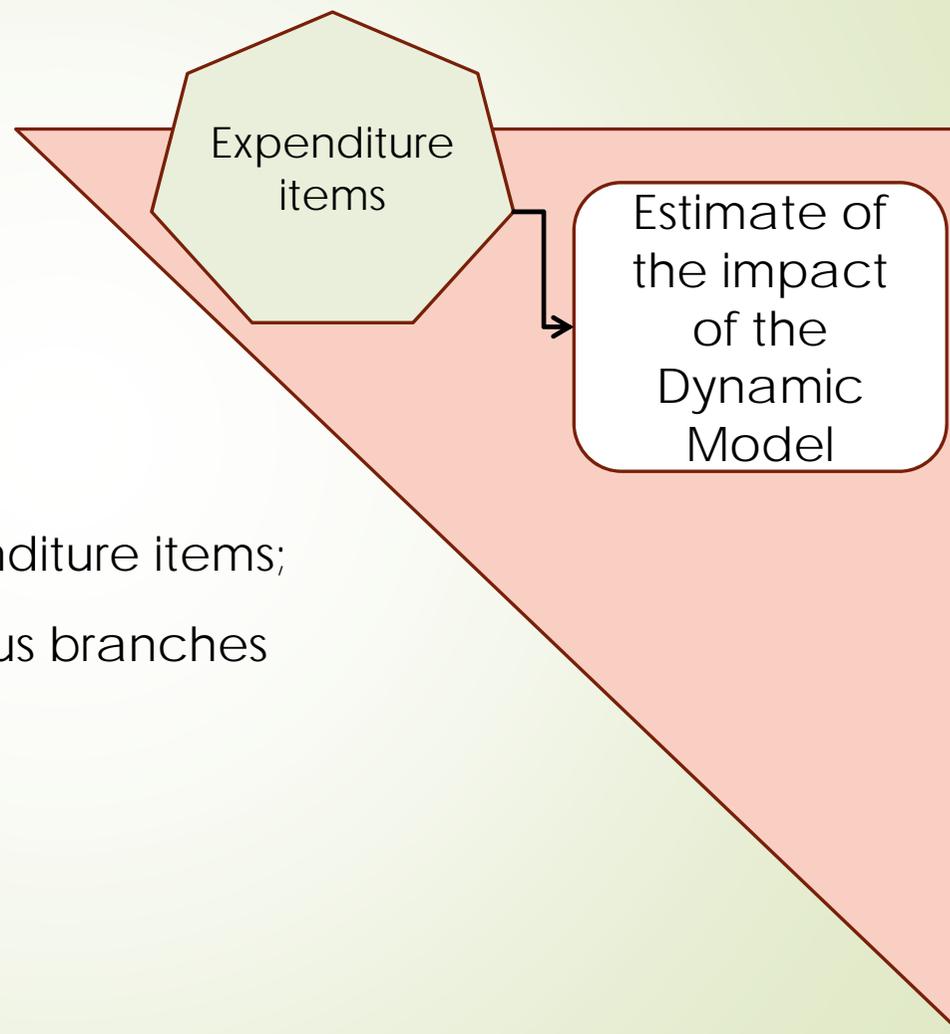
Coherent emission scenario

Emission matrix forecasting

Phase III: the evaluation of impacts

Expenditure items

Estimate of the impact of the Dynamic Model

Main critical issues:

- Evaluation of expenditure items;

- Breakdown in various branches

Hypotesis of expenditure aggregation in IT-DAMEE (10 typologies)

Macro types of actions	% PSR	Euro
Service activities	22.4%	266,469,504
Energy	-	-
Education	2.0%	23,791,920
Waste Management	-	-
Water Management	4.2%	49,963,032
ITC	-	-
Infrastructures	0.4%	4,758,384
Material investment of SMEs	12.4%	147,509,904
Wagon rolling stock	-	-
R&D	58.7%	698,292,852

Each item has to be divided into the various industrial branches

Main Results to 2020

Estimate of gross economic impact of investment (millions of € at costant price 2009)		
	Direct and indirect effects	Direct, indirect and related effects
Production	1,866.87	2,569.54
Intermediate consumption (basic price)	676.09	925.88
Net taxes	28.69	36.13
Added Value (basic price)	514.54	691.66
Importation	647.56	915.87
Domestic production	1,219.31	1,653.67

