



# A Second NPP in Slovenia?

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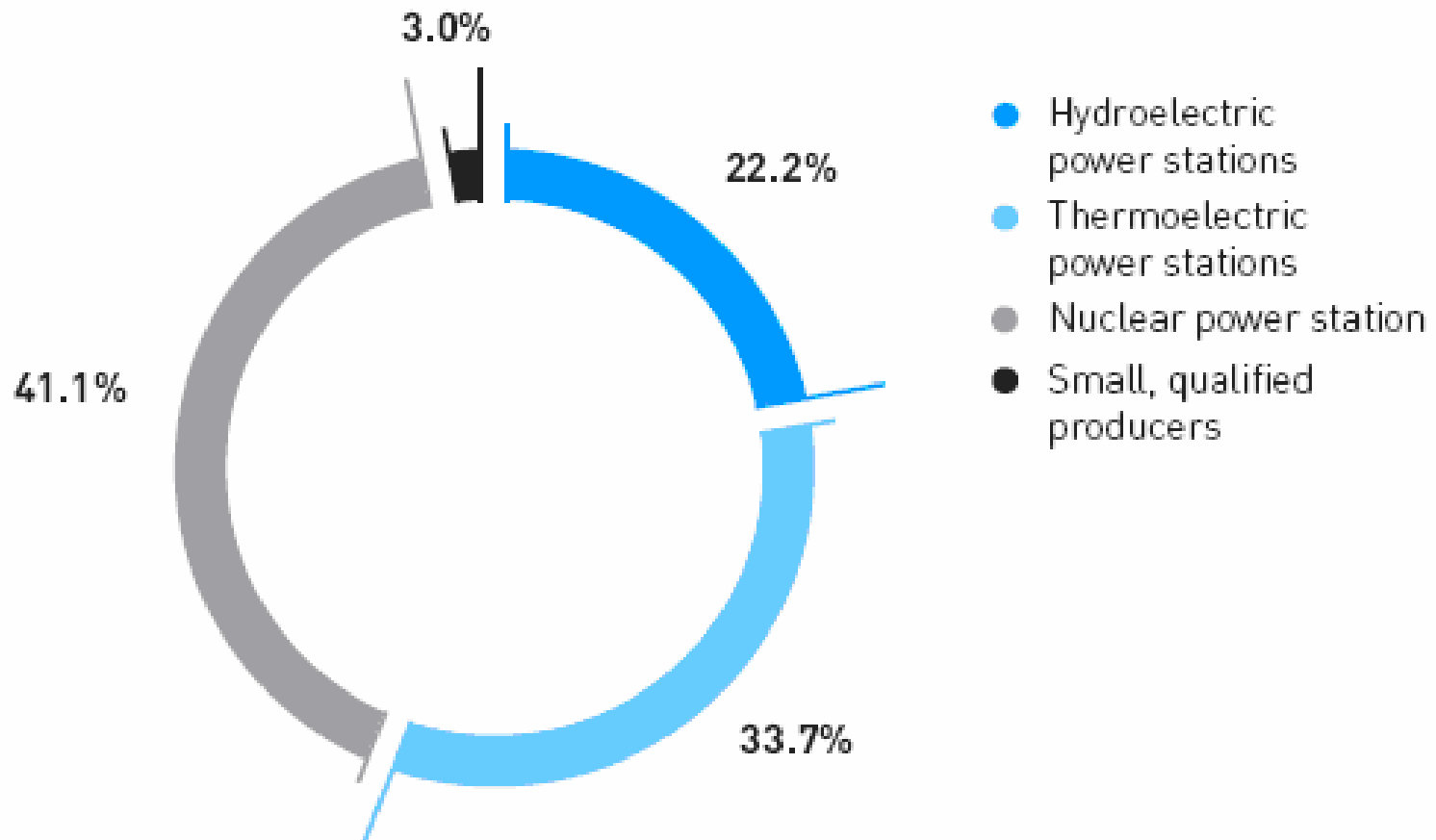
NGO Workshop on a second NPP in  
Slovenia, organised by "Fokus"

