



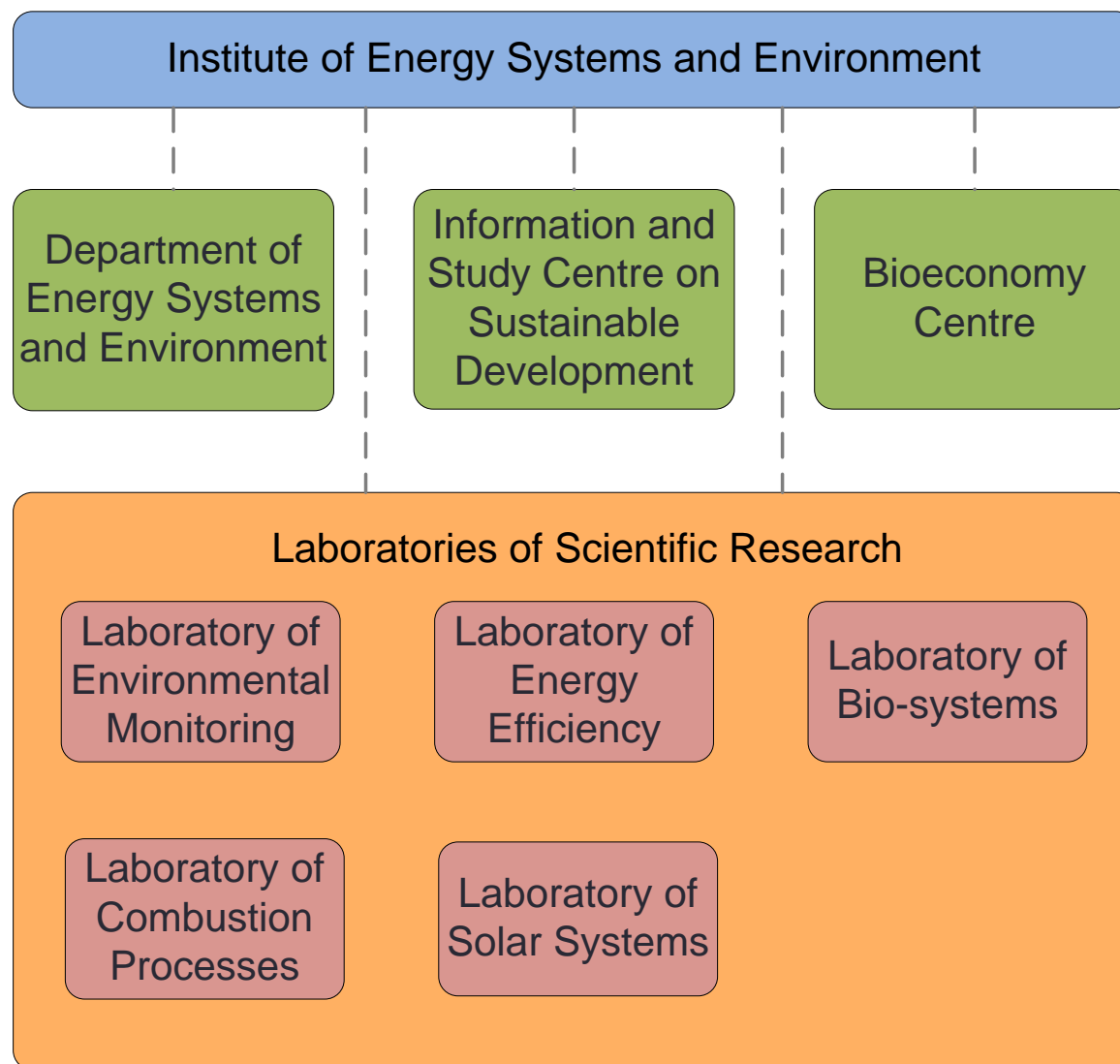
WOMEN IN SCIENCE

Current state of energy sector in Latvia

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Director of Institute of Energy Systems and Environment
Riga Technical University



Structure of the Institute



Scientific and academic personnel

- 6 professors
- 2 associate professors
- 11 assistant professors
- 9 lectors
- Research personal - 45