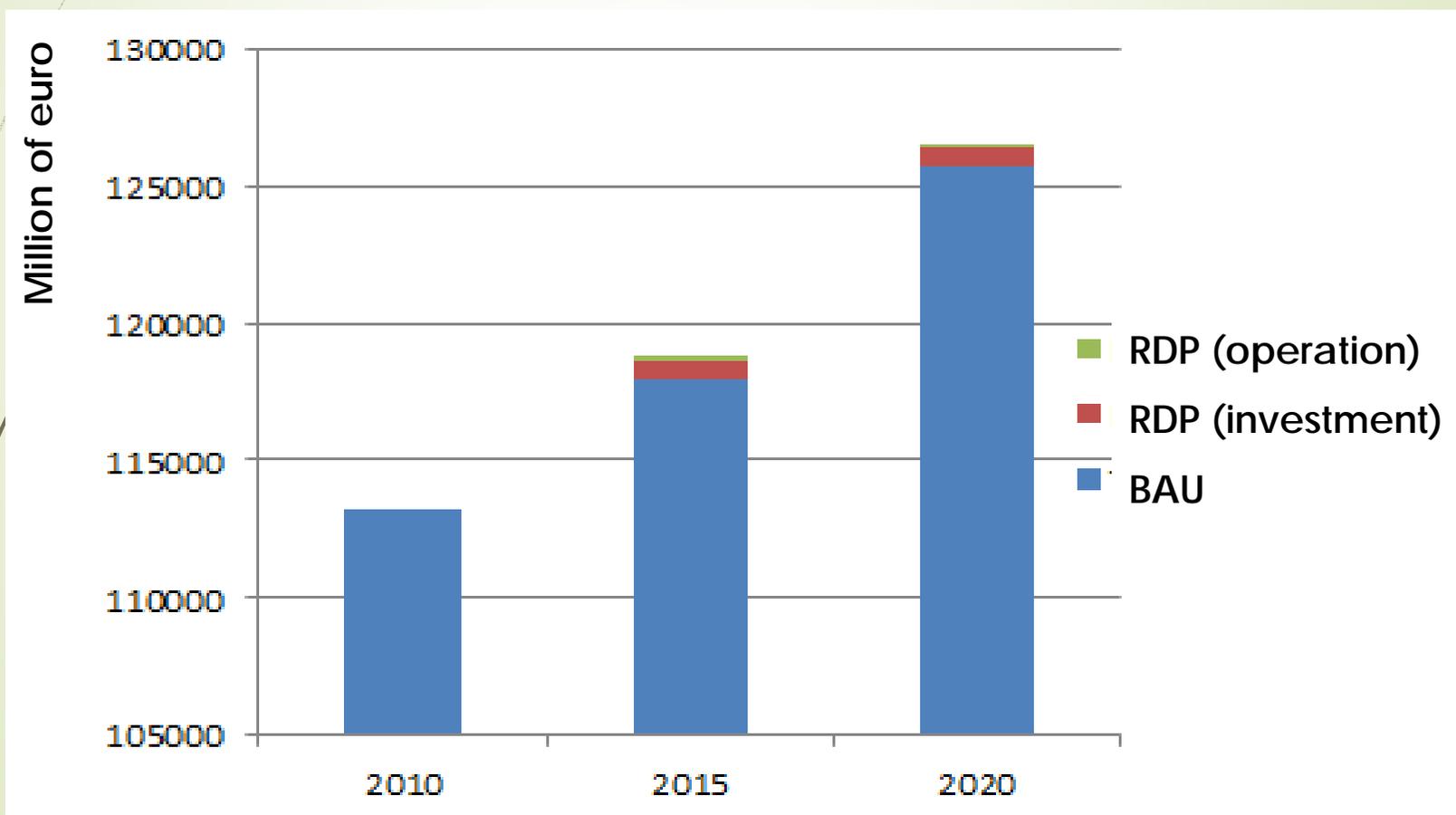| Estimate of employment impact of investment (number)		
	Direct and indirect effects	Direct, indirect and related effects
Work units	12,342	15,192

RDP Investment: 1.19 million euro

In 2020, we should obtain:

❖ 514 million euros Added Value plus
(692 million € considering direct, indirect and related effects)