"Celica", Ljubljana, 22.1.2007

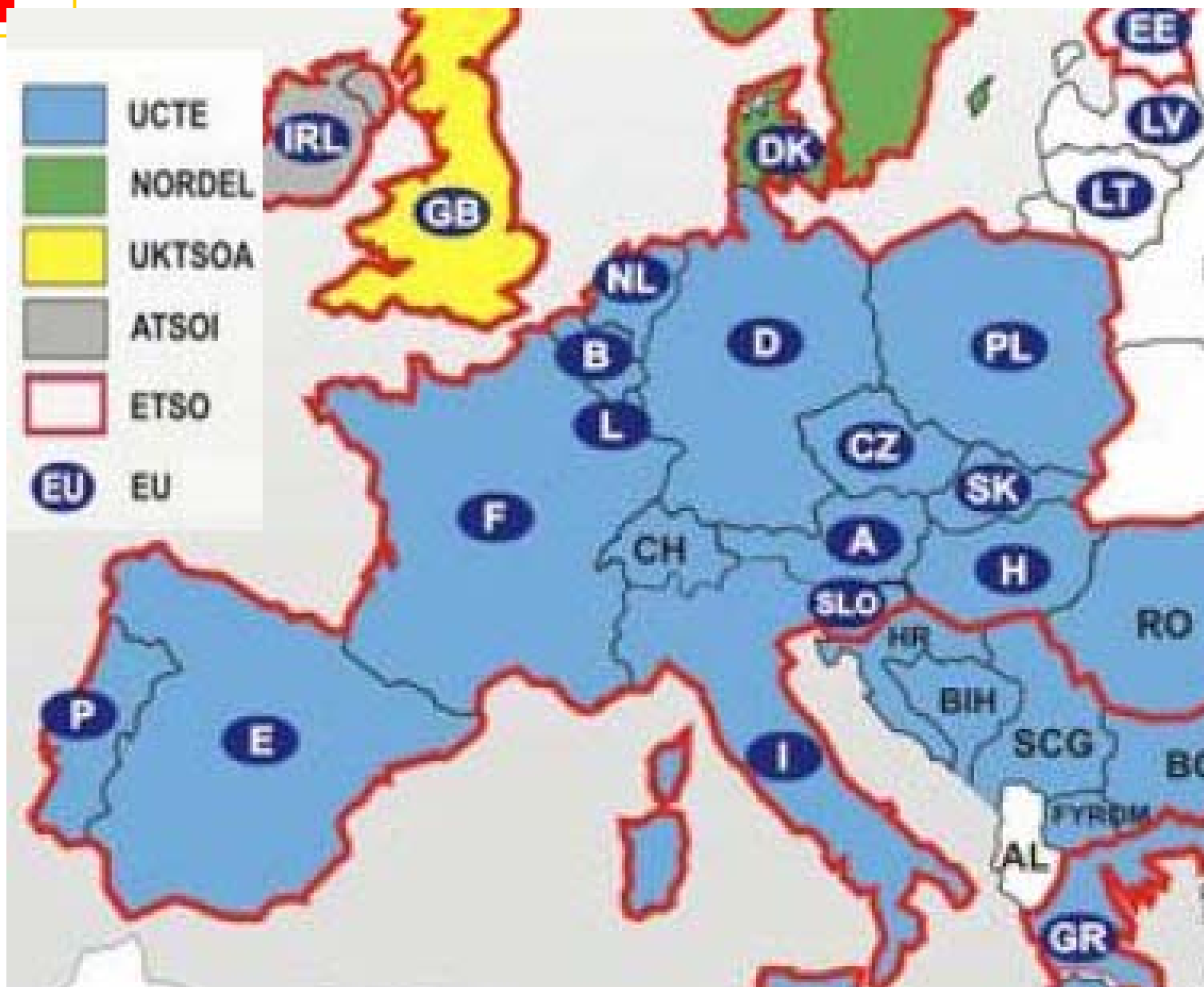
*dr. Mišel G. Tomšič*

# Energy Background for NPP2

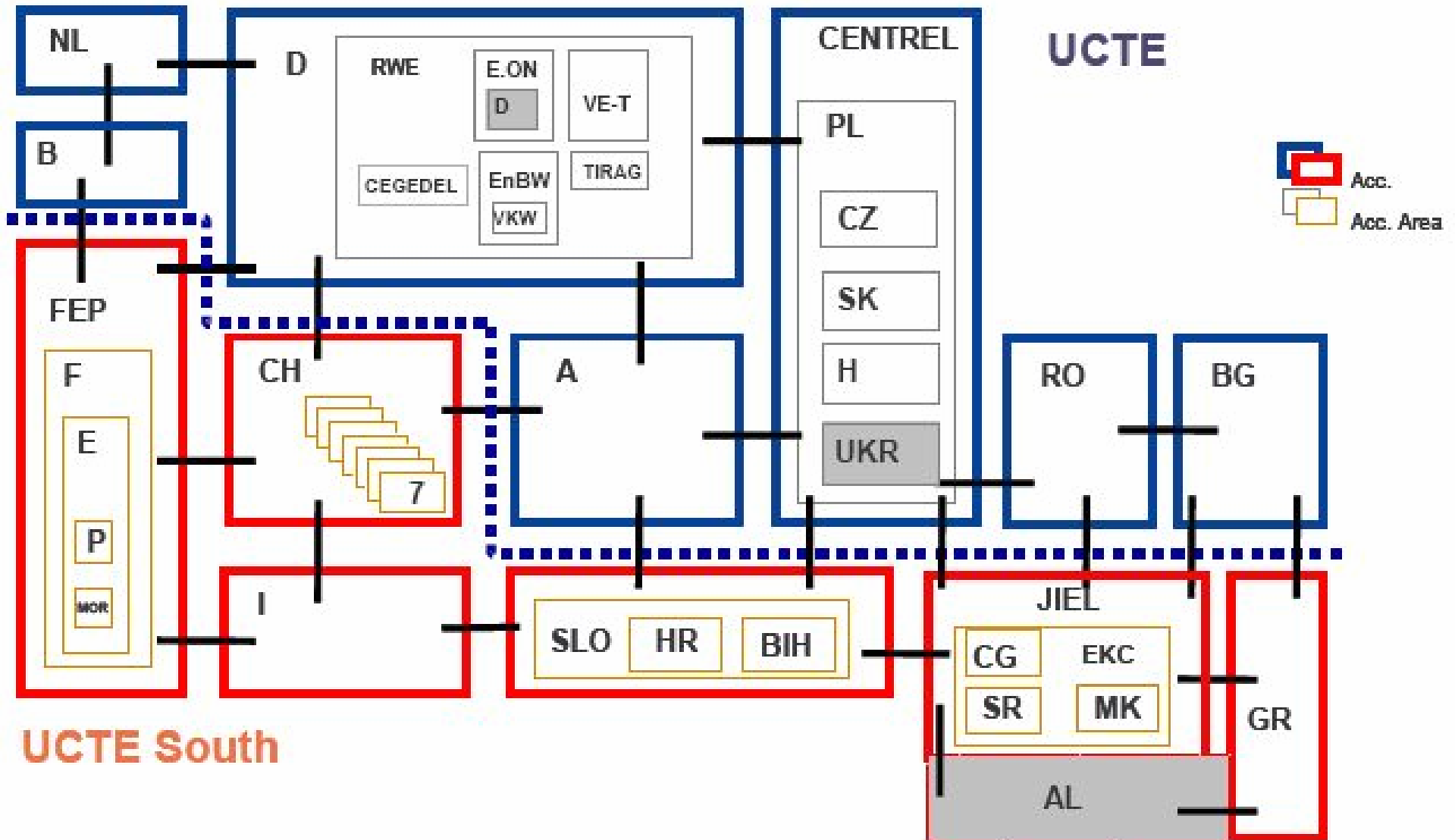
- Structure of production sources for electricity in Slovenia in 2005