The average age – 36



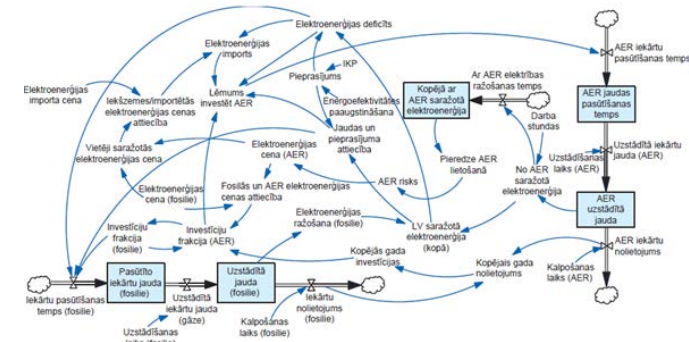
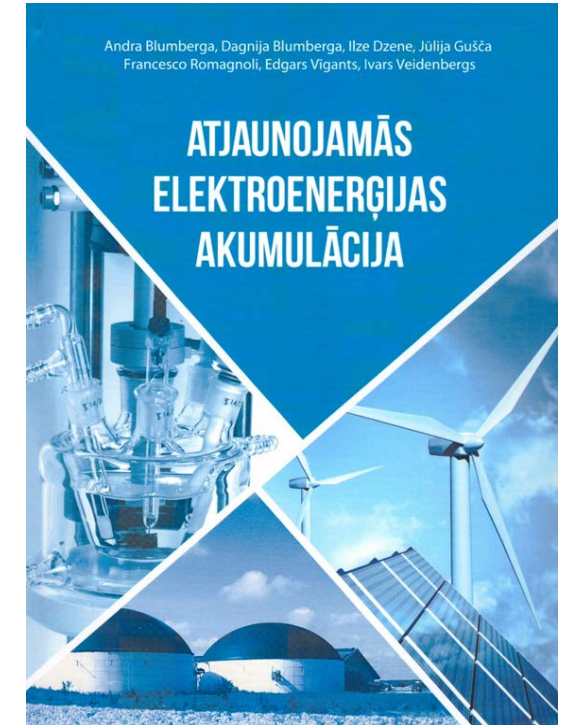
In total: 55 persons

**2 – habilitated doctors, 27 – doctors (incl. 22 – young scientists),
26 – Experts of the Latvian Academy of Science,
15 – EU experts**



Research topics

- Zero emission technologies
- Demand side management, consumers/prosumers
- Smart energy management
- Combustion technologies
- Environmental and energy management
- Renewable energy
- Bioeconomy
- Sustainable development
- Environmental monitoring
- Cleaner production
- Ecodesign
- Energy efficiency in buildings
- Bioresources
- Environmental modelling: system dynamics and LCA



Scientific cooperation (2015-2017)

- **H2020 project:**
 - Leadership: 2 projects
 - Partnership: 2 projects
- **Interreg programme:**
 - Partnership: 3 projects
- **Nordic Energy Research programme:**
 - Partnership: 2 projects
- **ERA-NET programme:**
 - Partnership: 1 project
- **Erasmus and Erasmus+:**
 - Partnership: 1 project
- **Norwegian Grants:**
 - Partnership: 2 projects
 - Leadership: 5 projects



Flex4RES
Flexible Nordic Energy Systems



European Union
European Structural
and Investment Funds



WOMEN RESEARCHERS BY COUNTRY

Just one in five countries has achieved gender parity, whereby 45% to 55% of researchers are women.

