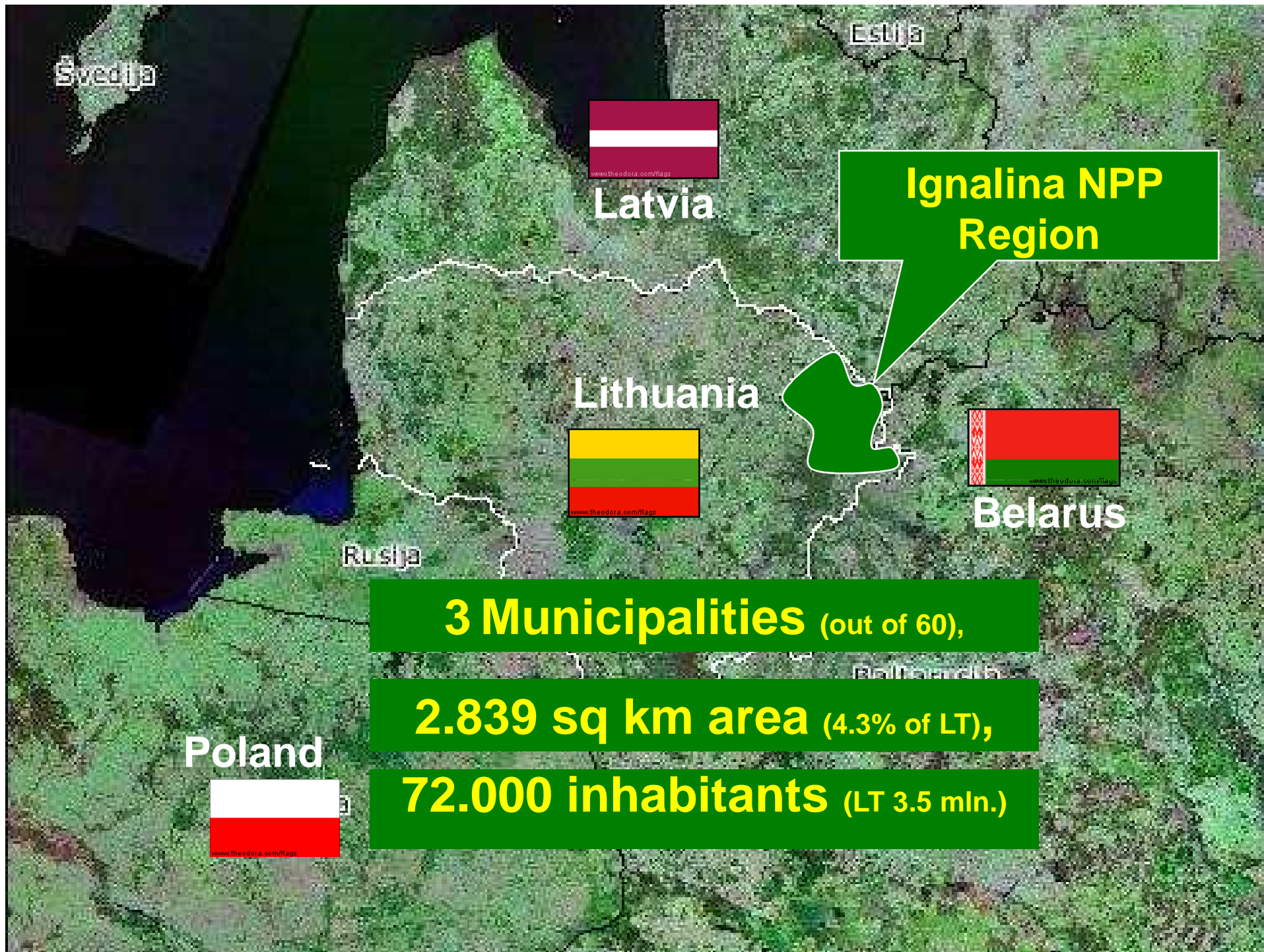


Sustainable Energy Perspectives In The Face Of Crisis And NPP Decommissioning

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**Ignalina NPP
Region**

3 Municipalities (out of 60),

2.839 sq km area (4.3% of LT),

72.000 inhabitants (LT 3.5 mln.)