❖ 12,342 jobs as direct and indirect effects for the construction phase

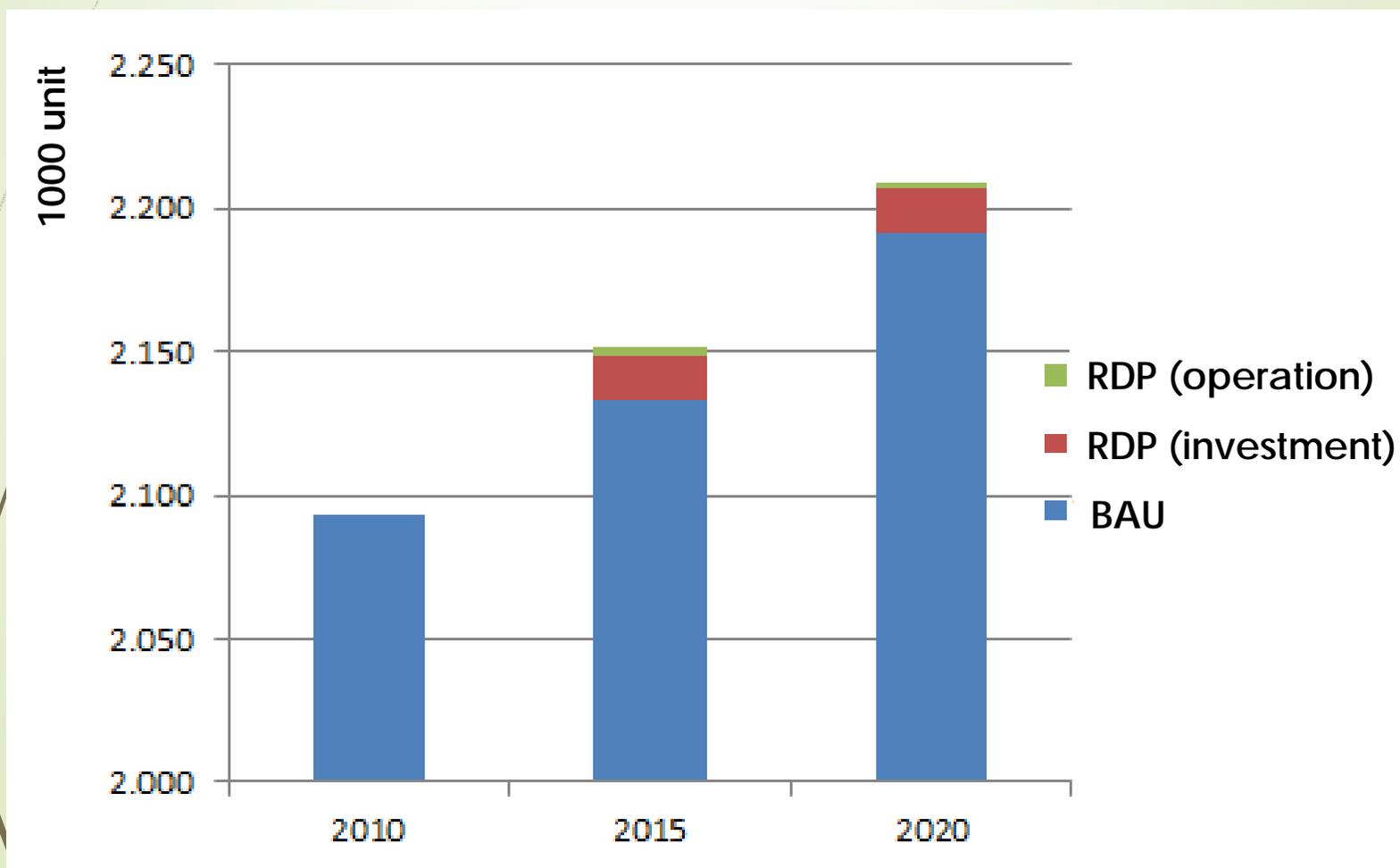| Estimate of additional GHG emission impact - 2020 (tCO_2eq)		
	Direct and indirect effects	Direct, indirect and related effects
Economic sectors	71.968	122.195
Households	70.637	94.953
Total	142.605	217.148