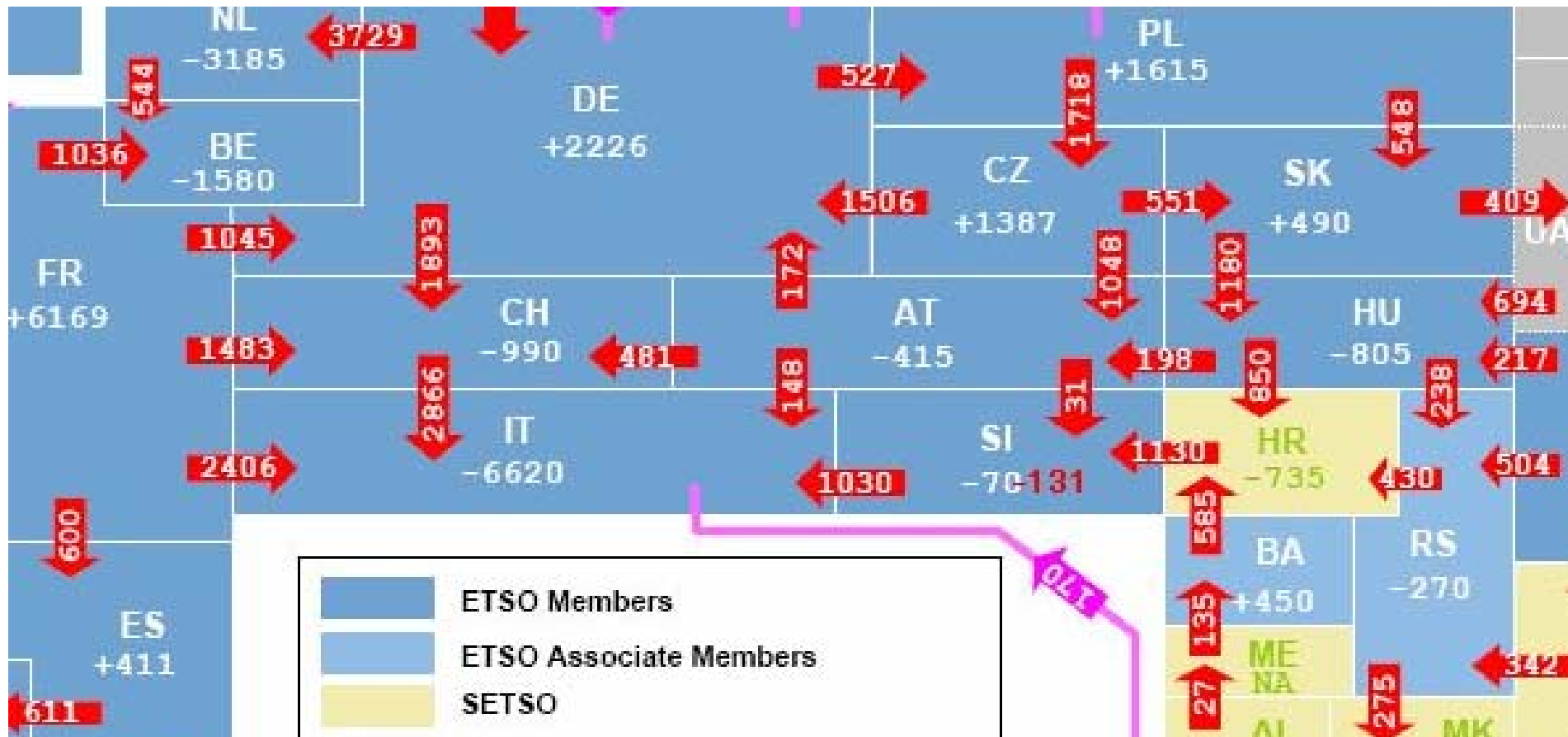
# Electricity market: Europe



# Continental Europe Electricity Blocks

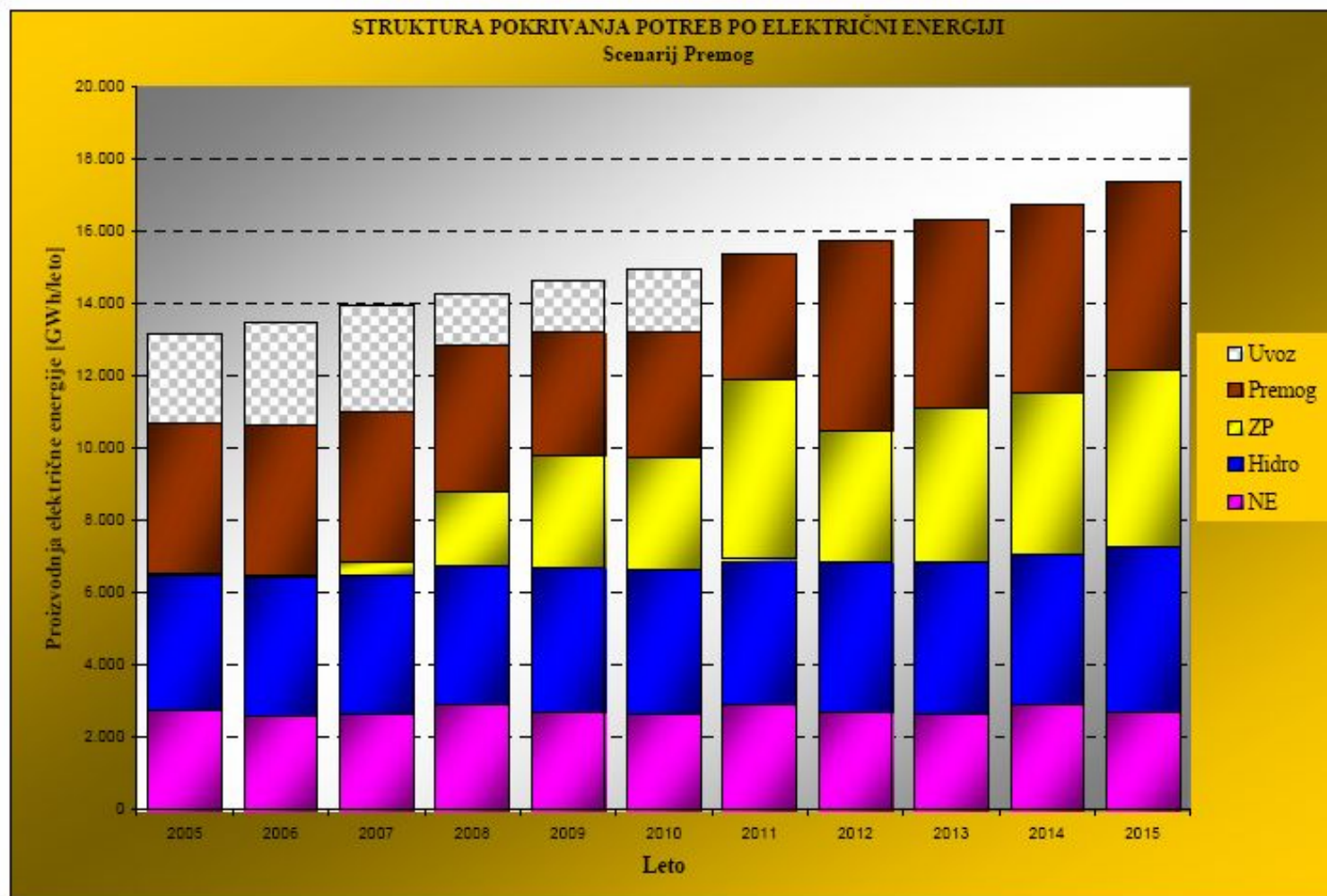


# Reference flows UCTE, peak of 1.17.07



# NPP2 not needed for Slovenia

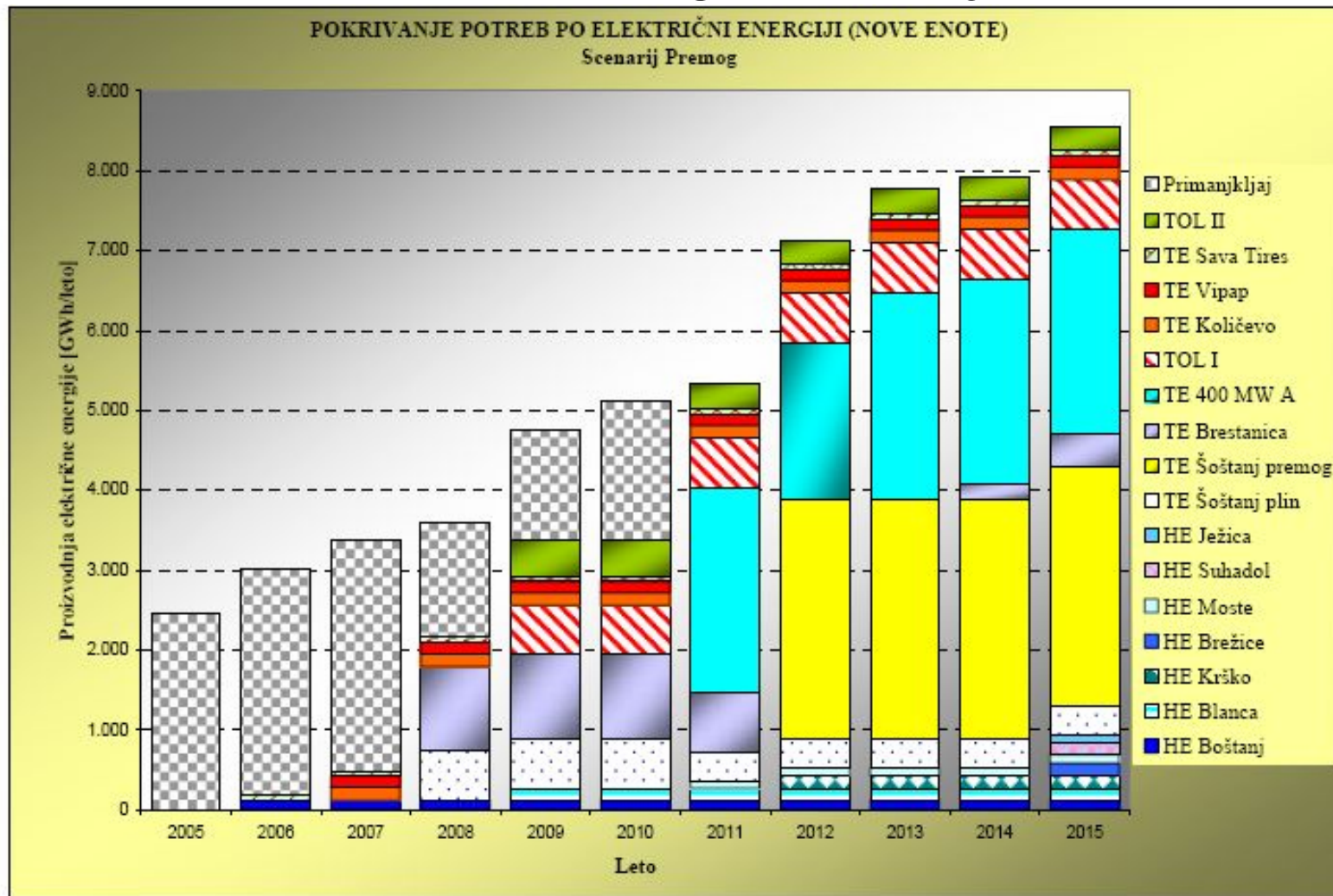
- Coal scenario, IRNE, IBE, 2005



Indikativni razvojni načrt energetskega sektorja - IRNES; IBE 2005, s. 116 od 175

# New power plants w/o NPP2

- Coal scenario + some gas and hydro >10MW





# NPP2 (Krško) is an immature idea

- From an energy study 2005 (IRNES, IBE 2005)
  - No mention of NPP2, only life extension for #1

## 2.1.2.4 Nuklearna elektrarna

Indikativni razvojni načrt energetskega sektorja -  
IRNES ( predstavitev, elaborat ) ; IBE 2005

Jedrska energija je leta 2001 v primarni rabi energije predstavljala 19,1%. Z uveljavitvijo pogodbe med vlado R Slovenije in vlado R Hrvatske v letu 2003 o ureditvi statusnih in drugih pravnih razmerij v Nuklearni elektrarni Krško (NEK) se 50% proizvedene električne energije dobavlja hrvaškemu elektrogospodarstvu. NEK je v solastništvu ELES GEN in hrvaške elektroprivrede (HEP) v enakih deležih.