SELECT COUNTRY

CENTRAL AND
EASTERN EUROPE

LATVIA

52%

0%

75%

N/A



SOURCE: UNESCO INSTITUTE FOR STATISTICS



CHANGE
REGION



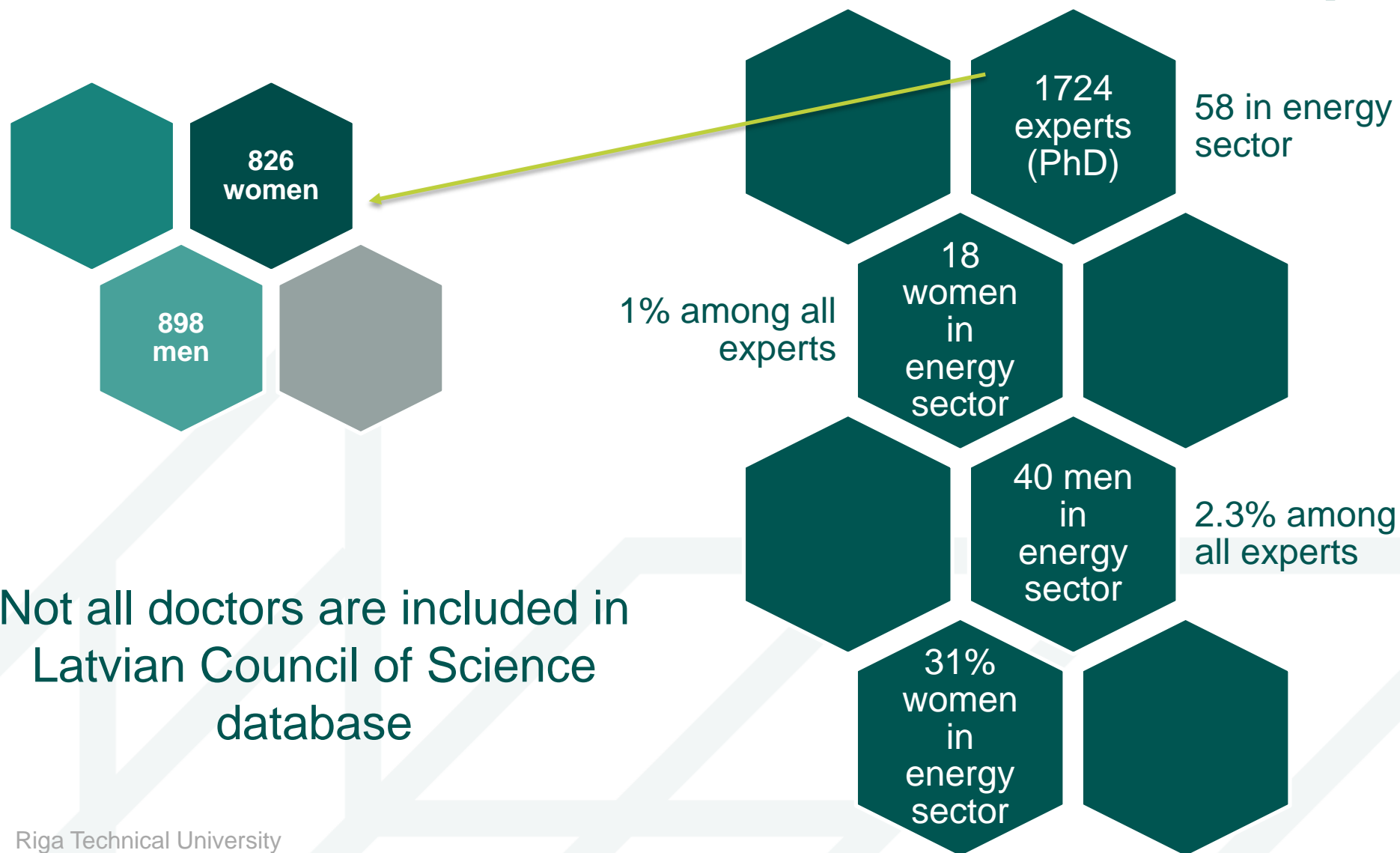
VIEW
MAP

LATVIA



Source: <http://uis.unesco.org/apps/visualisations/women-in-science/#overview!region=40530>

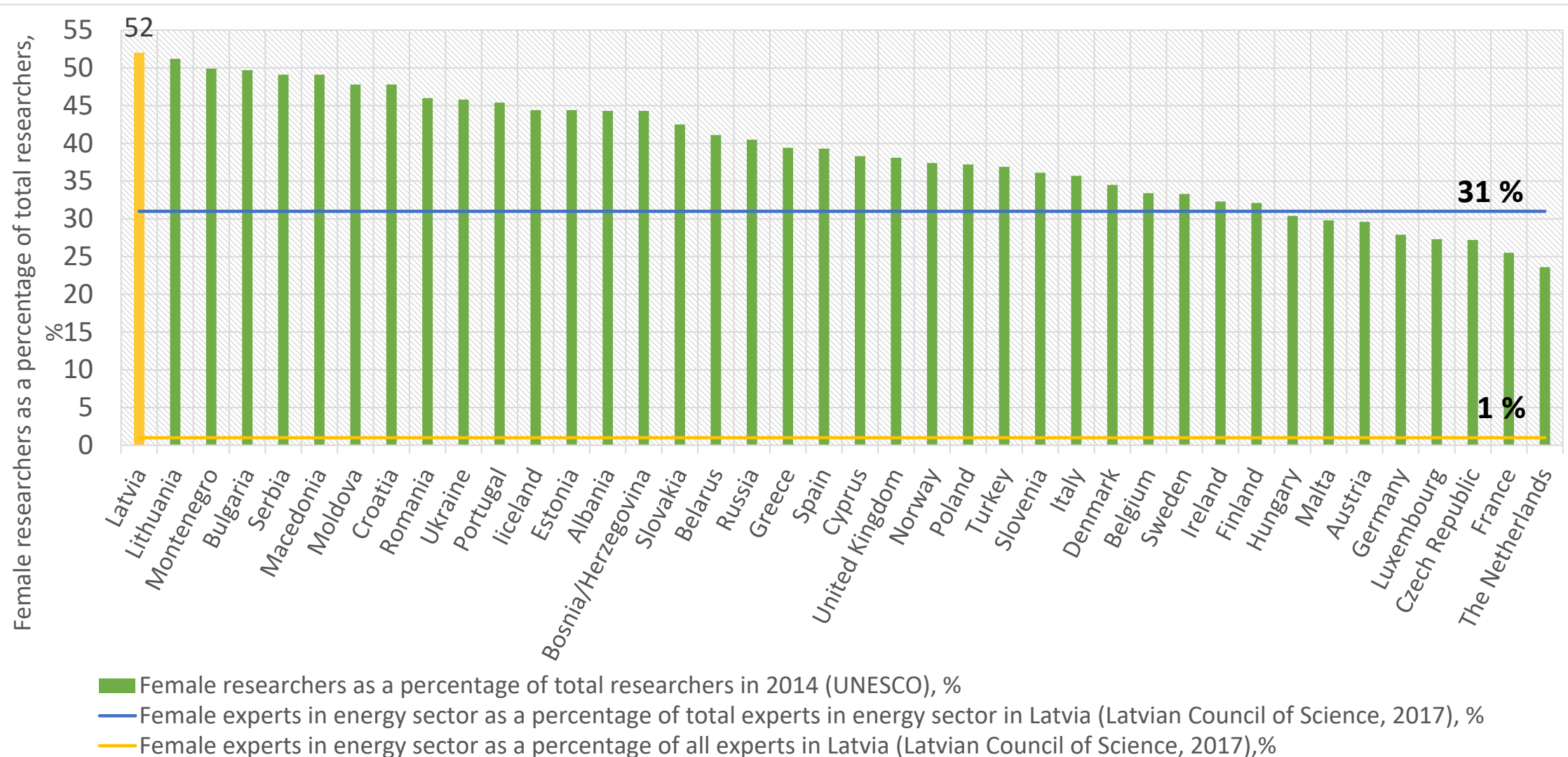
Latvian Council of Science (2017)



