FOREIGN INVESTORS COUNCIL

CONSILIUL INVESTITORILOR STRAINI

Top 10 Investment Priorities at a Glance

5th of January 2011

Methodological note

- FIC representatives (especially banking, energy and construction streams) held extensive talks during the last months about specific steps to restart the economic growth in 2011, after two years of economic decline. Experts from the World Bank, government and other institutions also took part in these discussions. A preliminary outcome of these talks was a total number of around 20 investment projects that should be implemented by Romania in the next years to ensure a sustainable economic growth. In the end 10 top investment projects were selected that should maximize the economic growth, minimize budget costs and increase the absorption of European funds.

- At present there are 46,000 public investment projects in different stages and this creates an imperative need for prioritization, given the limited budget resources (total public investments were around EUR 8bn in 2010 while capital expenditures were less than EUR 5bn). Romania should select a small number of productive projects at the expense of unproductive ones and pursue them until full implementation. For maximum effects on employment, the authorities should not limit themselves to a single project but should select at least five.

Top 5 investment priorities

- ✓ High impact on economic growth
- ✓ Rather low costs for the state budget
- ✓ European funds
- ✓ Able to be completed quickly and successfully on medium term

1. Nădlac-Sibiu motorway
2. Bucharest-Braşov motorway
3. Craiova-Constanța infrastructure projects
4. Tarnița-Lăpuşteşti Hydropower Plant
5. Extreme Light Infrastructure

Overall impact at a glance for…

Top 10 investments

	2011	2012	2013	2014	2015	2011-2015 cumulated
GDP growth	4.7%	4.8%	4.8%	4.2%	3.3%	23.7%
New jobs, tsd	96	98	98	86	67	445
Investments, EUR bn	4.9	5.1	5.1	4.4	3.5	23
Budget revenues (y/y growth)	3.8	3.9	3.9	3.4	2.6	18.1
Budget revenues, EUR bn	1.5	1.7	2.0	2.1	1.6	8.9
Budget costs, EUR bn	2.5	2.7	2.7	2.1	1.9	11.9