Dolgoročno ohranjanje proizvodnje električne energije v NEK ostaja mehanizem za doseganje zanesljive oskrbe z energijo tudi v prihodnje. Poleg tega je proizvodnja električne energije v NEK pomembna tudi s stališča omejevanja emisij TGP. Zaradi diverzifikacije virov energije je smiselno, da se delež električne energije iz NEK ohrani približno na sedanjem nivoju. Električna energija iz NEK je cenovno ugodna, zato njena prisotnost na slovenskem trgu izboljšuje konkurenčnost na strani ponudbe električne energije. S tem se posredno povečuje tudi konkurenčnost slovenske industrije.

Za varno in zanesljivo delovanje NEK tudi v prihodnje je potrebno:

- kontinuirano uveljavljanje ustreznih ukrepov za zagotavljanje jedrske varnosti elektrarne, zagotavljanje neodvisnega nadzora nad obratovanjem in ustrezno informiranje javnosti in
- s sistematičnimi analizami proučiti možnost za podaljšanje življenjske dobe NEK, (z analizami začeti najkasneje 2008 in do 2012 sprejeti odločitve).

s. 23/175

## 2.1.3 Energetski objekti za prenos in distribucijo električne energije

# Main study for NEP 2004: IJS 2003



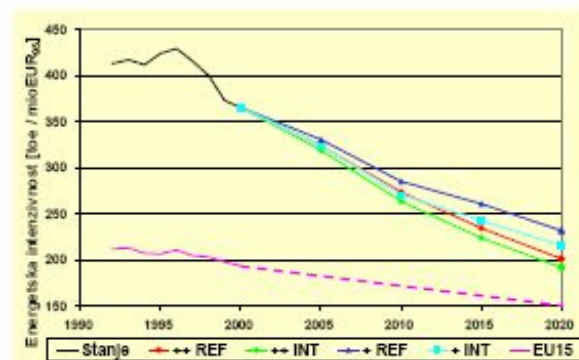
Institut "Jožef Stefan"  
Center za energetska  
učinkovitost