Not all doctors are included in
Latvian Council of Science
database



FEMALE RESEARCHERS IN LATVIA

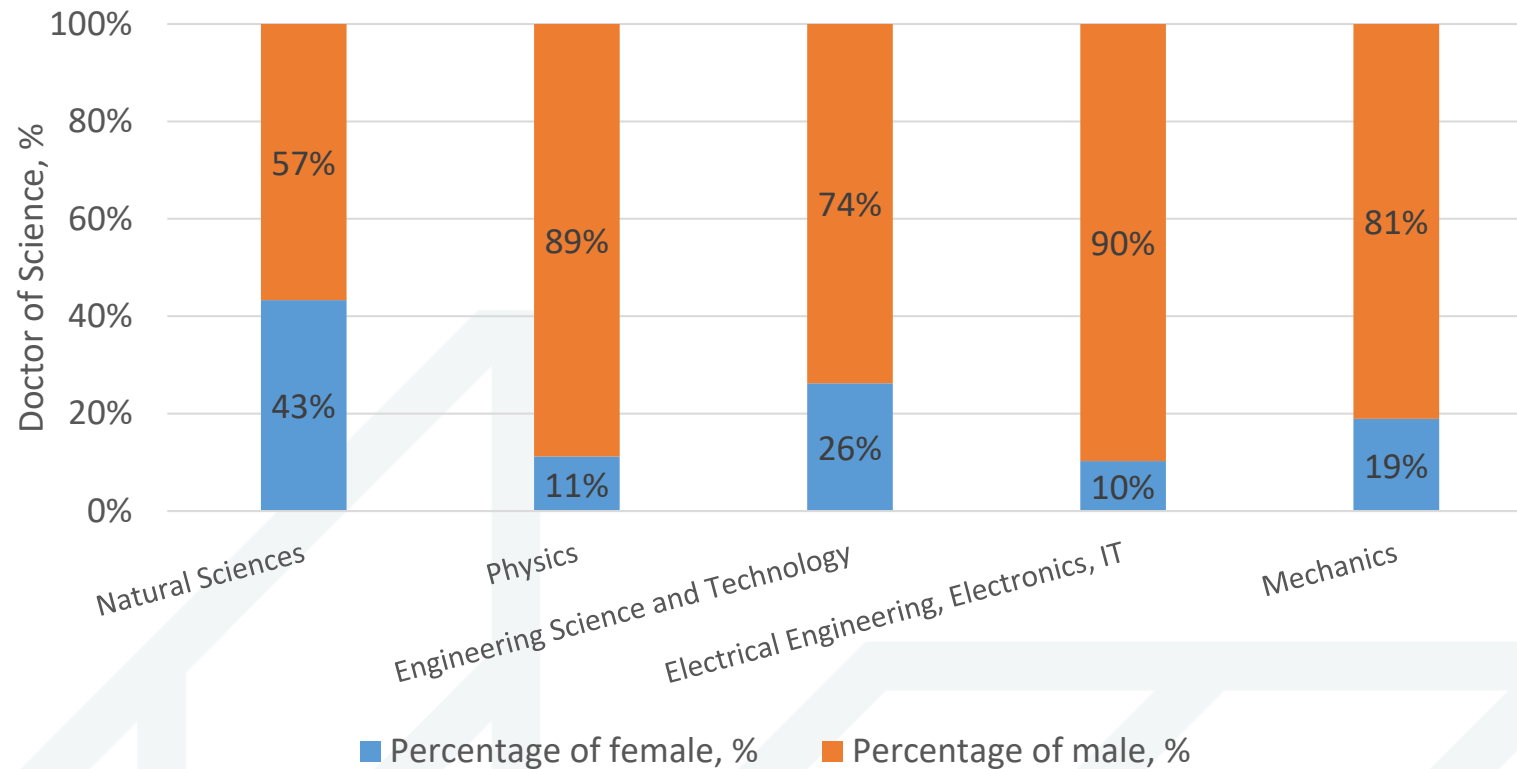


Source: <http://uis.unesco.org/sites/default/files/documents/fs43-women-in-science-2017-en.pdf>

