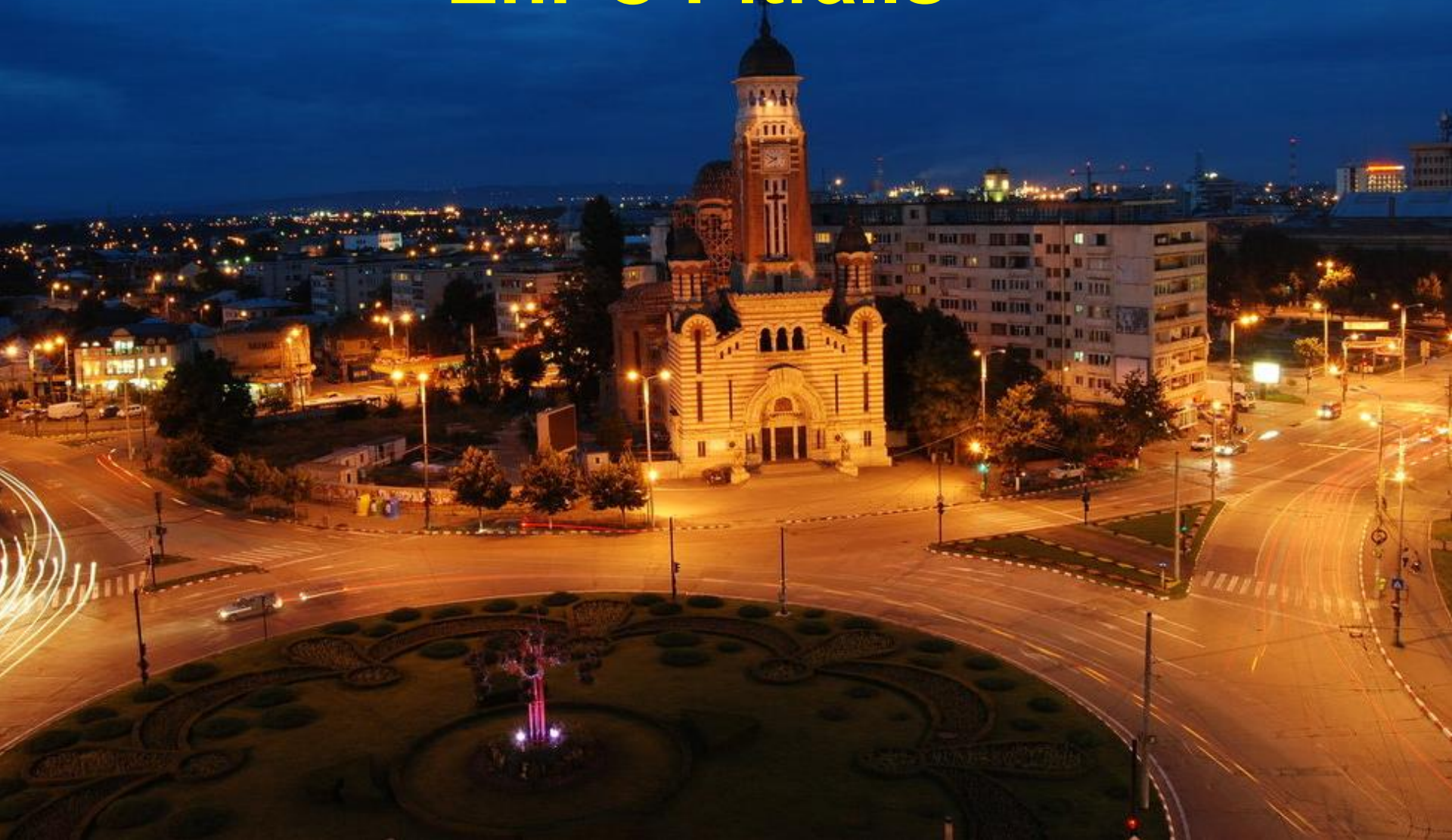


EnPC Pitfalls





WATER

- 100 million people supplied with drinking water
- 63 million people connected to wastewater systems
- 4,245 drinking water production plants managed
- 3,303 wastewater treatment plants managed

ENERGY

- 779 district and local heating and cooling networks
- 53 million MWh produced
- 3.4 million multi-family housing units managed
- 2,027 industrial facilities managed

WASTE

- Collection services for more than 39 million people on behalf of local authorities
- 553,500 business customers
- 42.9 million metric tons of waste treated
- 601 treatment plants operated

KEY FIGURES

What is an Energy Performance Contract (EnPC)?



A partnership between a beneficiary and a energy services company (ESCO) which allows the first one to improve the energy efficiency of the buildings they own, usually without upfront CAPEX or special loans while the investment cost is totally or partially in the charge of the ESCO.