- Analysis of energy strategies and long-term energy balances up to 2020

Naročnik: Ministrstvo za okolje, prostor in energijo

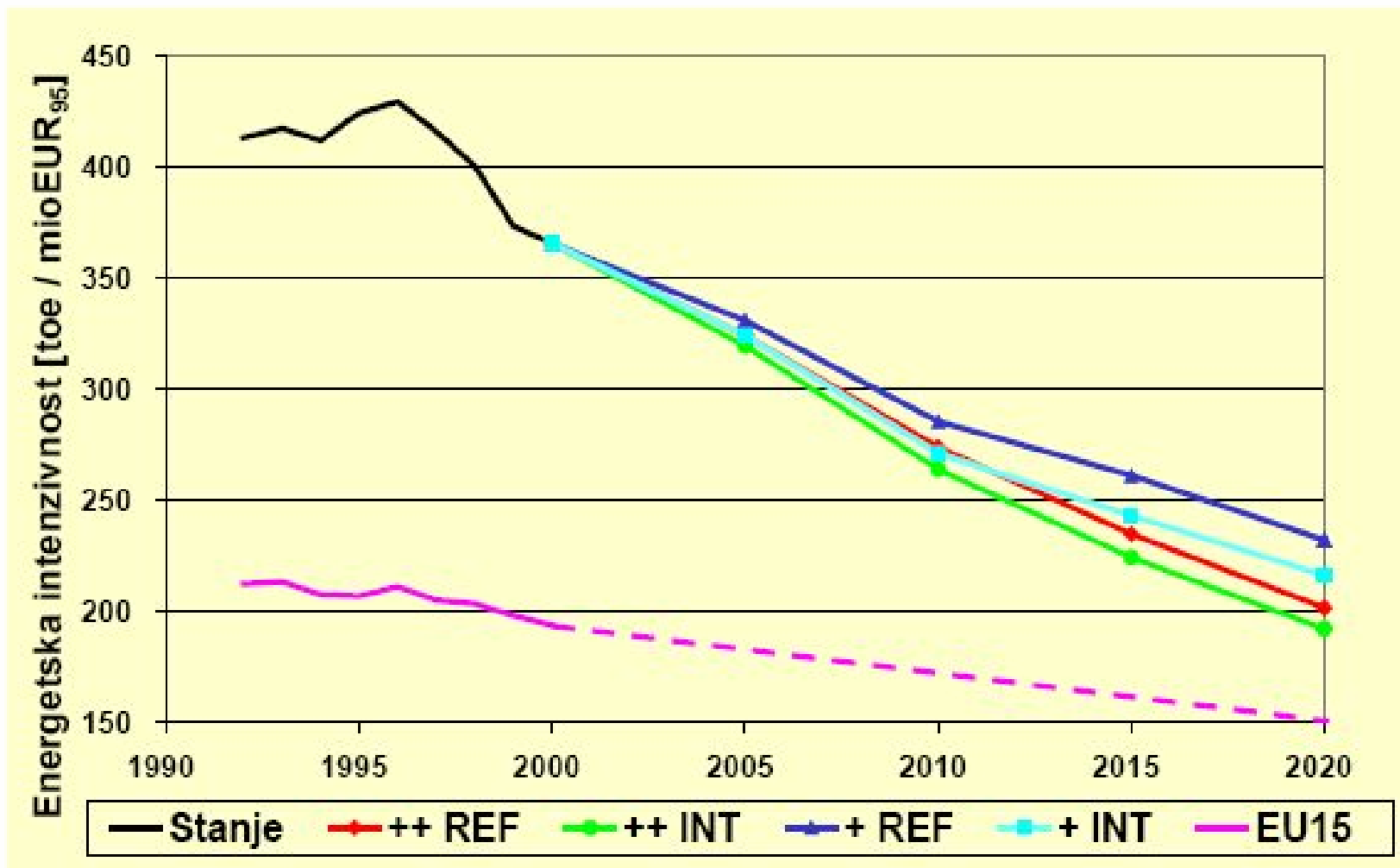
**Analize energetske strategije in dolgoročne energetske bilance RS za obdobje 2001-2020**