Source: Latvian Council of Science <http://www.lzp.gov.lv/index.php?mylang=english>



Doctors of Science



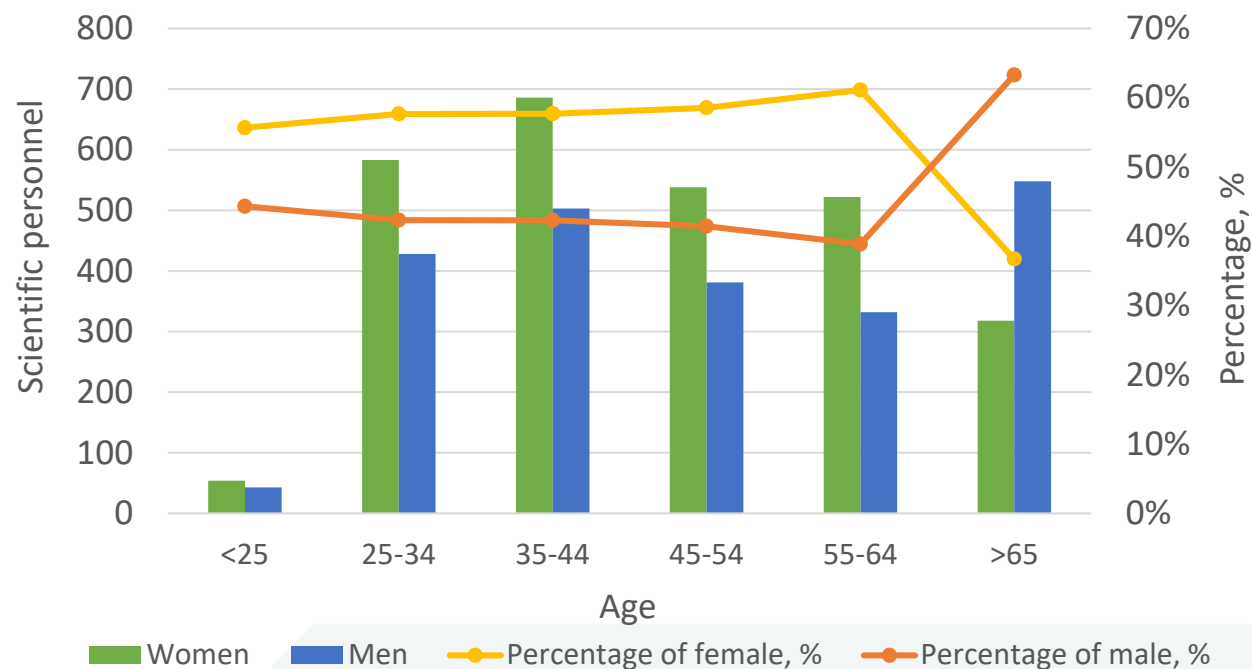
- Women in Latvia are underrepresented in technical sciences

Doctorates of science in Latvia according to the field (2009)

Source: Central Statistical Bureau <http://www.csb.gov.lv/en/statistikas-temas/science-key-indicators-30753.html>