Ignalina NPP Region



- Ignalina municipality
- Visaginas municipality
- Zarasai municipality

Lithuania in general

EU objective 1 region (2004-2006), convergence region from 2007
Hit by economical downturn form 2008 IV quarter.

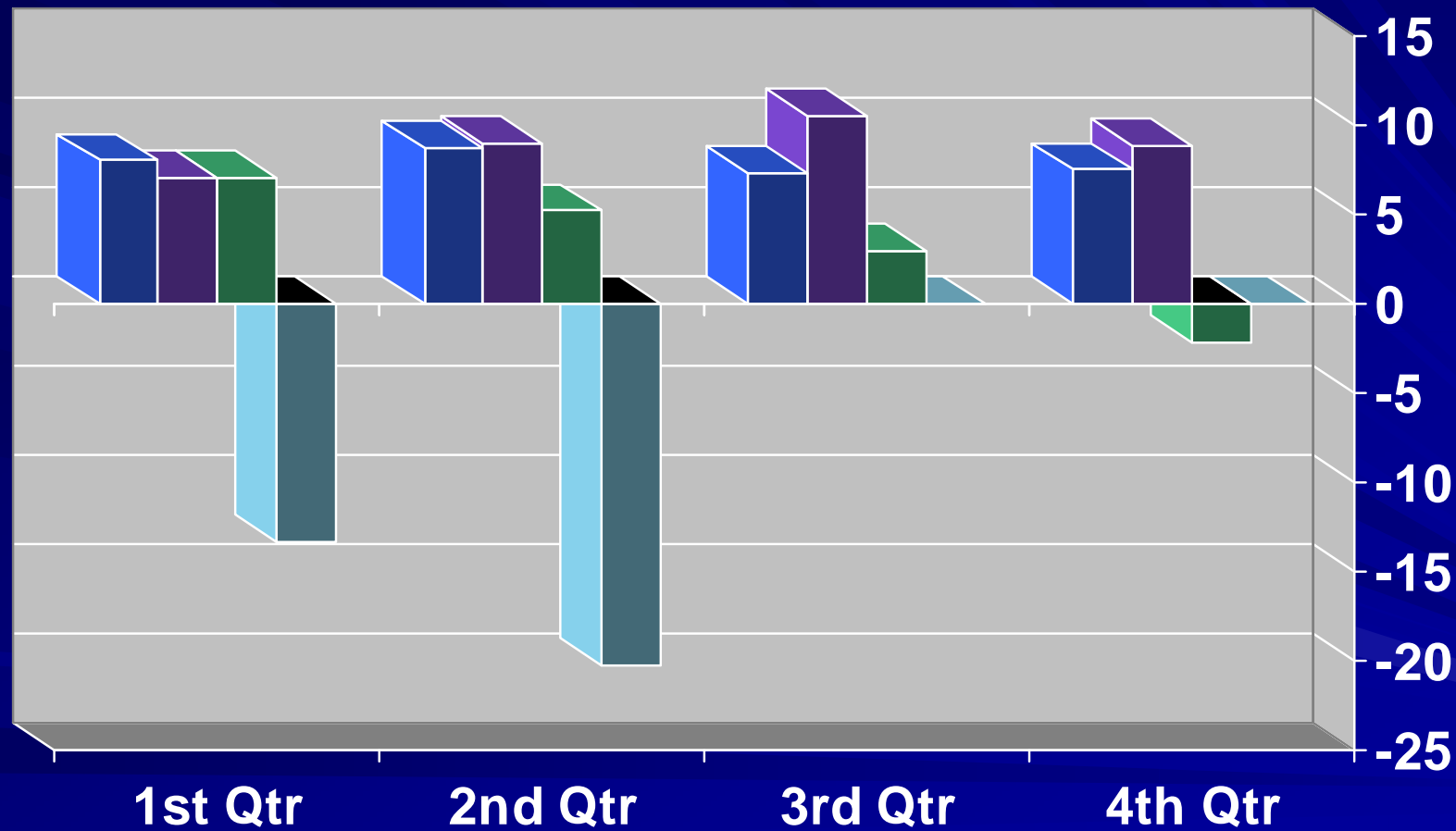
Government response – expenditures and salaries cut approx. 10 percent (hidden devaluation), not yet retire benefits

Objective – to keep National currency LITAS stable, escape loaning form IMF (as Latvia did).