**Končno poročilo**



IJS-DP-8775, Ljubljana, 2003

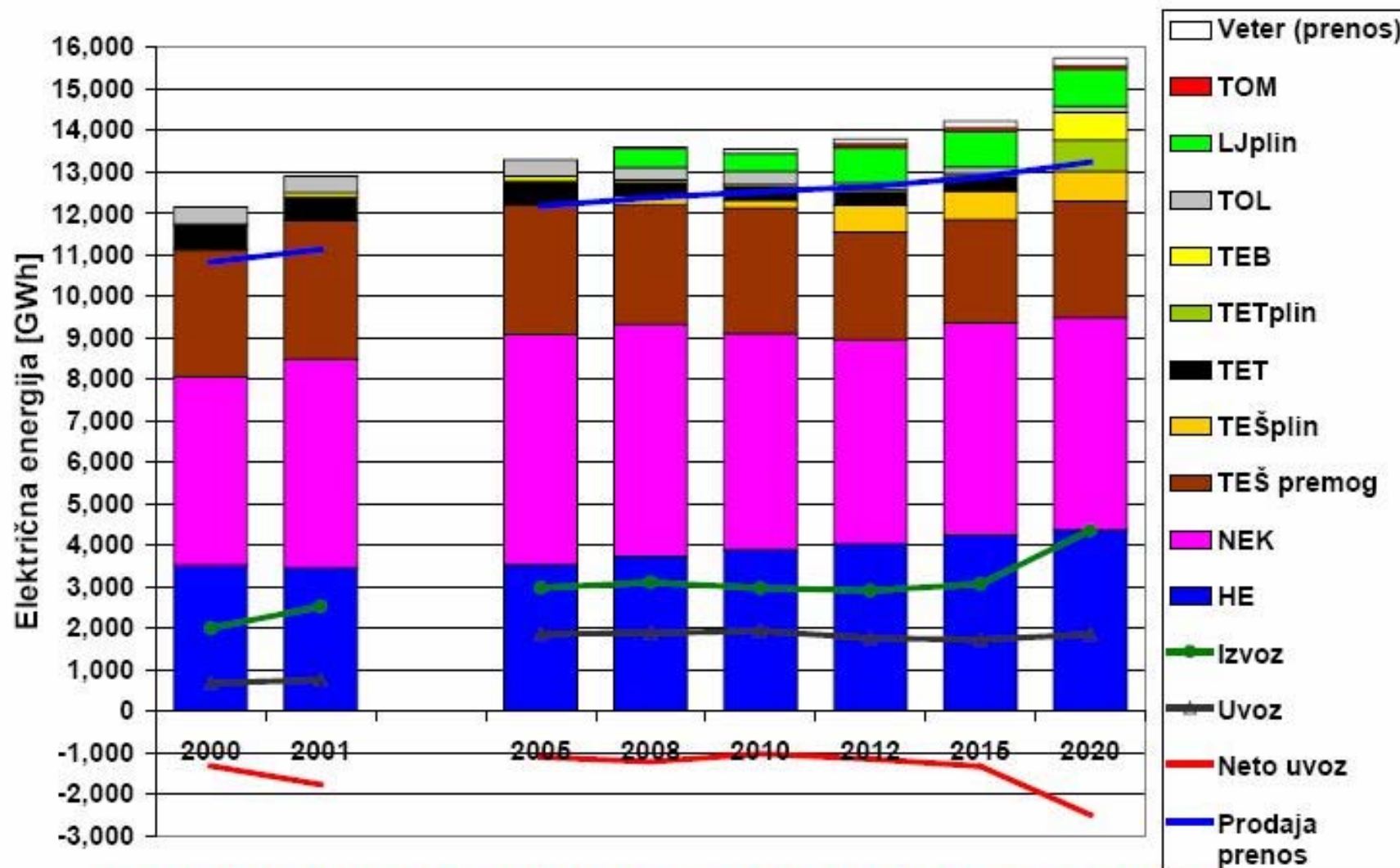
# Proposed #1: Energy efficiency



**IJS-DP-8775, Ljubljana, 2003**

# Less power plants in EE strategy (JSI)

## Excess power in 2020





## Why NPP2 ?

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- NPP2 was declared as one of the major long-term projects for development Slovenia by the government (decision of October 12th 2006)
  - No feasibility study released to the public
    - A back-of-the-envelope calculation?
  - No compelling power supply arguments
  - NP is not a commercially competitive technology
- What are the driving powers behind the NPP2 idea?



# Actors in favour of NPP2

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- Who are the actors
  - Nuclear experts
  - Nuclear industry
  - Politics
- Relative power
  - Experts: not a very powerful lobbying group
  - Nuclear industry: none in Slovenia
  - Politics - yes!!
    - Local (Lower Sava Region, Minster Vizjak)
    - National (SDS)



# Why is the “project” urgent?

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- Cash flow
  - NPP#1 soon to be fully paid-off
  - Electricity prices high
- What is the tune?
  - 2.5 TWh x 20 Euro (price-cost) difference
  - = 50 million Euro/year
- This cash flow is to be “secured”



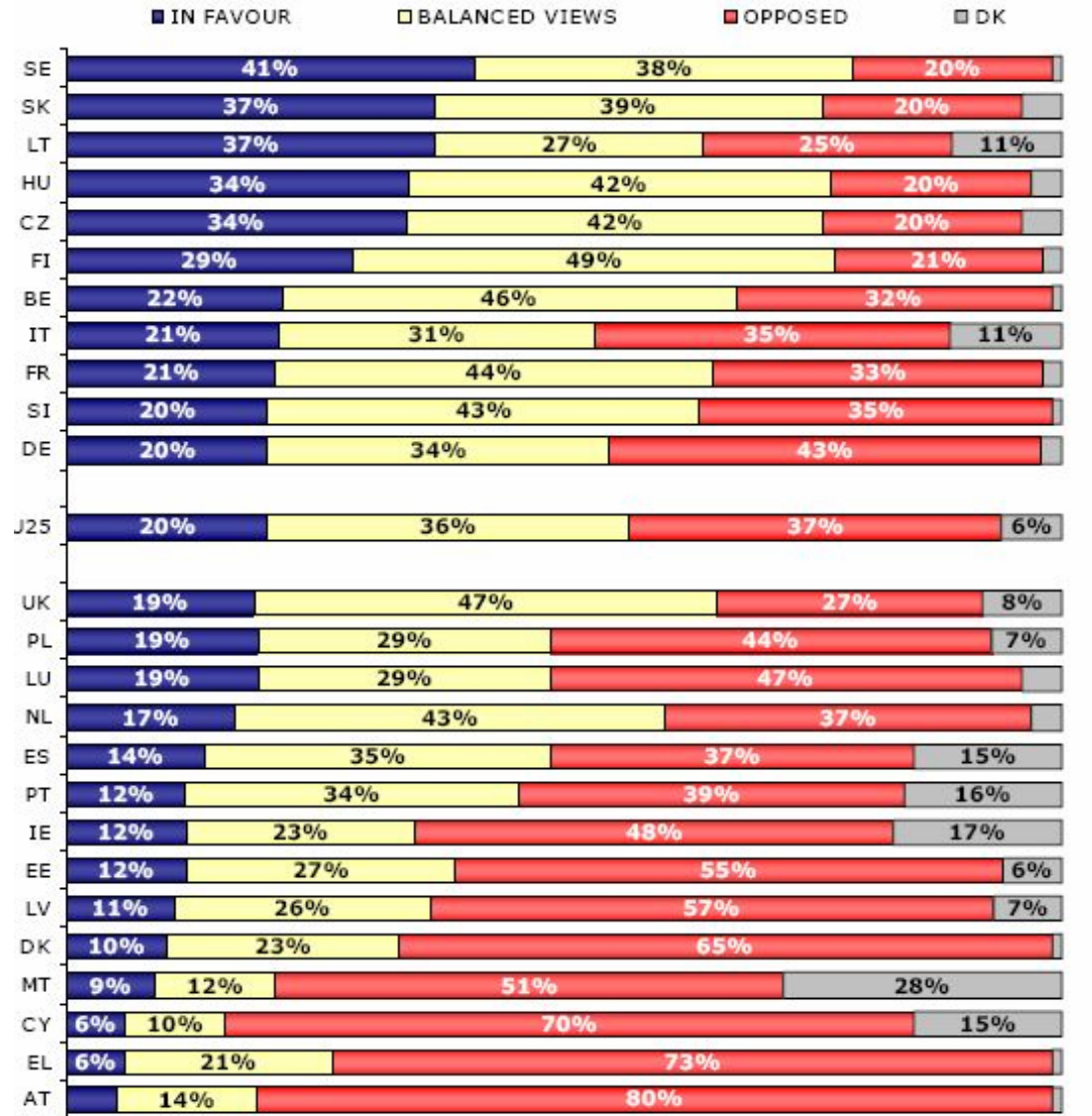
# Natural owner of the rent?