SCIENTIFIC PERSONNEL IN LATVIA

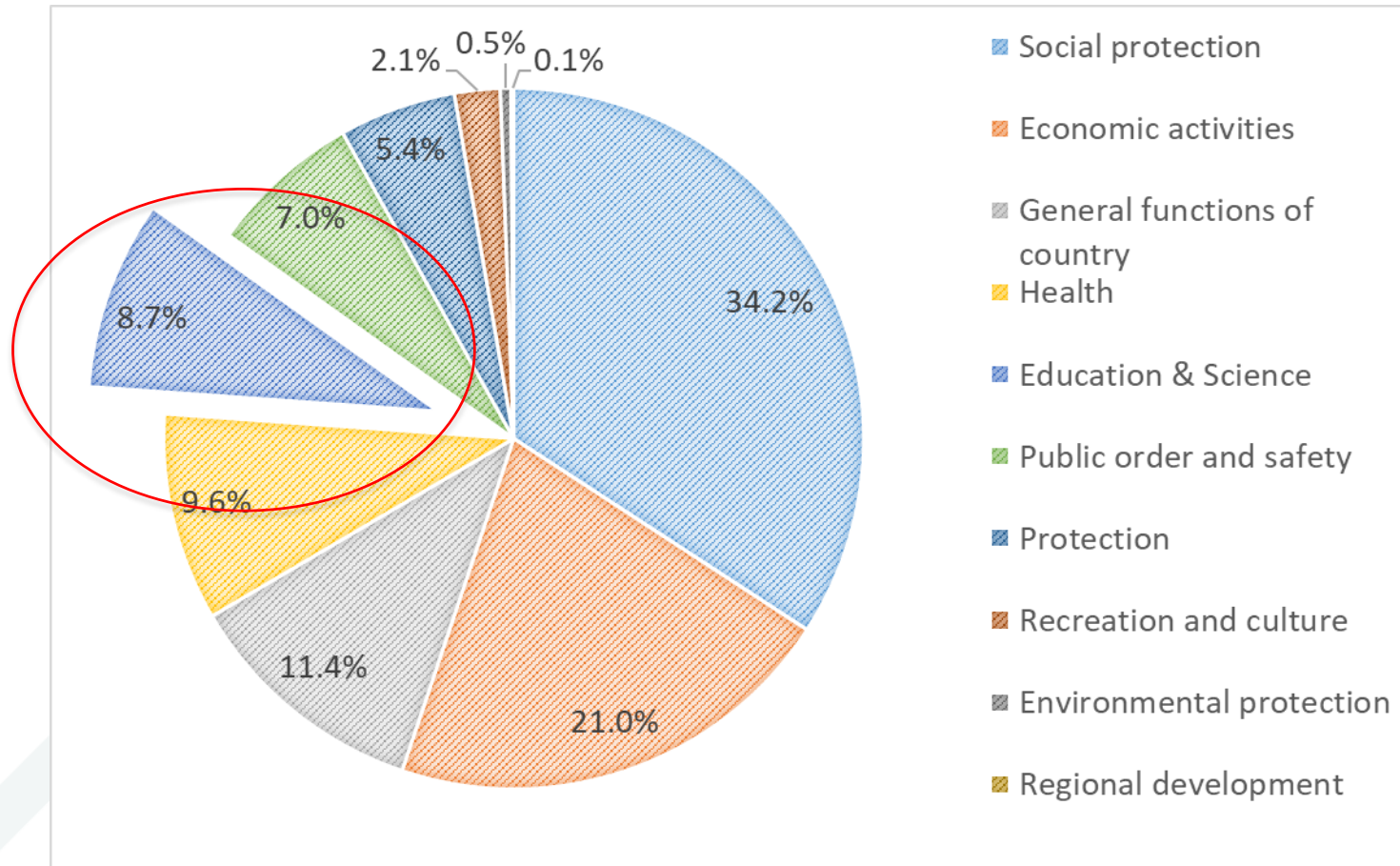


Scientific personnel (scientists, professionals, project managers) in Latvia according to age and gender (2016)

Source: Central Statistical Bureau <http://www.csb.gov.lv/en/statistikas-temas/science-key-indicators-30753.html>