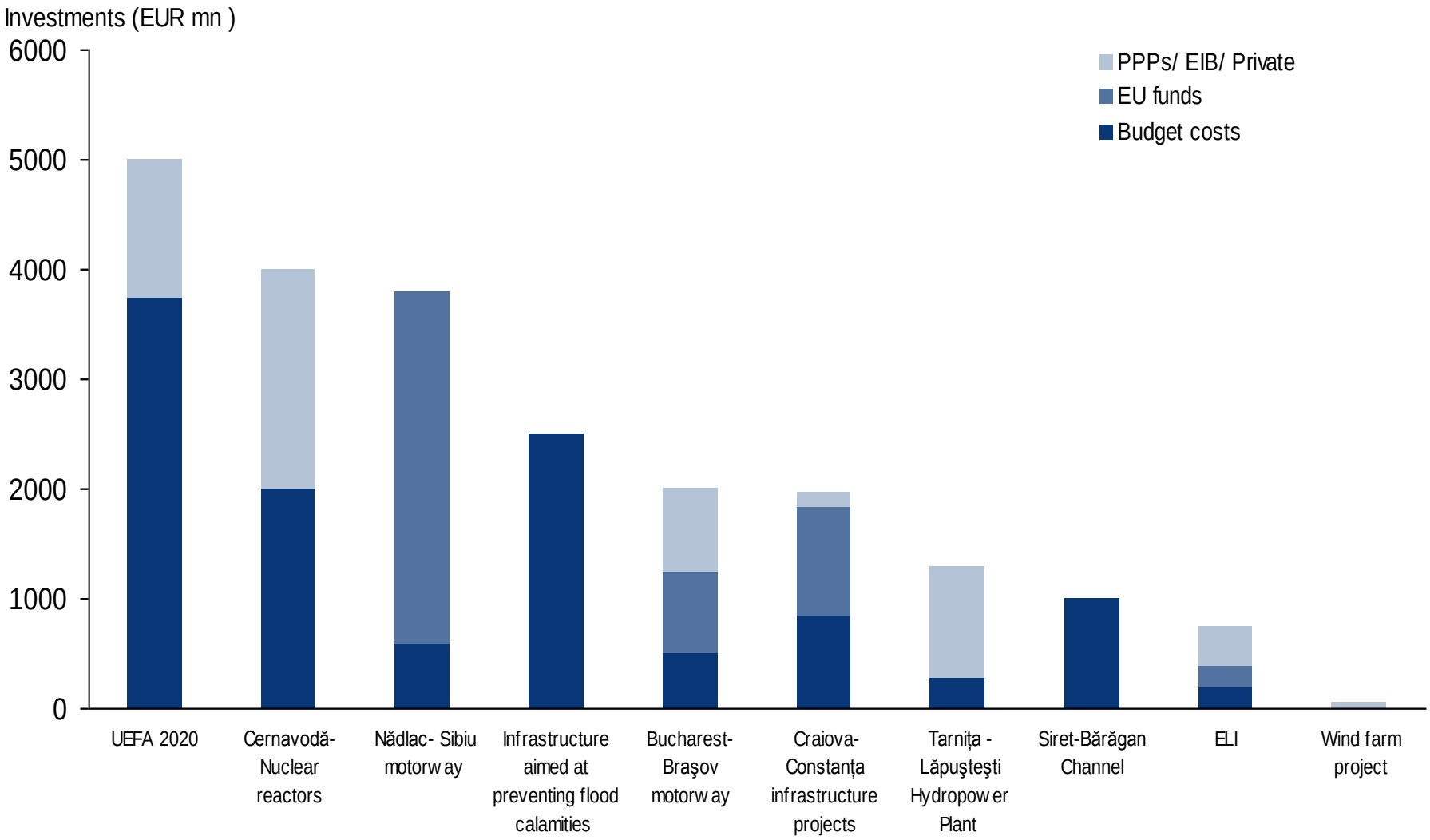
Top 5 investments

	2011	2012	2013	2014	2015	2011-2015 cumulated
GDP growth	2.1%	2.3%	2.3%	1.7%	0.8%	9.5%
New jobs, tsd	44	47	47	35	16	189
Investments, EUR bn	2.3	2.5	2.5	1.8	0.9	10
Budget revenues (y/y growth)	1.7	1.8	1.8	1.3	0.6	7.6
Budget revenues, EUR bn	0.7	0.8	0.9	0.8	0.4	3.6
Budget costs, EUR bn	0.6	0.6	0.6	0.4	0.2	2.4

Top 10 investment priorities in ranking order – high impact on economic growth, high practicability, rather low budget costs