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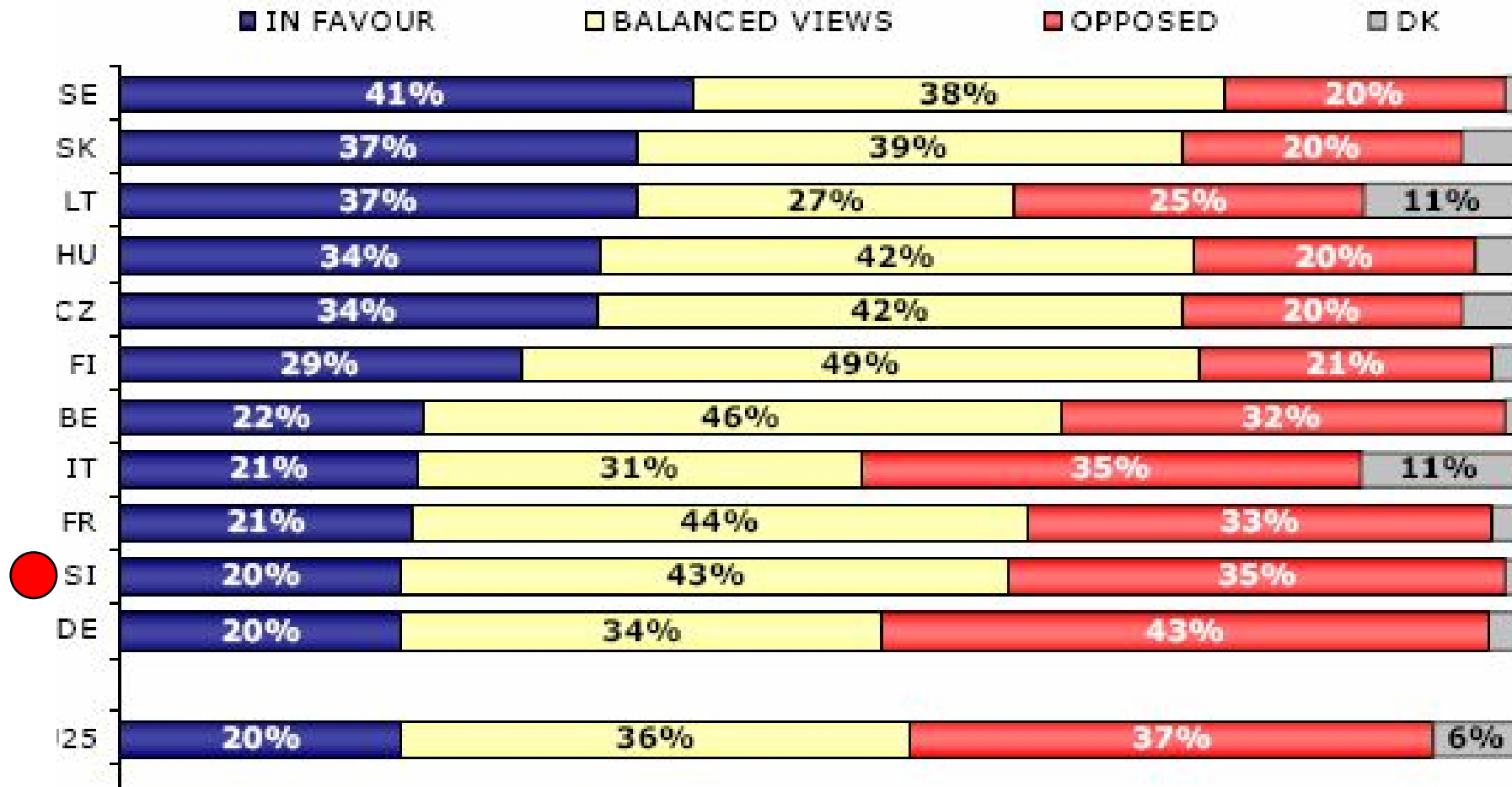
- People of Slovenia should seize the rent
  - The rent should be used as best needed
    - For budgetary needs (?)
    - Deposited in long-term funds (pension funds)
    - Other
- The rent is not to be controlled by the power sector or politics in a non-transparent manner.
  - Coupling of GEN-Energija with Istrabenz-Gorenje is a non transparent transaction that involves the public rent
  - Many other sponsorship channels prepared
    - Faculty of Energy, Krško
    - Lower Sava Project
- If NPP2, than it should be a private investment

# Public opinion – Eurobarometer 2006

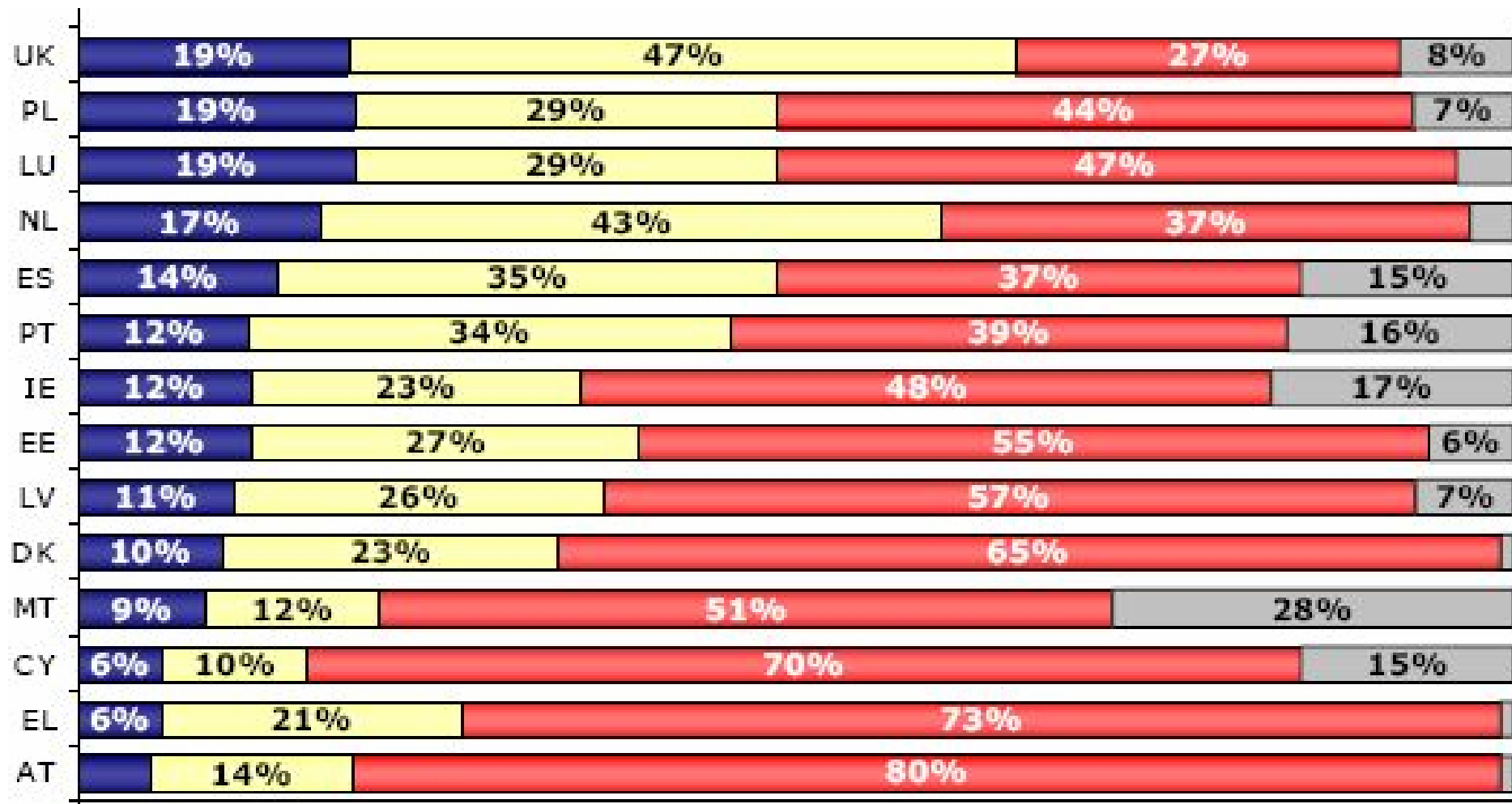
QD4.4 Are you in favour or opposed to the use of these different sources of energy in (OUR COUNTRY)? Nuclear Energy - % country