LATVIA GOVERNMENT BUDGET IN 2017



- Total budget in 2017:
8327,5 MEUR



EXPENDITURE ON RESEARCH AND DEVELOPMENT

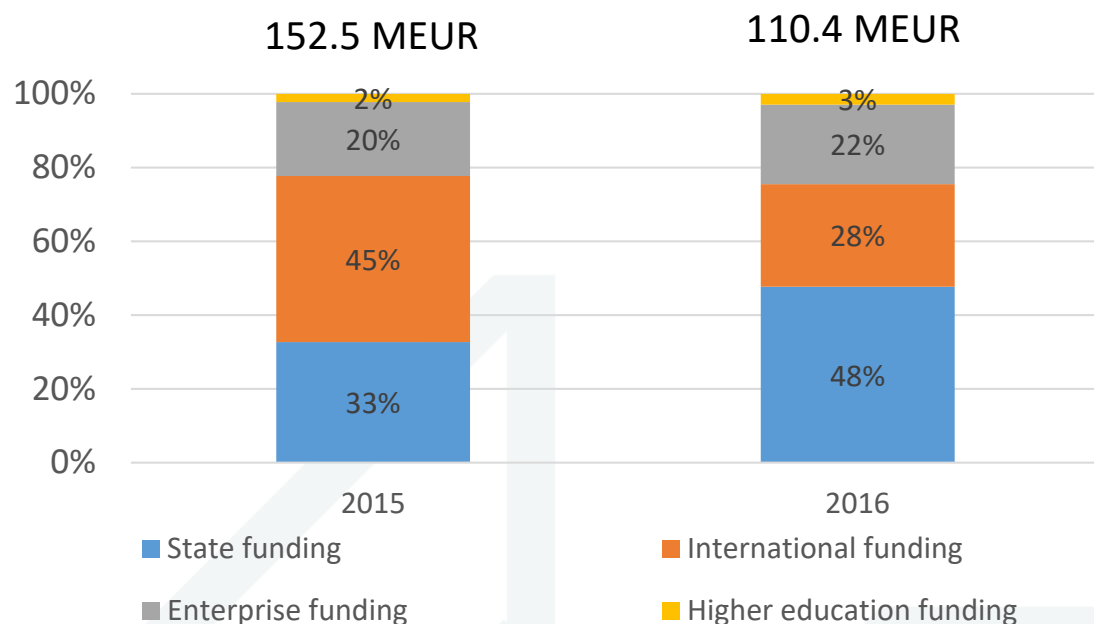
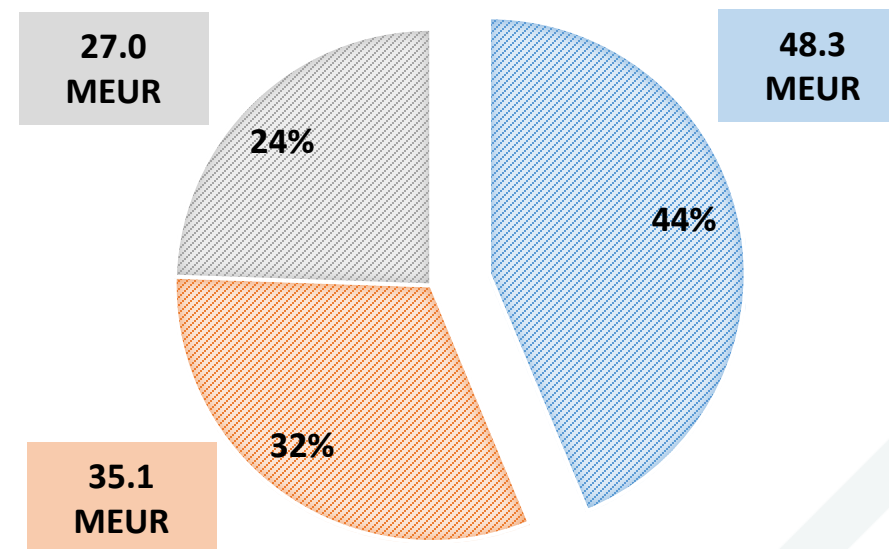


Figure. Funders by type (state, international, enterprise, higher education) in 2015 and 2016



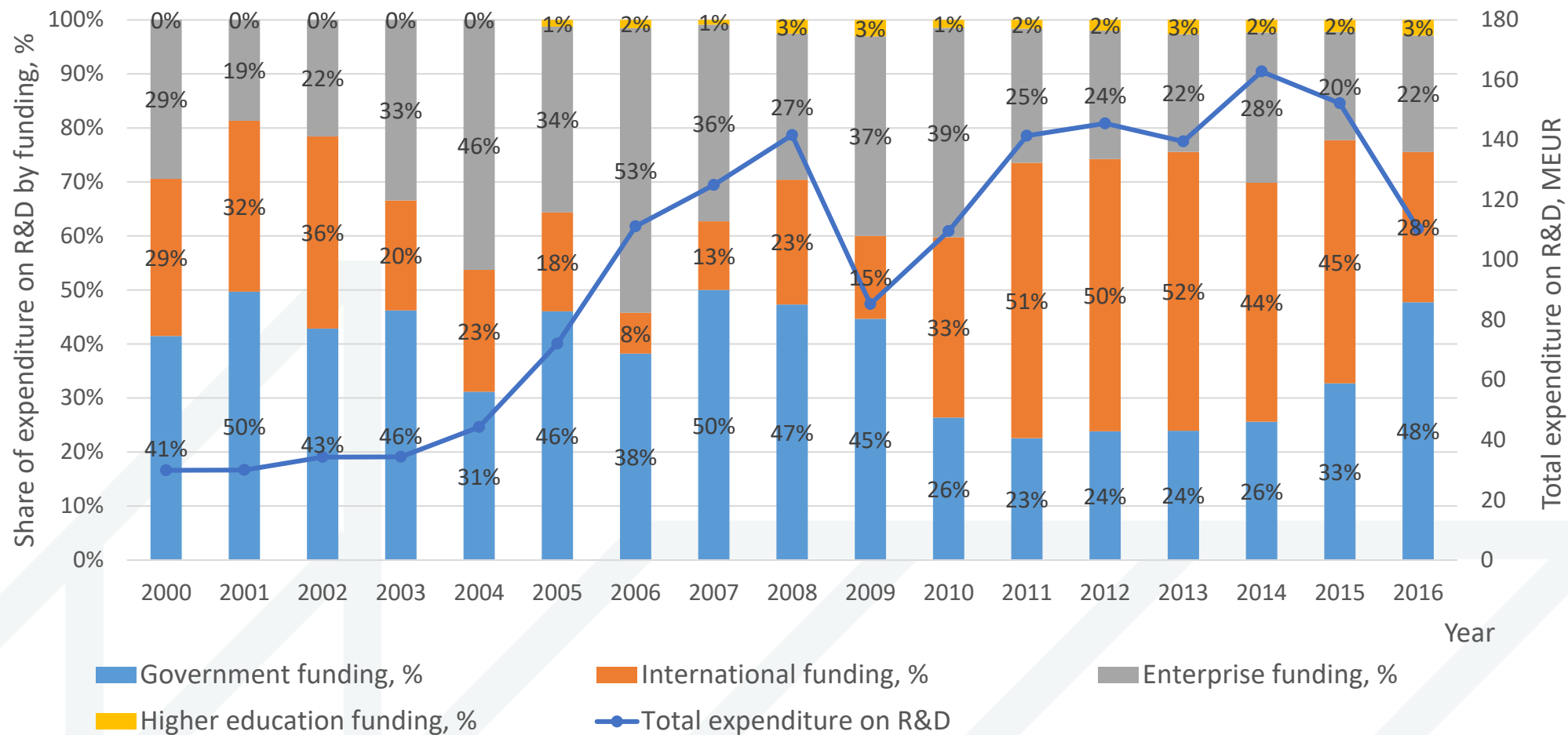
■ Higher education sector ■ Government sector ■ Enterprise sector

