Συμβούλιο Εθνικής
Ενεργειακής Στρατηγικής

Greece in the Nuclear Energy Stadium: A non-player but concerned spectator

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The Nuclear Option for SE Europe

A Workshop Convened
By the Institute of Energy for South East Europe (IENE)
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Introduction

"Thanks to the Institute of Energy for South-East Europe for organising this workshop at a very appropriate place and time."

Why the right place?

- Αθηνά…
- The goddess of wisdom!

Sofia and Σοφία

Why the right time?

A month after the Ministerial Conference in Beijing

IAEA Director General Dr. Mohamed ElBaradei:

"Most of the 30 countries already using nuclear energy plan to expand their output.

"More than 60 countries have informed the IAEA that they might be interested in launching nuclear power (12 actively pursuing)".

Why the right time?

The unprecedented financial crisis:

The international community just beginning to understand and assess its impact.

Thierry Dujardin of OECD: "Although presently more difficult to finance heavy investments in infrastructure, long term prospects for nuclear energy will not be deterred"

Why the right time?

The ecologists VS Ecology!

Lazarus

The Nuclear Energy Renaissance (sometimes also referred to as Lazarus…) Is largely due to concern about global warming

due to CO_2 emissions

low carbon economy

The key word is:
low carbon economy for the future.

In March 2009, ***61 electricity generating companies*** (ΔΕΗ was one of them) from the ***27 European Member States*** signed an open declaration in Brussels, the ***majority*** of them committing to generate electricity with ***zero emissions of CO_2*** by 2050, with a wide range of clean electricity solutions, among which ***nuclear energy was*** included.

The Challenge

A most challenging task,

an almost impossible mission because :

- **¾ of the electricity generated globally today comes from *fossil fuels***
- **World-wide demand for electricity increasing at rates *higher than World-GNP* and higher than increase in total energy demand**

Available Options

- The least “malignant” of fossil fuels, Gas, generally acceptable but with dire problems of availability and accessibility.

- Clean coal plants. The relevant technology for CCS still unproven and untested.

- Renewables expected to have the highest rate of growth, but not likely to replace hard coal at the top of the list

- A major technological breakthrough in electricity storage needed for Renewables to become dominant.

- Conservation and rational use of energy a universal sine qua non.

What about the nuclear theme?

It is clear that in the last two to three years, one country after the other is un-shelving or initiating plans for the installation of nuclear reactors.

This appears to be particularly true in our neighborhood.

however is it a theme or anathema?

As we continue to read and listen to horror stories!

Nuclear Energy : The European Union's position

The Commission position :

↔Recognizes the contribution of nuclear energy in CO2 emission reduction.

↔Underlines the paramount importance of ensuring nuclear safety and security.

↔States that if in any EU Member the level of nuclear energy generation is reduced, it is essential that this reduction be phased-in with the introduction of other low-carbon energy sources for electricity production.

↔Finally, the Commission confirms that "it is for each and every Member State to decide whether or not to rely on nuclear electricity".

Three issues seem to create public concern about nuclear power:

(in order of increasing importance)

1. Weapons Proliferation

A threat to whom? Countries or organizations that want to possess nuclear weapons may use other methods to obtain them that are less subjected to international controls.

2. Radioactive Waste Disposal

Not a problem for safe storage for several decades.

No acceptable solution in sight for storage for hundreds or thousand years.

But technology is working on solutions that are either high up ***or deep down…***

3. Reactor Safety from Accidents.

A controversial issue…

Still, the problem persists and has a name:

C h e r N O b y l

And a date:

April 26, 1986

Three Mile Island (March 28, 1979):

A technical failure of equal gravity

as Chernobyl

But a most reassuring evidence

that a properly designed reactor

can survive even the worst technical failure

with no loss of human life

or damage to the environment

Why a spectator?

What about Greece and why a "spectator"?

First, a historical account…

{In the past, the “spectator” had tried to come down to the field and “play ball” several times…}

- The atoms for fresh water attempt
- The atoms for tobacco attempt
- The atoms for preparedness attempt

Atoms for fresh water

- Starting from as early as the late 1950's, many scientists produced paper studies on nuclear application in the Greek electricity generation mix.

- At that time the total installed capacity in Greece was less than 1000 MW and consumption of electricity less than 3000 MWh per year!

A lot of emphasis on use for water desalination.

Atoms for tobacco

Mid 1960's early 1970:

Great Britain to install a *nuclear reactor* in Greece and receive *tobacco* as payment!

Atoms for Preparedness

Mid to late 1970's

The Late Konstantinos Karamanlis (then Prime-Minister and later President of the Republic):

"It will probably be after my lifetime, but when the time comes, I want my Country to be equipped with a team of excellence in personnel that will be capable for the control and assurance of proper and safe operation of nuclear electricity generators".