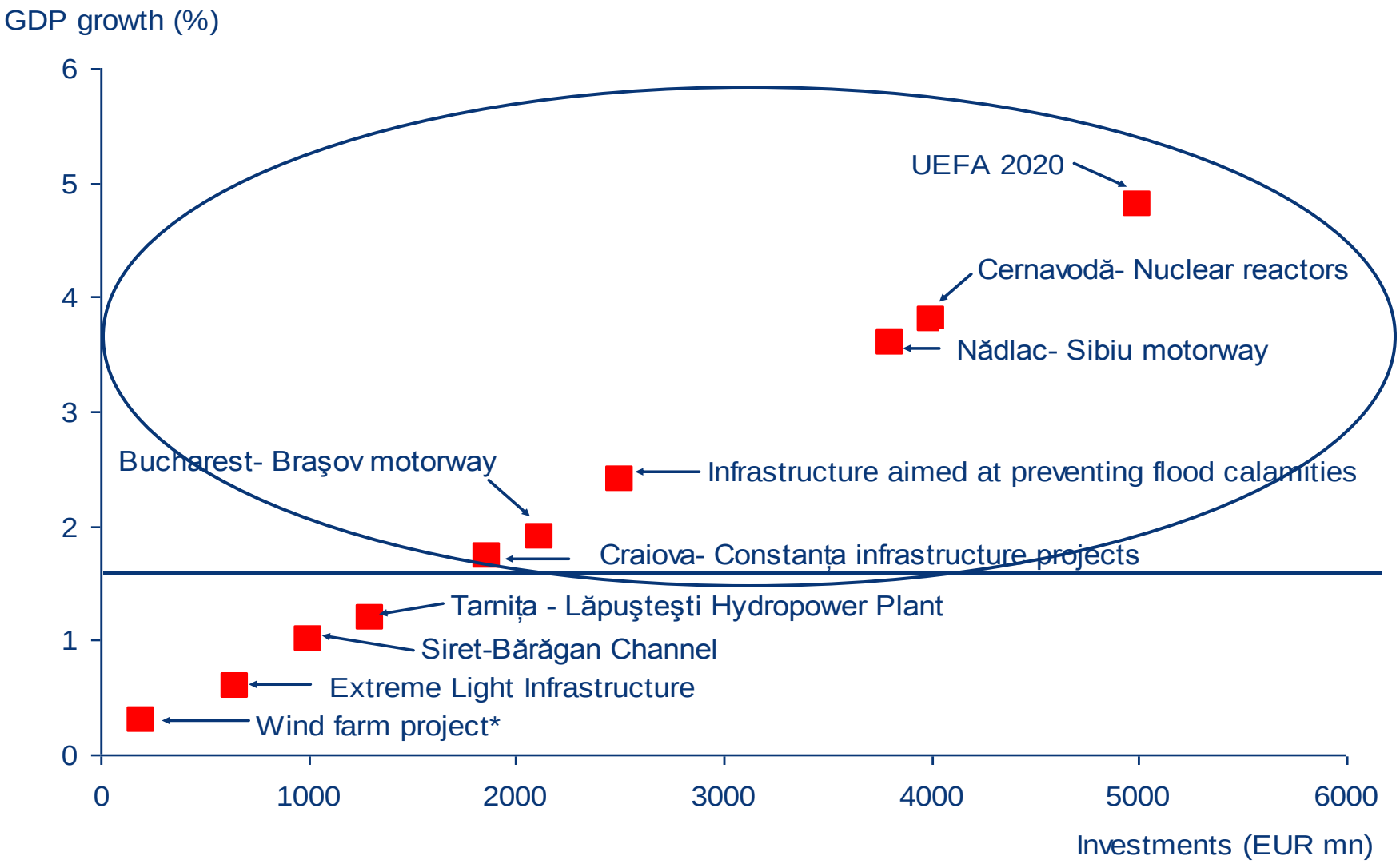
1. Nădlac-Sibiu motorway as part of Corridor IV which will connect Western Europe to the Black Sea
2. Development of Bucharest-Braşov motorway
3. Craiova-Constanta infrastructure projects
4. Tarnița - Lăpuşteşti Hydropower Plant
5. Full government support for a recently launched pan-European project – Extreme Light Infrastructure (ELI) – which could reposition Romania on the world research map
6. Development of the electrical transmission infrastructure, necessary to transport the additional amount of energy that will be produced in the wind farms in Dobrogea
7. Completion of power unit 3 and 4 at Cernavodă Nuclear Plant
8. UEFA European Football Championship 2020 – Romania co-host nation
9. Development of infrastructure aimed at preventing flood calamities
10. Rehabilitation and development of the irrigation network in agriculture – completion of Siret-Bărăgan Channel

Striking a balance between different funding resources is essential on medium term*



