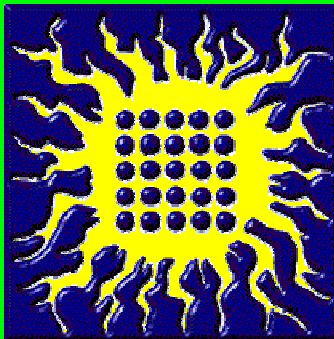


EU Research Information Event
Towards Integration into the European Research Area
29th June 2009, Hotel Hyatt Regency - Belgrade

Energy Research and Activities of Scientific Institutes in Serbia

Speaker: dr Borislav Grubor



**Institute of
Nuclear Sciences
- VINČA -**



SCOPE OF PRESENTATION

- ***Short overview of institutes' activities***
- ***Overall staff structure and structure of financing sources***
- ***What type of institution Serbia lacks → a proposal***

INSTITUTE FOR NUCLEAR SCIENCES – VINCA

Address: P.O. Box 522, 11001 Belgrade

Phone/Fax: +381-11-2458222, +381-11-3440100

Web site: <http://www.vinca.rs/>

Ownership: 100% State owned

Total employees:	820	Energy research:	60
PhD:	145		16
MSci:	120		17
BSci:	155		11

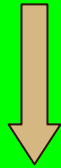
Sources of financing:	Projects	Contracts
Overall:	50%	50%
Energy field:	30%	70%

Major field of energy research and expertise:

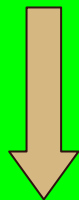
- coal combustion processes and related technologies
- renewable energy sources
- energy efficiency (in-situ diagnostics → measures)
- road transportation

Tenders in the energy field (2006-2009): 4

**Fundamental
research**



**Applied
research**



Development

**heat&mass transfer, turbulent flows,
combustion, high-temperature processes
(plasma) and multi-component and multi-
phase systems, thermo-physical
characterization of materials**

EXPERIMENTAL & PILOT RIGGS
PC, burners, BFB, plazma instalations
number of smaller - for specific processes

MODELING
2-D & 3-D models of flow and combustion
hydrodynamic processes in furnaces
multi-component & multi-phase systems
specific processes in combustion

TECHNOLOGY DEVELOPMENT
BFB and conventional boilers & furnaces,
start-up with PC & plazma burners

TECHNOLOGY UP-DATE

INSTITUTE MIHAJLO PUPIN

Address: Volgina 15, 11050 Belgrade

Phone/Fax: +381-11-2771017 , +381-11-2774265

Web site: <http://www.imp-automatika.co.yu/>

Ownership: 100% State owned

Total employees:	436	Energy research:	75
PhD:	17		2
MSci:	34		5
BSci:	174		60

Sources of financing:	Projects	Contracts
Overall:	7%	93%
Energy field:	15%	85%

Major field of energy research and expertise:

- Information and communication technologies (ICT)
- Monitoring & control systems
- Computer networks
- Intelligent systems

Tenders in the energy field (2006-2009): 44

INSTITUTE NIKOLA TESLA

Address: Koste Glavinica 8a, 11040 Belgrade

Phone/Fax: +381-11-3691447 , +381-11-2774265

Web site: <http://www.ieent.org/>

Ownership: 98% State owned, 2% small stock holders

Total employees:	120	Energy research:	35
PhD:	14		5
MSci:	9		4
Univ.:	70		20

Sources of financing:	Projects	Contracts
Overall:	15%	85%
Energy field:	15%	85%

Major field of energy research and expertise:

- Electricity distribution network (state & regional level)
 - Present functional analysis
 - Future development
- Production/Consumption statistical analysis
- Overall energy system analysis, strategic studies

Tenders in the energy field (2006-2009): 13

INSTITUTE JAROSLAV CERNI

Address: Jaroslava Černog 80, Pinosava , 11226 Belgrade

Phone/Fax: +381-11-390 64 50 , +381-11-390 64 81

Web site: <http://www.jcerni.co.yu/>

Ownership: 100% State owned

Total employees: 164

Sources of financing: 100% Contracts

Major field of energy research and expertise:

- Use, management and protection of water resources
- Protection from water resources

Tenders in the energy field (2006-2009): 15

INSTITUTE KIRILO SAVIC

Address: Vojvode Stepe 51, 11000 Belgrade

Phone/Fax: +381-11-2460167 , +381-11-469514

Web site: <http://www.iks.rs/>

Ownership: Majority state owned

Total employees: 135 **Energy research:** 20

Sources of financing: 10% Projects 90% Contracts

Major field of energy research and expertise:

- Environmental impact assessment
- Design of systems and subsystems
- Project management and supervision

Tenders in the energy field (2006-2009): 22

INSTITUTE of ECONOMY

Address: Kralja Milana 16, 11000 Belgrade

Phone/Fax: +381-11-3613407

Web site: <http://www.ecinst.org.rs/>

Staff on energy issues: 5-PhD, 4-MSci, 3-BSci

Sources of financing: 20% Budget 80% Contracts

Major field of energy research and expertise:

- Studies and surveys on energy issues
- Statistical analysis of energy related data
- Involvement in strategic planning and forecast analysis