Greek energy policy concerning nuclear power today

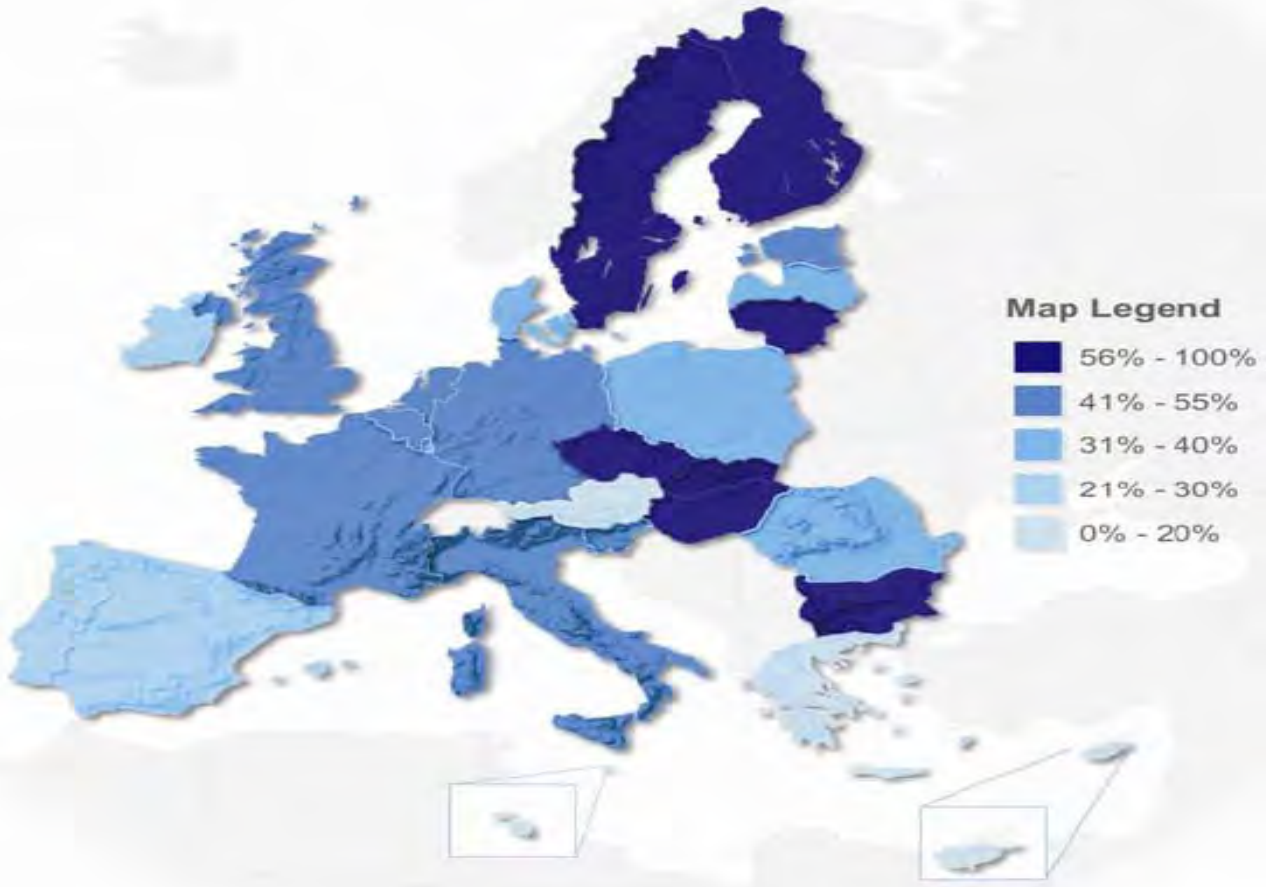
Before reading the verdict, present the major consideration:

Public opinion

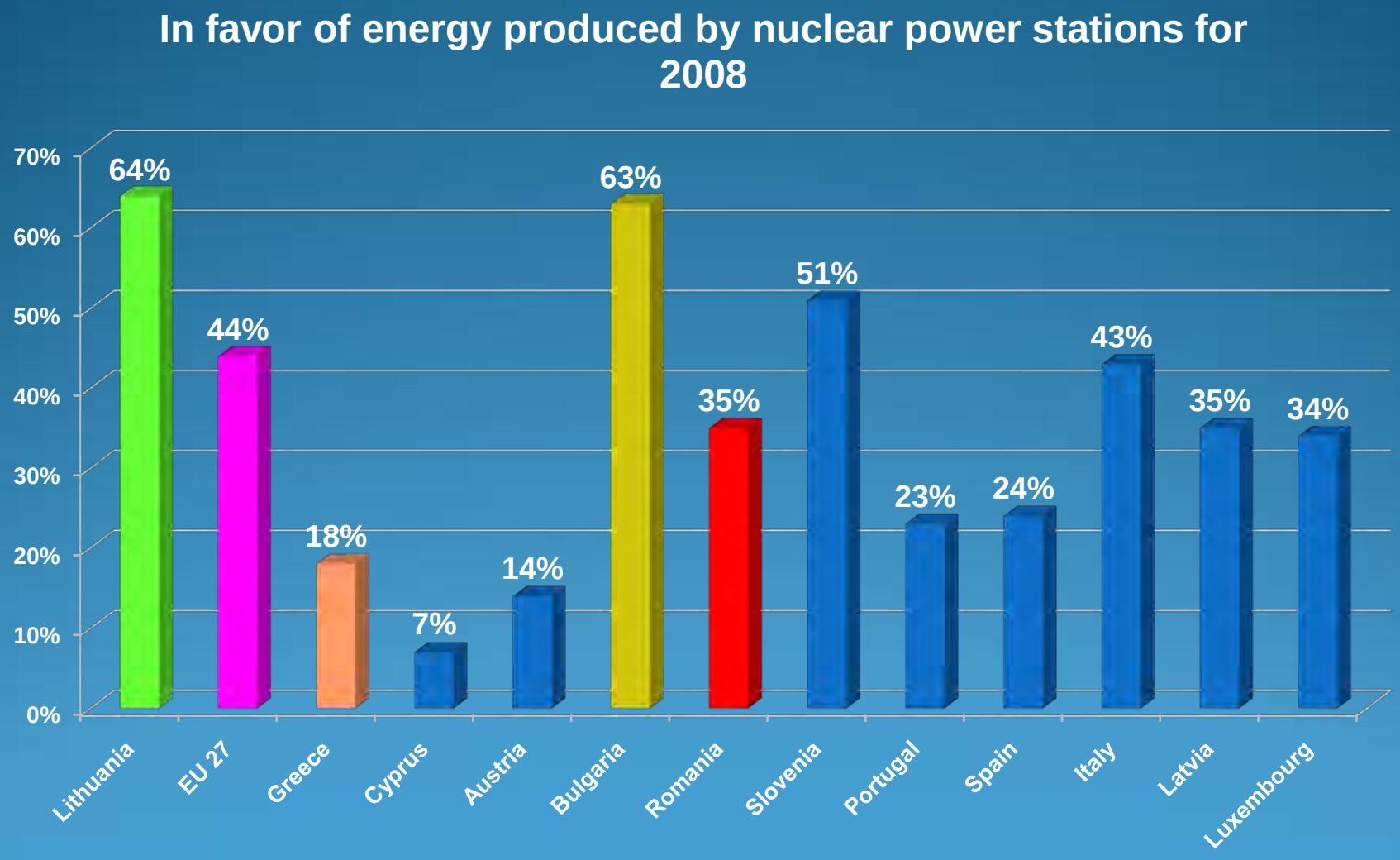
Special Eurobarometer 297

Answers: Total "in favour"

Czech Republic	64%
Lithuania	64%
Hungary	63%
Bulgaria	63%
Sweden	62%
Finland	61%
Slovakia	60%
The Netherlands	55%
France	52%
Slovenia	51%
Belgium	50%
United Kingdom	50%
Germany	46%
European Union (27)	44%
Italy	43%
Estonia	41%
Poland	39%
Denmark	36%
Latvia	35%
Romania	35%
Luxembourg	34%
Spain	24%
Ireland	24%
Portugal	23%
Greece	18%
Malta	15%
Austria	14%
Cyprus	7%



Percentage of supporters of energy produced by nuclear power stations in the member states 2/3



Effort to explain this very negative public acceptance of nuclear energy in Greece

The reasons cited word-wide:

- Weapons Proliferation
- Radioactive waste disposal
- Reactor safety from accidents

Plus some particular to the Greek environment:

- Heritage
- Greece's Seismic nature
- Ignorance

Greece's anti-nuclear heritage…

"in the land of Apollo and Aiolos

one should favor energy sourced from the sun and wind and not from alien sources such as nuclear…"

A small reminder: "in the land of Socrates and Plato no one is entitled to oppose a dialogue on nuclear energy…"

The earthquake-fear argument

It is true that many areas in Greece have a high seismic record

but…

No correlation found between countries' seismic history and installation of reactors

There has never been a nuclear accident,
serious or minor, that was caused by an earthquake.

…and the ignorance argument

“Nuclear reactors contribute to the increase of the Earth’s temperature

Because even though they emit no CO_2

they emit a lot of heat”!!!

So, what is the verdict for the player or spectator role today?

The verdict is “no nuclear”.

- That is the official position of the Greek Government, in a rare consensus with all political parties!
- It is also the position that the Energy Council supports unanimously.
- However, the Council underlines the need for alertness, awareness and preparedness and a serious, impassionate public discussion.
- Position also endorsed by the ***Academy of Athens***

Suggestions by the Academy of Athens Energy Committee (2009):

Re- consideration of all electricity generation sources, not excluding nuclear

Launching of an impassionate public dialogue on nuclear energy's pluses and minuses.

Emphasis on need to create competent human resources

Conclusions

The nuclear option is excluded from Greek Energy Planning

Although in politics one must never say "never"
it is extremely unlikely
that "the spectator" -in our metaphore-
will in the foreseeable future become a "player".

At least not in "a Stadium" located in Greece

Yet with nuclear reactor installations, just like with the UEFA Cup, "games" are also played in stadiums away from home….

This latter eventuality for a Greek "team" (or Corporation) cannot be excluded!

And leaving you with this thought….

I thank you for your attention

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