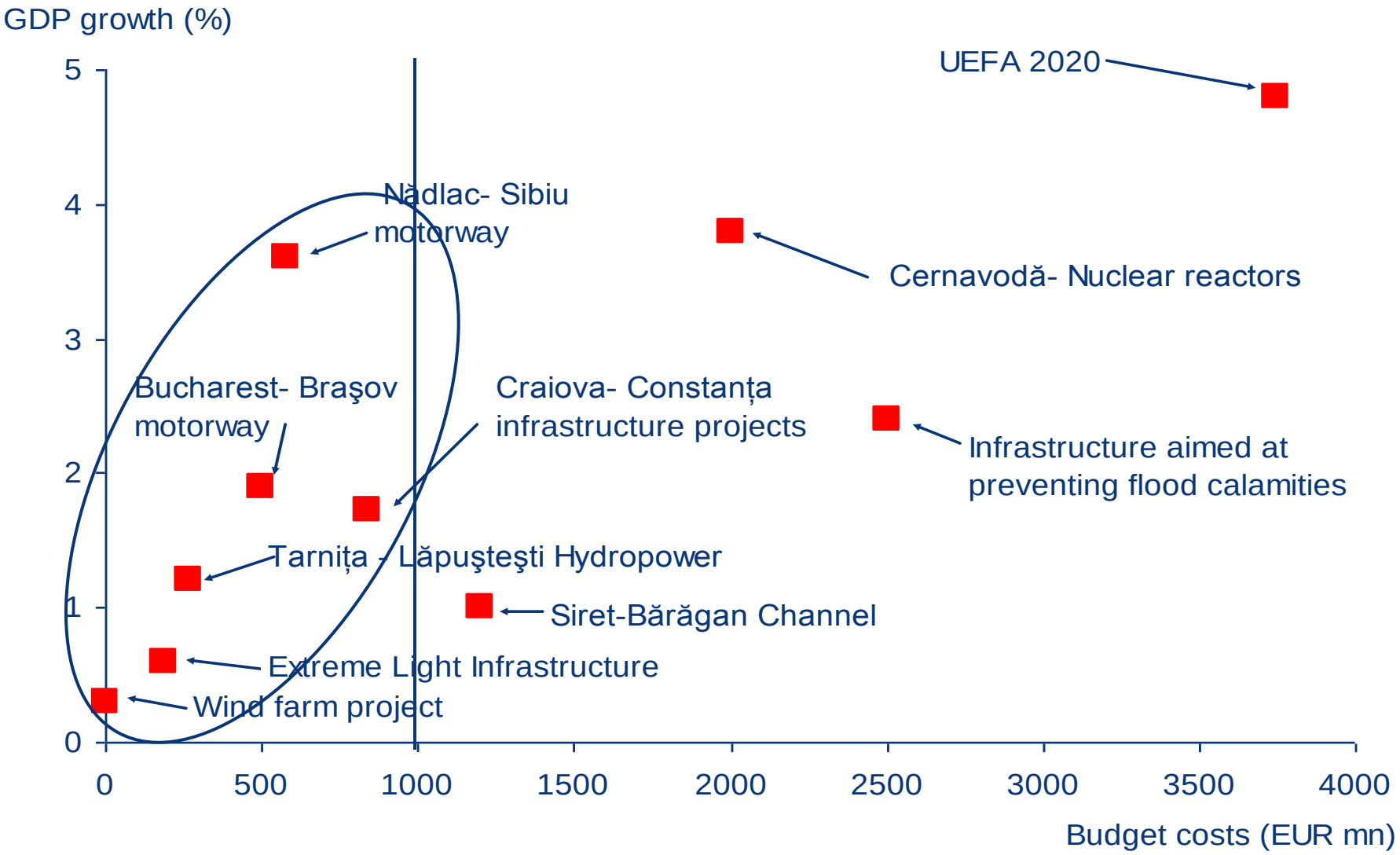
* The medium term means the period up to five years

Road infrastructure and energy sector have the highest impact on economic growth in line with significant investments