OTHER INSTITUTES

Mining Institute: - geological surveys
- solid fuel characterization
- gas emissions

Institute Lola: - R&D and production of micro and mini HPP

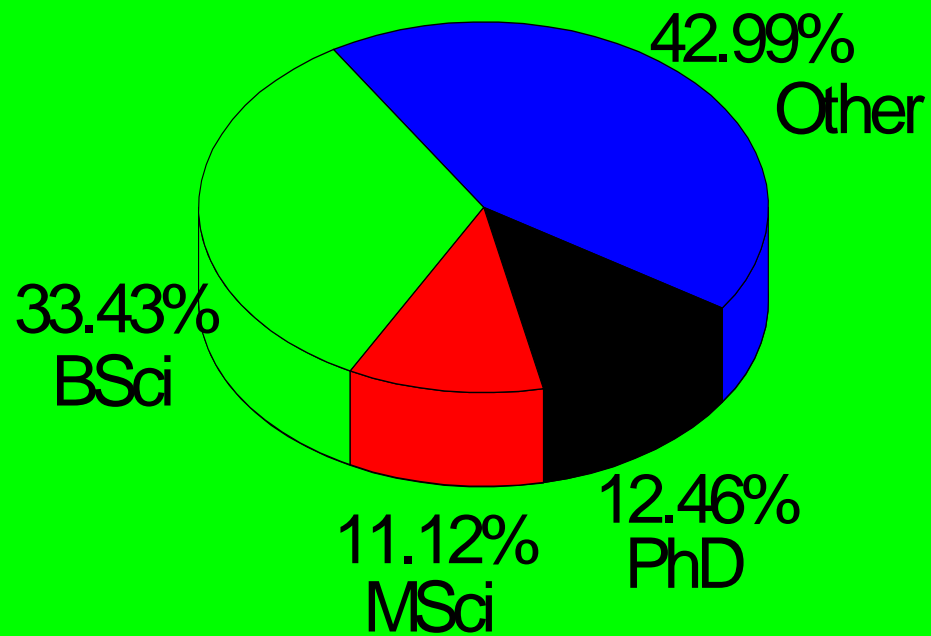
Institute for Material Testing

Institute for Nuclear and Other Mineral Resources Technologies (ITNMS):

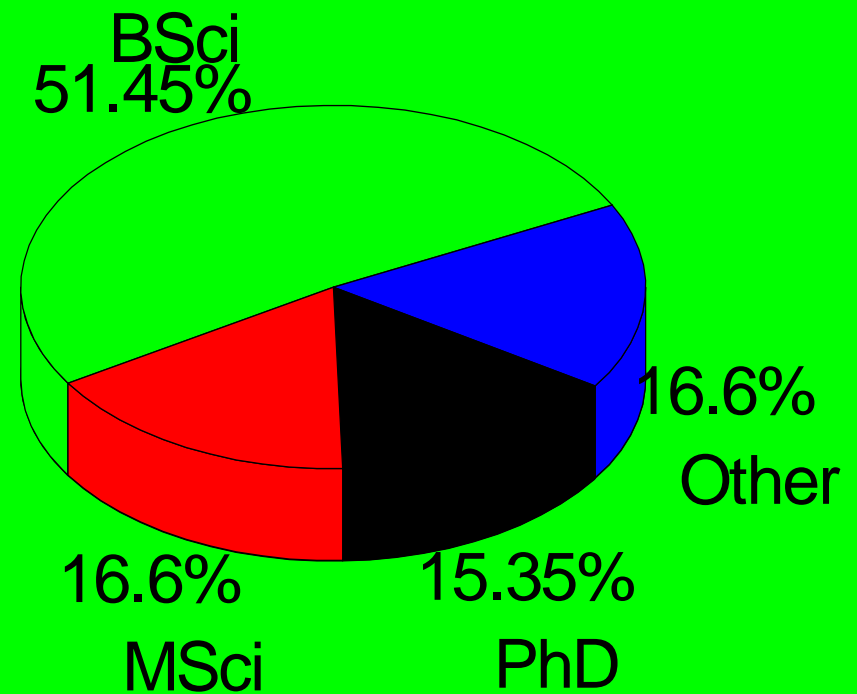
Institute Gosa: - welding technology development
- material characterization
(strength, fatigue, breakage, ..)