EnPC in Romania – 2 examples

- 4 projects were supposed to be launched by different municipalities (Craiova, Arad, Timisoara, Iasi.)
- **First project launched was by the Municipality of Craiova.**
- Financing
 - *50% by the Municipality through EU/BERD funding*
 - *50% by the ESCO (winner of the tender)*
- There have been launched:
 - **CRAIOVA**
 - **GALATI**

CRAIOVA

- Type of buildings
 - 7 schools (10 buildings) \approx 18 570 m²
 - 1 public hospital Victor Babes (10 buildings) \approx 11 500 m²
- Reference situation and forecasted savings

○ SCHOOLS

	Power (MWhel)	Heat [MWht]	Power cost (€)	Heat cost€)
Reference consumption 2013	357	1 586	63 311	79 204
After implementation	316	754	56 038	37 656
Savings	41 / 11,5%	832 / 52,5 %	7 273 / 11,5%	41 548 / 52,5%

○ HOSPITAL

	Power (MWhel)	Heat [MWht]	Power cost (€)	Heat cost€)
Reference consumption 2013	149	2507	27 515	122 044
After implementation	89	1089	16 516	53 005
Savings	59 / 40%	1418 / 56,6 %	10 999 / 40%	69 039 / 56,6%

CRAIOVA – SoW

- SoW:
 - *Thermal insulation and replacement of windows*
 - *HVAC indoor installation*
 - *Indoor lightning*
 - *Energy O&M*
- CAPEX estimated **1,5 M €**
 - *For the schools : 716 k€*
 - *For the hospital: 838 k€*
- Financing:
 - *50% by the municipality (EU funds)*
 - *50 % by private sources (ESCO)*

Contract period

10 years



GALATI – SoW

- **The same as CRAIOVA**

- *Children Emergency Hospital "Sf. Ioan" - 5 main buildings.*
- *Group of 5 primary school buildings*

- ***Different areas of the buildings***
- ***Different consumptions***
- ***Different investment level***
- ***Different energy savings forecast***

But.....the same type of project!

The result of these 2 projects

- **CRAIOVA – CANCELLED!**

- **GALATI – SUSPENDED!**

WHY?

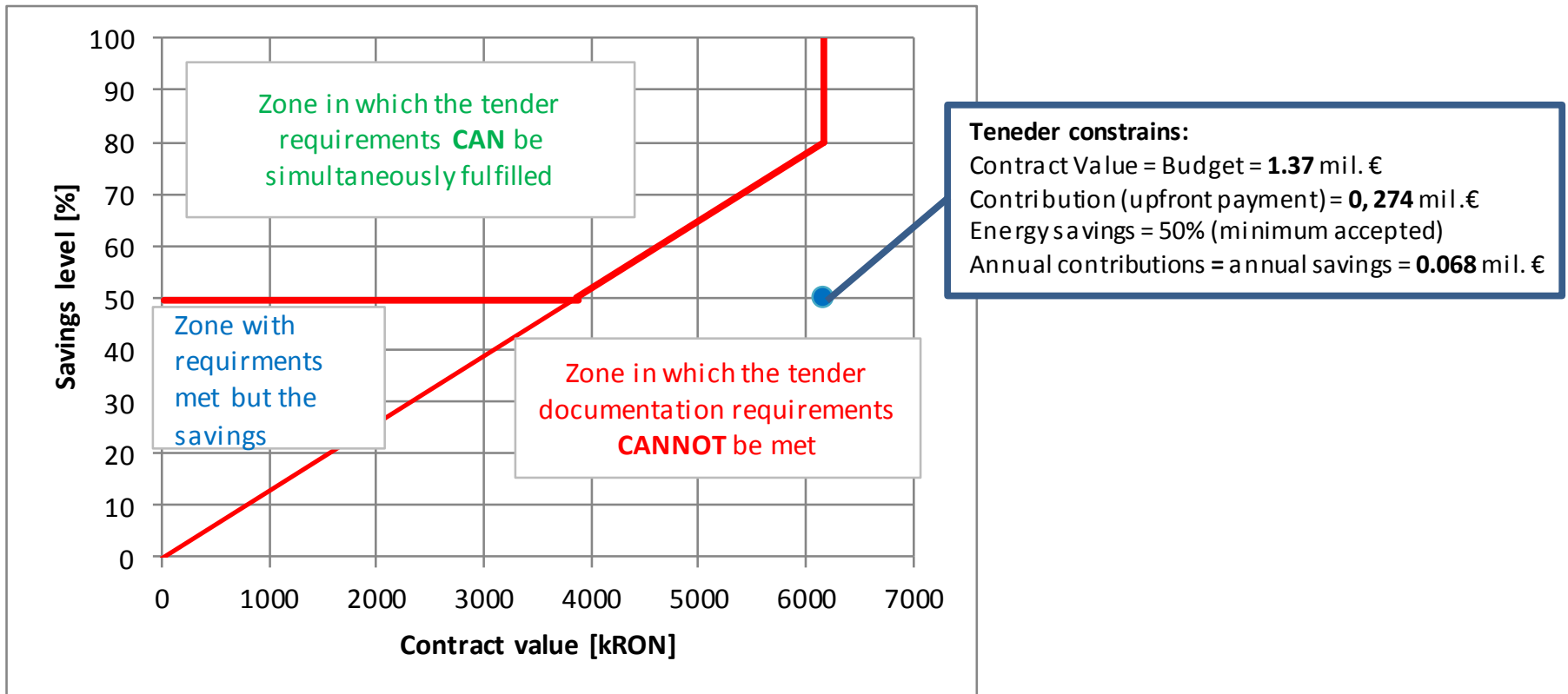
1. **Unclear/inexact reference**
2. **No existing O&M included in the reference**
3. **Improper budget**
4. **Lack of control of the contractor on the guaranteed energy savings**
5. **Too rigid contract**
6. **Energy savings measures with long payback**