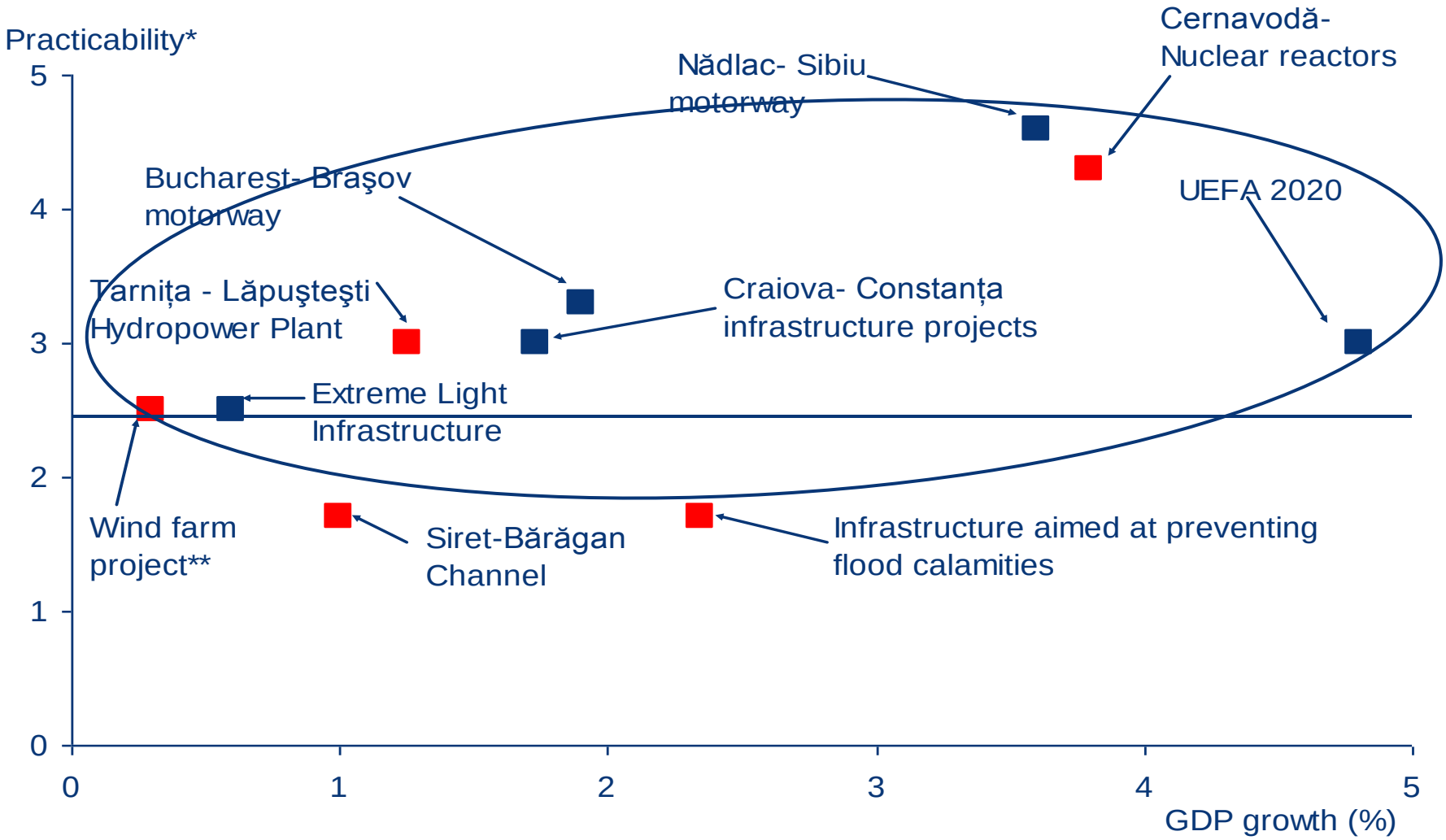


* The wind farm project could deliver quick gains in terms of economic growth through the production and export of energy but this has not been taken into consideration

Pressure on state budget - the prioritisation of several projects to increase economic growth and reduce unemployment



The difference between wish and reality on medium term – the selection of projects with a greater likelihood of implementation



Note: Blue color shows the investments which could absorb EU funds
* Practicability 1- Lowest, 5- Highest
** The wind farm project could deliver quick gains in terms of economic growth through production and export of energy but this has not been taken into consideration