Too high dependence from Scandinavian banks. High interest rates for business. Inflation caused to fail introduce euro in 2007.

Delays in EU SF 2006-2013 supported project due to long procedures
As a infrastructure investment gap in 2008 and first half of 2009

Lithuania GDP (percent)



2006

2007

2008

2009

LABOUR MARKET

Unemployment rate (survey data) fluctated
from 13 percent in january 2004
to 5 percent in august 2005
and high up to 13,6 percent in august 2009

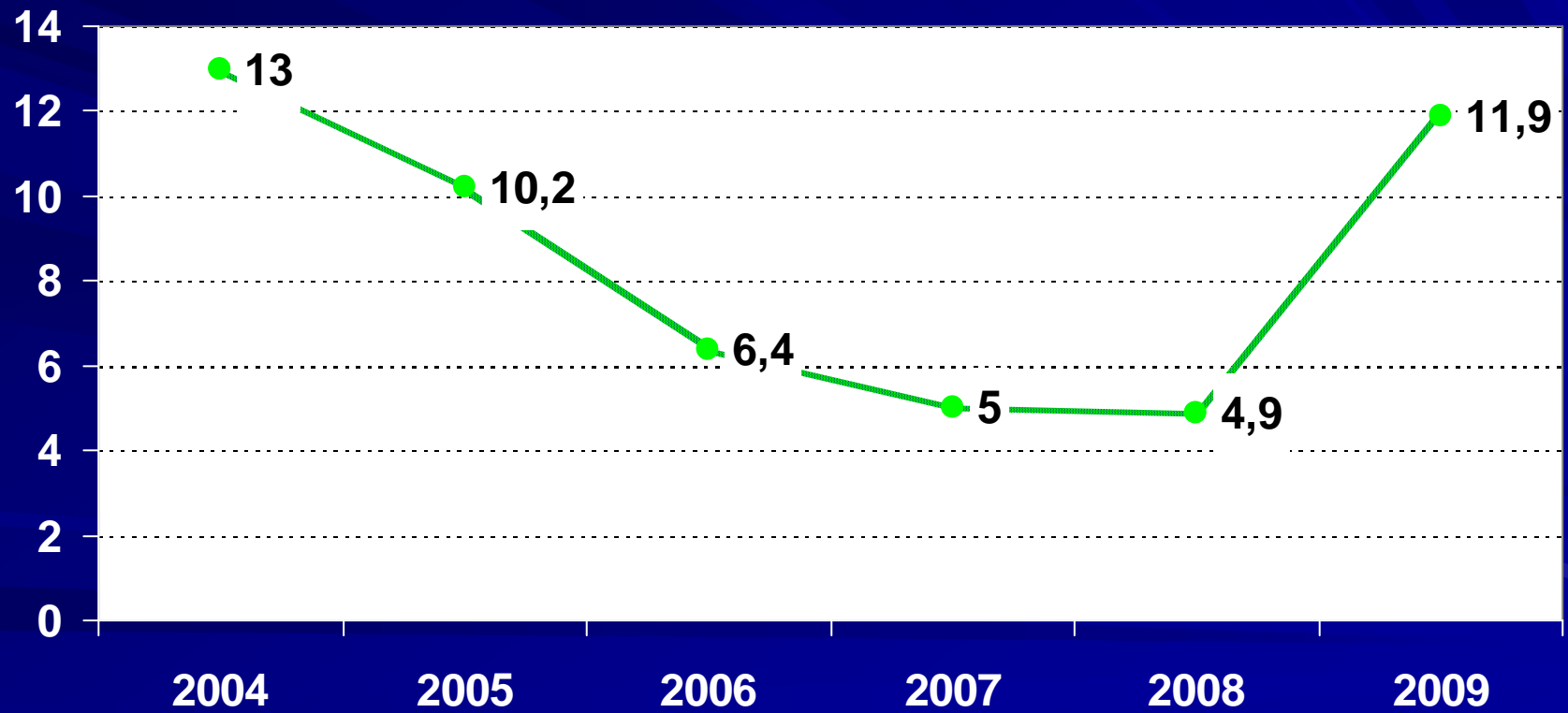
Fluctation influenced by :