…but these are only the effects in «construction phase»…

Regional Added Value: underlining additional Added Value in construction and operation phases due to the RDP investment
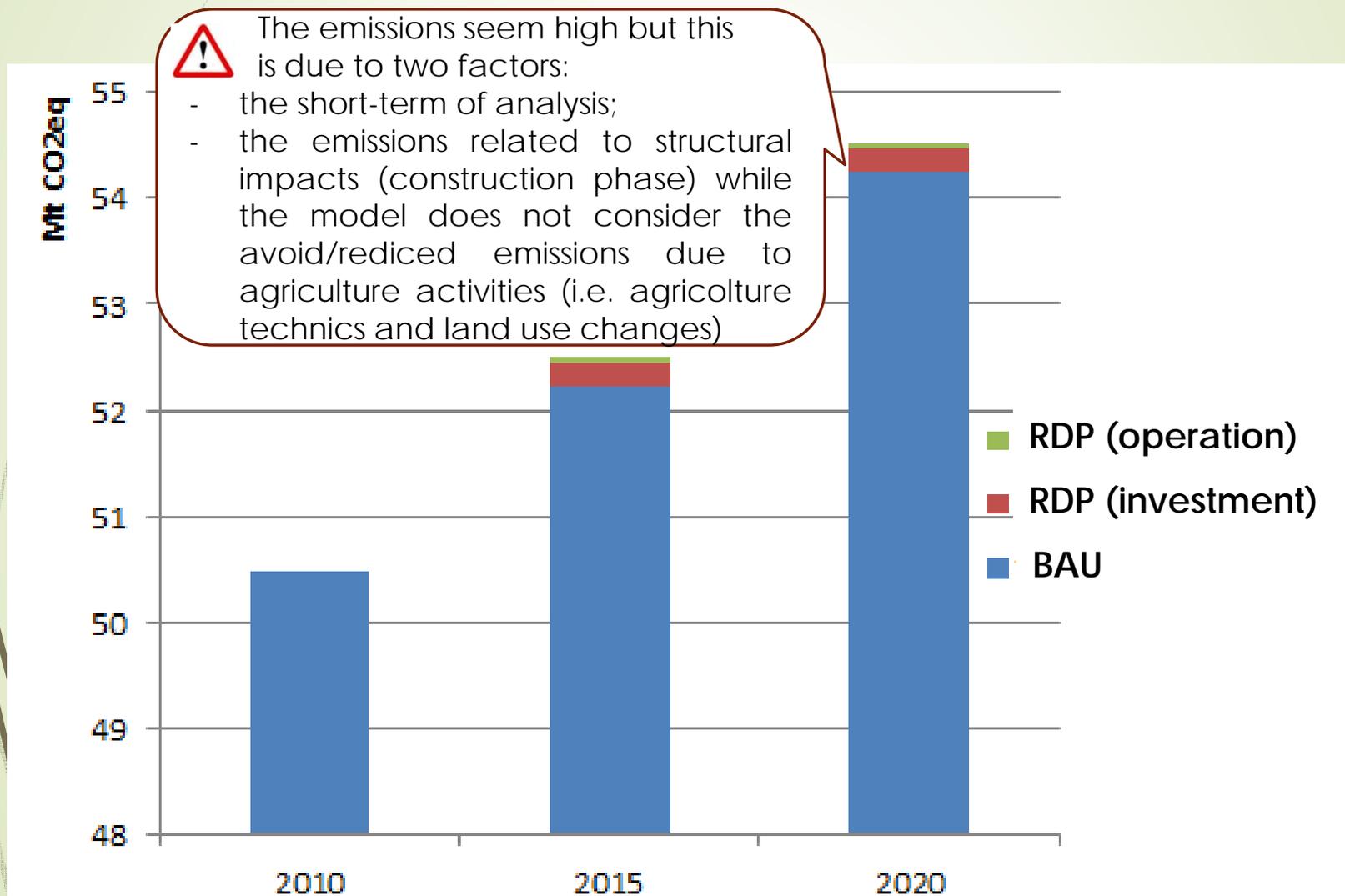
Employment: underlining additional employment in construction and operation phases due to the RDP investment

GHG emissions: underlining additional emissions in construction and in operation phases due to the RDP investment

⚠ The emissions seem high but this is due to two factors:
- the short-term of analysis;
- the emissions related to structural impacts (construction phase) while the model does not consider the avoid/rediced emissions due to agriculture activities (i.e. agricolture technics and land use changes)

Legend:
- RDP (operation)
- RDP (investment)
- BAU

Final considerations:

From the application of IT-DAMEE at RDP point of view:
The results to 2020 are limitated to the only **construction phase** due to the programming period of RDP (2014-2020), so that explains the rather limited results of the operation phase (short time-scale).

From the estimate point of view:
The potentialities of the model are high thanks to the integration of data and analysis instruments which offer a full vision of the possible impact (or effect) of the programme.

Thank you for your attention

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✓ *Economic accounting: Input/Output Matrix*

The I/O are square matrices representing the mutual interrelationships between the various sectors of an economic system, showing which and how goods and services produced (output) from each sector are used by others as an input in their production processes

✓ *Environmental accounting: NAMEA Matrix*

These accounts allow to compare economic aggregates (GDP, employees, household consumption) and aggregates related to environmental pressures (atmospheric emissions, waste, withdrawals of natural resources)