Top investment priorities – details 1

No.	Action	Details / Comments	Macroeconomic impact	Practica-bility 1- 5
1	Nădlac-Sibiu motorway as part of the Pan-European Corridor IV which will connect Western Europe to the Black Sea	Most of the sections of Pan-European transport corridor IV (Nădlac – Arad, Arad – Timisoara, Arad beltway, Timisoara – Lugoj and Orăştie – Sibiu) will have to be completed in 2013. Construction works on these four sections will start in 2011. Total investments are estimated at EUR 3-4bn over 4 years. 85% of total costs could be covered by EU funds. Note: The Sibiu– Piteşti section lacks financing from the European Commission and authorities are looking for alternative funding. The project will most probably be done through public-private partnership.	**An investment worth EUR 3- 4bn →3.6% increase in GDP → +74,000 new employees in the medium term → 2.9% increase in budget revenues Budget costs EUR 580mn in the medium term**	**4.6**
2	Development of Bucharest-Braşov motorway	Total investments of EUR 2bn over five years. The motorway is expected to boost tourism activities and facilitate the inflow of FDIs in manufacturing due to lower transportation costs. Total costs to be covered by a public-private partnership or/and EU funds.	**Investment EUR 400mn/ year →1.9% increase in GDP → +39,000 new employees in the medium term → 1.5% increase in budget revenues Budget costs around EUR 500mn in the medium term**	**3.3**
3	Push ahead with the infrastructure projects requested by Ford	The development of roads, railways and port of Constanta in order to facilitate the shipping of the cars produced by Ford at Craiova. This investment will enable the development of Constanta port, a strategic location at the Black Sea.	**An investment around EUR 600mn/ year over 3 years →1.8% increase in GDP → +38,400 new employees in the medium term → 1.5% increase in budget revenues**	**3**
4	Tarnița - Lăpuşteşti Hydropower Plant	Tarnița - Lăpuşteşti Hydropower Plant is one of the most important projects needed for the proper functioning and development of units 3 and 4 at Cernavodă. This hydropower will be equipped with four hydro power units, each with a capacity of 250 MW. Total costs could be shared/ financed between/ by Hidroelectica, World Bank, IFIs and commercial banks. 25% of total investment could be supported by the Word Bank; around 40-50% by private companies; Hidroelectrica will contribute with 44 hectares of land to build the plant and the artificial lake. This investment is a top priority also because it uses mainly domestic resources (construction materials, engineering services) and does not rely too much on imported goods and services. Clarification of the nature of the shareholding structure should be made in order to increase the practicability of the project.	**An investment worth EUR 1.3bn →1.2% increase in GDP on medium term → +25,300 new employees in the medium term → 1% increase in budget revenues Budget costs around EUR 270mn in the medium term**	**3**

Top investment priorities – details 2

No.	Action	Details / Comments	Macroeconomic impact	Practica-bility 1- 5
5	Full government support for a recently launched pan-European project – Extreme Light Infrastructure (ELI) which could reposition Romania on the world research map	ELI will be a new scientific infrastructure devoted to scientific research in lasers' field, dedicated to the investigation and applications of laser-matter interaction at the highest intensity level. Romania is the sixth largest force in nuclear physics in terms of quality experts and knowledge workers. Considering the professional expertise of the Romanian specialists and also the top technologies involved in this project, ELI project could start in 2012. It could attract total investments of around EUR 1bn in the next 7 years. After the completion of the ELI project, Măgurele could become a Technological Hot Spot and could attract additional investments like a back-up center and the development of the top medical facilities. Part of the costs could be covered by EU funds.	**European + private funds worth EUR 0.3-1bn →0.6% increase in GDP on medium term → +12,700 new employees in the medium term → 0.5% increase in budget revenues**	**2.5**
6	Development of the infrastructure necessary to transport the additional amount of energy that will be produced in wind farms in Dobrogea	Additional energy infrastructure for wind farm in Dobrogea with estimated costs of EUR 50mn during 1 year. The construction of the 3rd and 4th nuclear reactors at Cernavodă along with the development of more wind farms in Dobrogea call for a quick solution to the problem of adequate infrastructure for the supply of energy to other countries and continents. Note: The wind farms project could deliver quick gains in terms of economic growth through production and export of energy. The installed power of wind farm project is equivalent to almost a nuclear reactor.	**Investment EUR 50mn in the next year →0.05% increase in GDP on short term→ +980 new employees on short term → 0.04% increase in budget revenues on short term**	**2.5**
		The government should speed up the development of an underwater power cable in the Black Sea between Romania and Turkey (total investment of 400-600mn EUR during the next 5 years). The feasibility study for the undersea power cable to interconnect Romania and Turkey was completed in May 2010. At present it is reviewed by the parts. Note: The role of this project is to meet higher electricity demand in Turkey and to find thus new export markets for the electricity produced in Dobrogea region. As Turkey is considering to develop its own production facilities in the next years and Bulgaria also plans to become a top exporter of electricity in the region, Romania should look for alternative solutions.	**The development of underwater power cable project worth EUR 400-600mn →0.5% increase in GDP → +9,750 new employees in the medium term → 0.4% increase in budget revenues Budget costs around EUR 250mn in the medium term**	**2.3**