WHY?

7. **Lack of FS, lack of consultant audit**
8. **Warranty for all the measures during the contract period**
9. **Requested measures that were not necessary**
10. **Lack or insufficient input data**
11. **Total responsibility of the ESCo, no risk assumed by the owner**

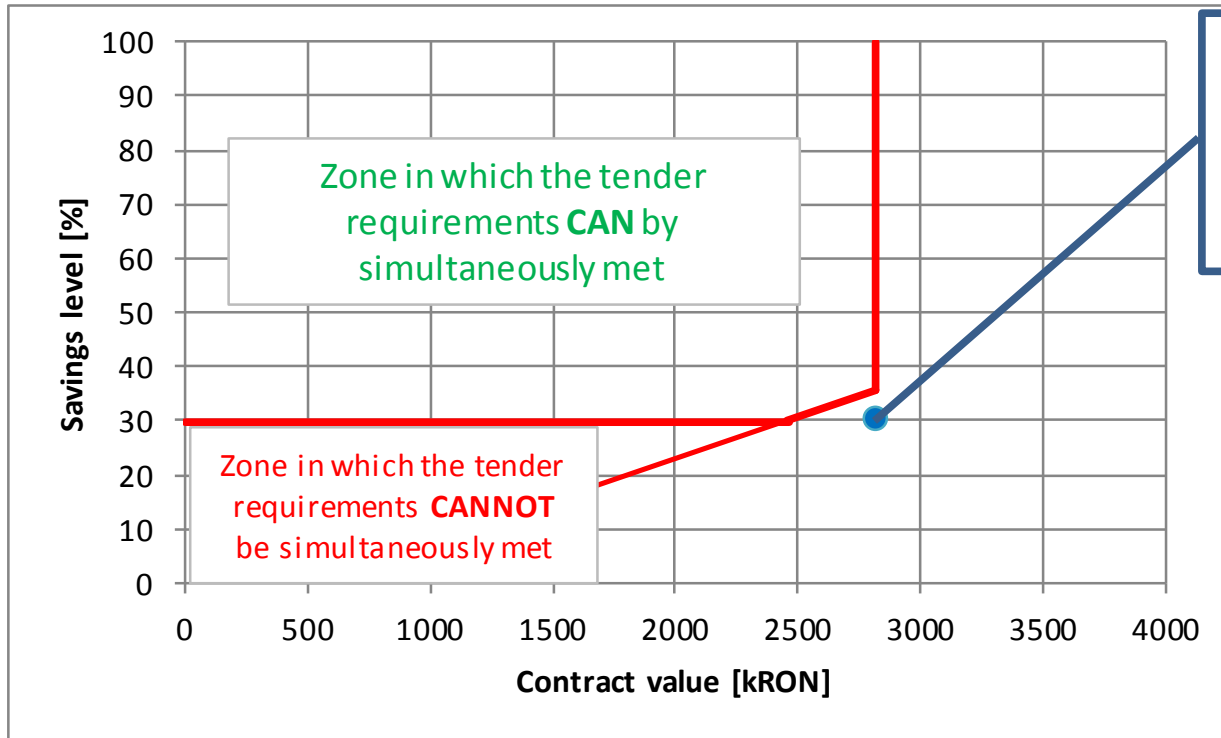
More concrete?

CRAIOVA PROJECT



More concrete?

GALATI PROJECT



Tender constrains:

Contract Value = Budget = **0.63** mil. €
Contribution (upfront payment) = **0,27** mil.€
Energy savings = 30% (minimum accepted)
Annual contributions > annual savings =
0.03 mil. €

CONCLUSIONS

Main pitfalls of the EnPC contracts:

Lack of knowledge about.....

- What an EnPC is
- How to deal with an EnPC

Lack of proper legislation.....

- See Eurostat note of Aug. 2015 regarding the deficit and public debt

Lack of high level involvement.....

Hubgrade



Thank you!