# EU countries above average for NP



# EU countries least in favour of NP





# Victories for NP in Slovenia

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- No electricity without Nuclear Power, 1992
  - staged brownout on February 5-6, 1992
    - dispatchers did not request support from A or I !
  - immediate shift of public opinion
    - "Is a referendum on NPP closure necessary?"  
37% "yes" 48 % "no", February 14. 1992
- Replacement of steam generators, 1995-1999
  - a low-profile government decision 1996
    - transport of the steam generators through Slovenia  
1998: event of the year"

# Persuasive power of power

## O usodi JE Krško bo odločil referendum

Vlada bo predložila skupščini zakon o referendumu o zaprtju nuklearke do leta 1995 - Referendum naj bi bil 21. junija letos - Priprava makroekonomske spalite

LJUBLJANA, 23. januarja - Slovenska vlada je danes sklenila predložiti skupščini v obravnavo in sprejem zakon o referendumu o zaprtju jedrske elektrarne Krško do leta 1995.

Petek, 7. februarja 1992

REDUKCIJE ELEKTRIKE

## Slovenija je zaradi okvare ostala brez jedrske elektrike

Toda za 13.30 - DELO, February 7th 1992: "Slovenia without nuclear power due to a fault", The NPP was down for app.. 24 hours due to a minor defect on a turbine. Household customers were on a rotating brownout during most of the day.

DELO  
24.1.92

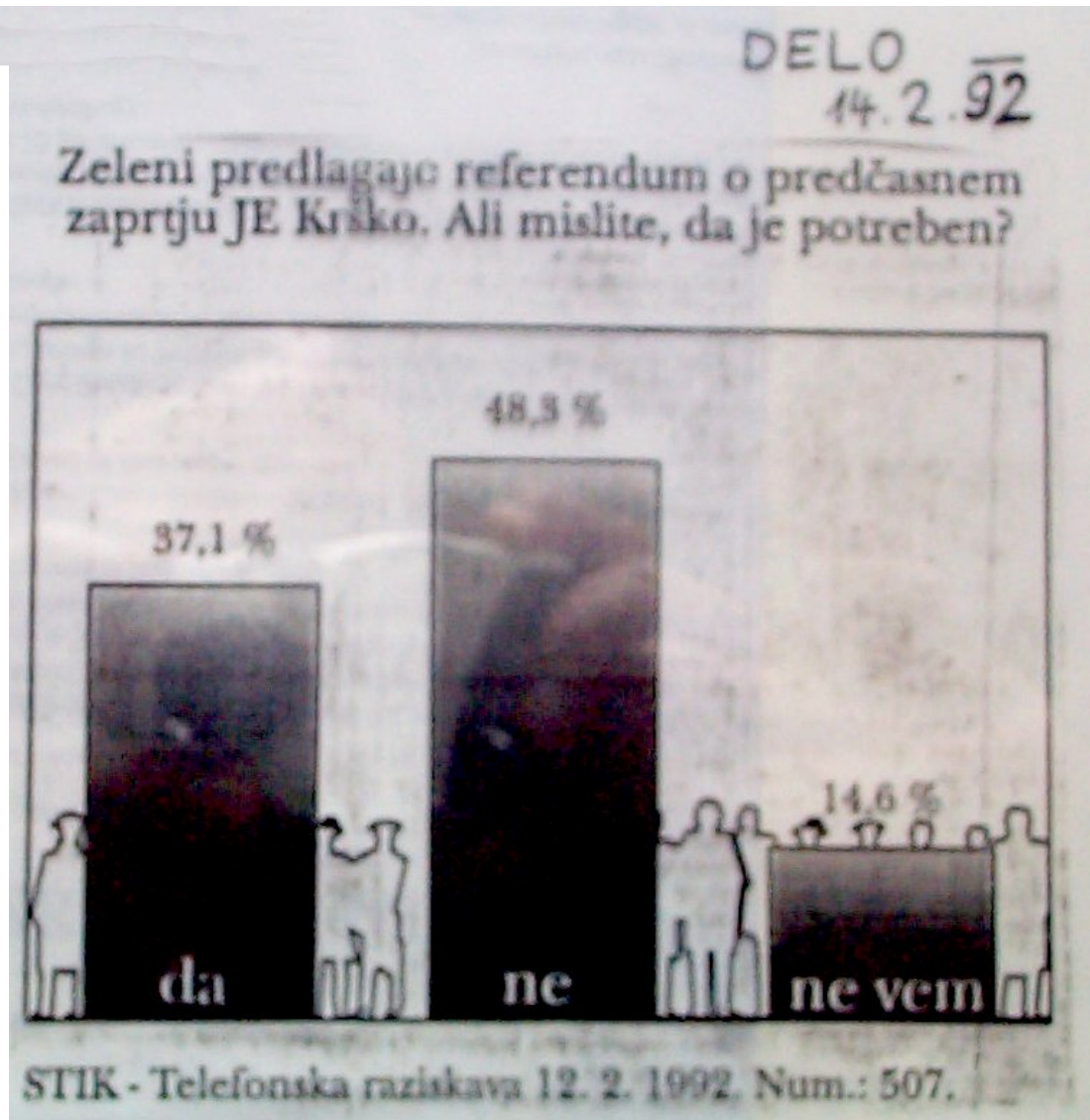
DELO  
7.2.92

# February 1992 brownout effects

"The Greens are proposing a referendum on early closure of NPP Krško. Do you think the referendum is necessary?"

A week later a poll showed that 48.3% of the sample was against a referendum.

There was no further action of the government in this direction.





# Politics for the masses

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- Andrej Klemenc, Slovenian E-forum, Salzburg 2000, Analysis:
  - STORY 1 ( 1970's): Politics of "We"
    - NPP is development
  - STORY 2 ( 1980's): "Us against them"
    - NPP viewed as a communist project
  - STORY 3 ( 1990's): "They against us"
    - Croatia, Austria ...



# Recommendations

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- NPP2 only as a private project
  - Not a proposition that general public will understand
- No NPP2 w/o solution of the spent fuel storage problem
  - Avoided everywhere, also in EU (EURATOM)
    - Irresponsible to the future generations
- What is the opinion on NPP2 in Croatia and other countries? First get a consent!
  - The site (Krško) is not good
    - Irresponsible to our neighbours
- Is export of electricity from NPP2 and/or Slovenia sensible?
  - New transmission capacity also needed