Membership to the EU (2004 migration of labour
force to UK, Eire, Sweden etc. and back 2009);

Construction industry crises

Real estate bubble

Unemployment (percent)



Ignalina NPP

- In Soviet system 1978, construction of the only nuclear power plant in the Baltic States – the Ignalina Nuclear Power Plant – began. There were originally RBMK 1500 four reactors planned in the power plant project. However, only two were ultimately built and launched.
- 31 December 1983, the first unit of Ignalina NPP began operating. The world's biggest reactor was installed, totalling 1.5 million kW, as registered in the Guinness Book of Records. At the same time, construction of the third energy unit began.
- 31 August 1987, the second unit became operational at Ignalina NPP where a second 1.5 million kW reactor had been installed. When this unit was launched, 60 % of the third unit had already been built. However, construction would be stopped shortly after.

Decommissioning

Precondition of EU accession – to close RBMK 1500 (Chernobyl) type reactors with EC financial support up to 350 MEUR in 2004-2013

31 December 2004, the first unit (1500 MW) of Ignalina NPP was decommissioned.

Second unit still in operation with 1300 MW capacity producing 9.8 TWh a year – approx. total LT demand

Full decommissioning as a reality at the end of 2009

Double consequences

Public opinion transformation – INPP from “Soviet monster” to the “Backbone of national energy security”

Economical crisis – mitigation of the energy shortage and price boosting. Bigger supply from abroad. 30 percent import, 60 percent domestic, only 4 percent from renewables. Strong lobby from gas-oil suppliers

Average price for households Now -10 eurocents, approved to increase by 30 percent to 13 from next year, Instead as calculated doubled before the crises

NEGATIVE - additional pressure on households and industry especially in economical downturn

POSITIVE - restructuring of energy production and efficiency rising. Rethinking of Nuclear energy perspective.

INPP Employment

- 2790 on 2009 08 (projected 1500 in 2010)
- 3517 on 2004 12 (decommissioning of the first unit)
- 5050 on 1999 08



Impact on Regional development

Unemployment rise

Skilled labor force migration from the Region

Dismantling works and nuclear waste storages construction

Local resources for better use – wooden chips, wastes, biomass, hydro.

Better tourism development possibilities “Land of lakes”

Psychological and geopolitical impact

New NPP – political response or economical project

National security case.

EIA procedure completed on 3400 MW capacity. Existing site as an advantage.

Feasibility study performed. Bid for Private investor projected in 2010 .
Commissioning – 2018 -2020. Price from 4 bil. EUR ???

LT-LV-EE-PL national energy supply companies participation

Necessity of Power lines grid “Bridges” to Nordic countries (EU project launched) and West Europe via Poland (not yet)

Non EU Neighbors strike back : Belarus, Russia (Kaliningrad)

NUCLEAR in global warming

- Yearly fuel consumption per power plant of 1000 MW capacity
- **Type of a power plant Fuel consumption per year**

■ Coal-fired power plant	2.7 million tons of coal
■ Oil-fired power plant	1.7 million tons of heavy fuel oil
■ Gas-fired power plant	2.03 billion of m ³ of natural gas
■ Nuclear power plant	32.9–36.2 tons of uranium oxide

Source FT 2009 09 09

- Announced to construct 50 new reactors in Europe, 44 in Russia, 30 in US, 125 in China.
- Incl. non EU Neighbours: Belarus, Russia (Kaliningrad)

Alternatives sources

- Energy Co-generation in existing oil-gas only heat energy producing systems.
- Renewables now only 4 percent. Wooden chips powered generators to launch.
- Solar generators for water heating on public and individual houses
- Cheaper import than domestic supply

Efficiency Rising

- Renewable sources and energy consumption efficiency rising – national and local priority
- National program of private-owned blockhouses renovation seeking energy savings
- Regional and local response – broad program of public-owned houses renovation and saving technologies using EU structural funds (was available in 2004-2006)

Thank you for attention!

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