Top investment priorities – details 3

No.	Action	Details / Comments	Macroeconomic impact	Practica-bility 1- 5
7	Construction of the 3rd and the 4th nuclear reactors at Cernavodă nuclear plant	Total costs of the 3rd and 4th nuclear reactors estimated at around EUR 4bn over 5-6 years which could be covered by a public-private partnership. Legal clarification and the nature of the ownership structure should be completed quickly.	**Investment EUR 800mn/ year →3.8% increase in GDP in the medium term → +78,000 new employees in the medium term → 3.1% rise in budget revenues Budget costs around EUR 2bn in the medium term**	**4.3**
		Romania should also make steps forward with the construction of another nuclear plant, likely located in Transilvania (3.8- 4.5bn EUR/ 1000MW, total cost 8-10bn EUR in the next 15 years).	**Investment EUR 600mn/ year in the next 15 years →2.9% increase in GDP on medium term→ +58,500 new employees in the medium term → 2.3% increase in budget revenues**	**3.6**
8	UEFA European Football Championship 2020/2024 – Romania Co-host nation	Romania can benefit from the previous experience from the organizers of the 2012 EC (Poland and Ukraine), which can be easily replicated. Costs will be shared between two countries and over a long period of time. A joint bid could be submitted together with Bulgaria or Hungary for 2020/2024 European Football Championship. The resulting infrastructure (airports, highways, hotels, stadiums) will remain in the country and tourism will receive a boost. Based on first estimates: the number of tourists will increase by at least 1 million during the event and 0,5 million yearly thereafter. All this, at an estimated cost for Romania of approx. EUR 10 billion, to be spread over 9-10 years. An in depth feasibility assessment should be performed.	**A project worth EUR 10bn over the next 10 years →4.8% increase in GDP on medium term → +97,500 new employees in the medium term →3.8% increase in budget revenues on medium term**	**3**
9	Development of infrastructure aimed at preventing flood calamities	Romania is among the countries with “very high” level of risk in terms of exposure to natural disasters and extreme weather. The number of natural disasters has significantly increased in the last five years, resulting in higher costs and significant damages.	**Investment worth EUR 2.5bn →2.4% increase in GDP → +48,750 new employees in the medium term → 1.9% increase in budget revenues**	**1.7**

Top investment priorities – details 4

No.	Action	Details / Comments	Macroeconomic impact	Practica-bility 1- 5
10	Development of the irrigation network in agriculture – completion of Siret-Bărăgan Channel	The channel has a total length of 198 km and was started back in 1985. Construction works came to a halt after 1990 due to the lack of government funding. Irrigation is critical for the development of Romanian agriculture. Total costs could be covered by the government.	**Investment worth EUR 1.2bn →1.1% increase in GDP on medium term → +23,400 new employees in the medium term → 0.9% increase in budget revenues Budget costs around EUR 1.2bn in the medium term**	**1.7**

Disclaimer and references

- This presentation is intended to increase the awareness of Romania's pressing needs for the development of energy, road, railway and water infrastructure. More accurate information about the value of each investment project will be available after updating the feasibility studies. The costs estimated at present are taken from diverse sources with different degrees of accuracy (expert opinion, information from media and other sources).
- The private sector is ready to provide project management consultancy services if the government will ask for this.
- The high costs of the investment projects highlight the need for the prioritization of maximum five major national investment projects because it is unlikely that all ten are completed on medium term.
- We employed a series of econometric models to assess the impact of some proposed measures on the Romanian economy.Among the models, we estimated a GDP growth function with first-order autoregressive errors and four explanatory variables (GDP growth in Eurozone, non-government loans, consolidated budget deficit less interest payments and real exchange rate) over the sample period 1Q 2000 – 1Q2010. We employed the Cappiello model (2010) to assess the relation between credit growth and GDP. We extended our approach and we have used several VAR models to distinguish the response of the macroeconomic variables to a shock. We also used several models to estimate the relation between GDP growth and the unemployment rate according to Okun's Law. This is an important correlation because the way in which unemployment reacts to changes in output has implications for labor market and monetary policy. Being aware of the effects of the economic recession on real GDP, we used more models to estimate potential GDP before and after the onset of the global financial crisis.
- The estimated practicability for each individual project is an average based on estimates received from different experts.
- The results are considered to be fairly accurate. Nevertheless, they depend on a series of factors like the specific timing of the implementation of each particular measure within the boom-bust economic cycle, the future stability of the political environment, changes in the legislation, external shocks.

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