Structure of employees in institutes

*All employees
(1730)*



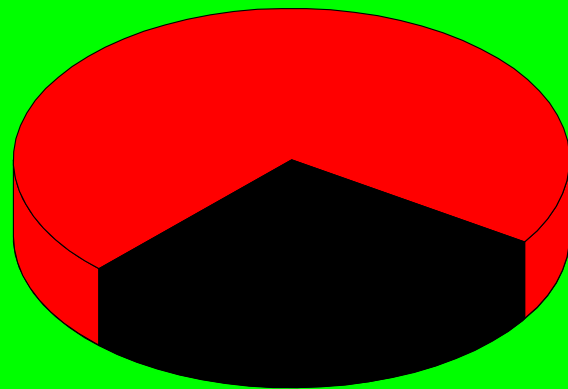
*Employees in
energy field
(250)*



Structure of financing sources

All institutes

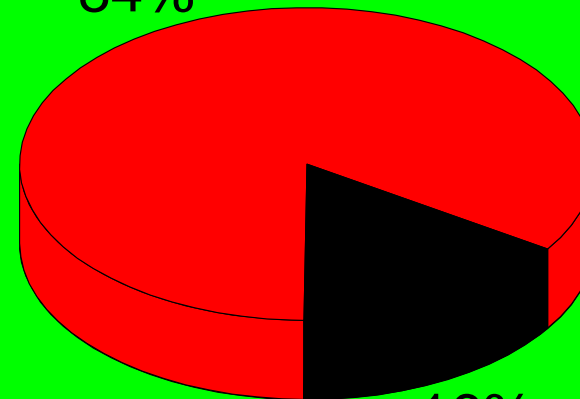
Commercial contracts
72%



28%
Projects financed from budget

*Sections of institutes
in energy field*

Commercial contracts
84%



16%
Projects financed from budget

Conclusions

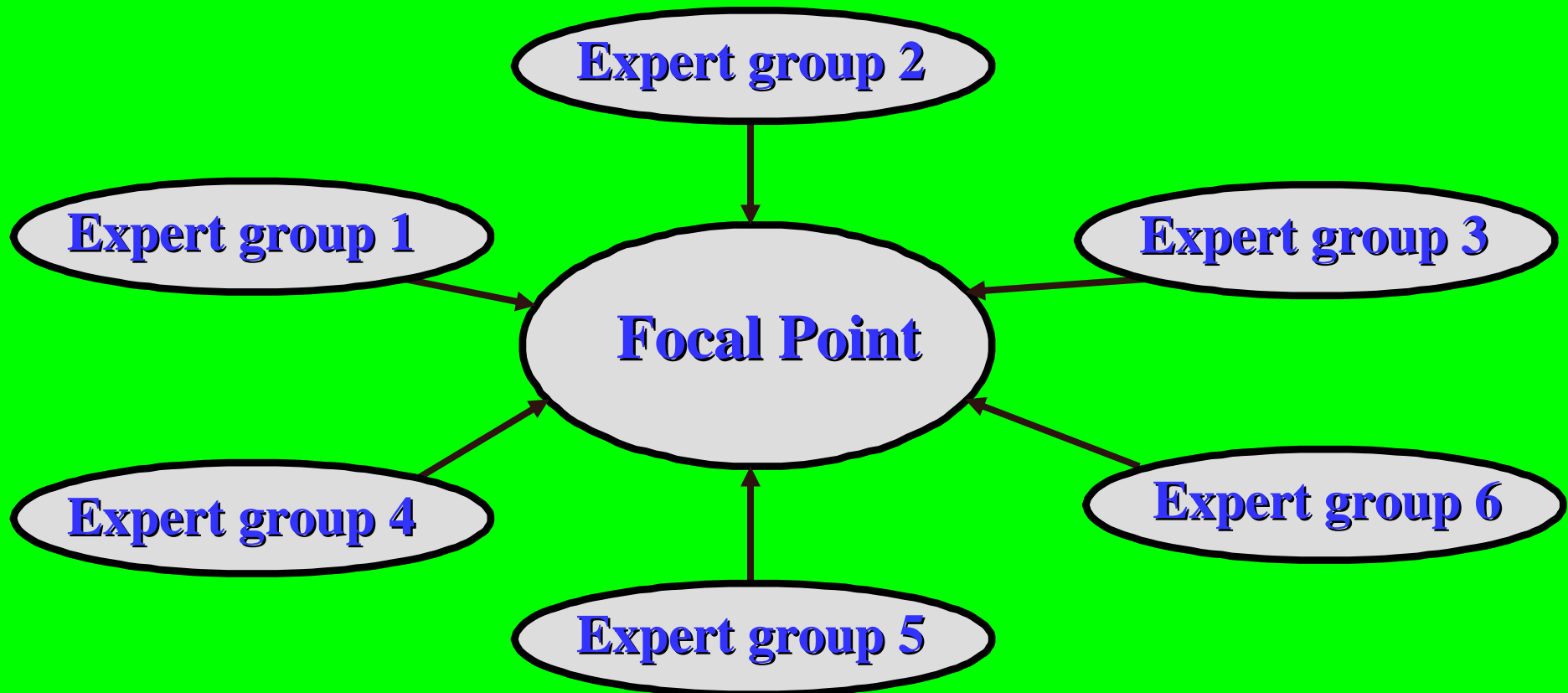
- There are dozens of Institutes of various profiles involved in both research and services in the energy field,
- State ownership dominant,
- In most of them the commercial aspect prevails,
- Capacity building urgently needed in order to enable them to contribute to Serbia's strategic energy goals (integration in Europe, RES utilization, strategic planning, overall energy security [supply], competitiveness , ...)



INSTITUTE of ENERGY

- R&D of energy technologies,
- Strategic planning, sustainable development of the energy sector and energy efficiency,
- Integration in international programs and especially EU projects related to the energy field.

A Proposal



THANK YOU FOR YOUR ATTENTION !!