Figure. Funding by sector (higher education, government, enterprise) in 2016

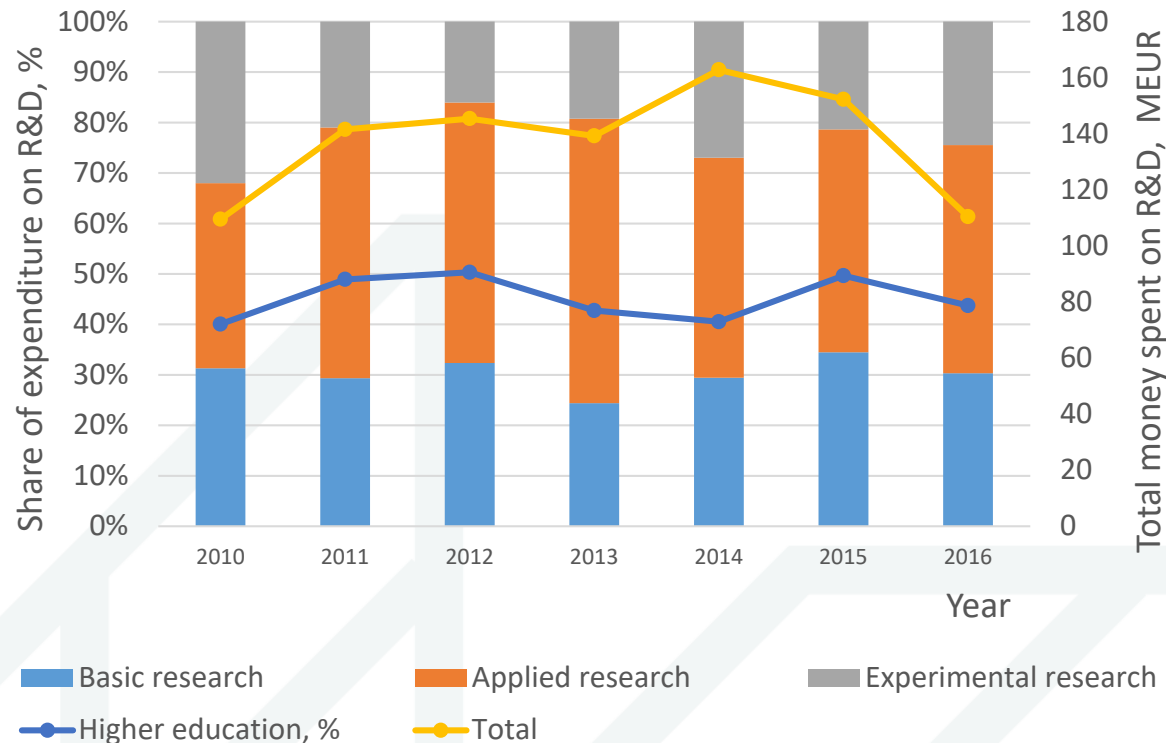
Source: Central Statistical Bureau http://data.csb.gov.lv/pxweb/lv/zin/zin__zin/ZI0030_euro.px/table/tableViewLayout2/?rxid=ce8aac91-f2b0-4f13-a25d-29f57b1468fb



EXPENDITURE ON R&D BY FUNDING (I)



EXPENDITURE ON R&D BY FUNDING (II)

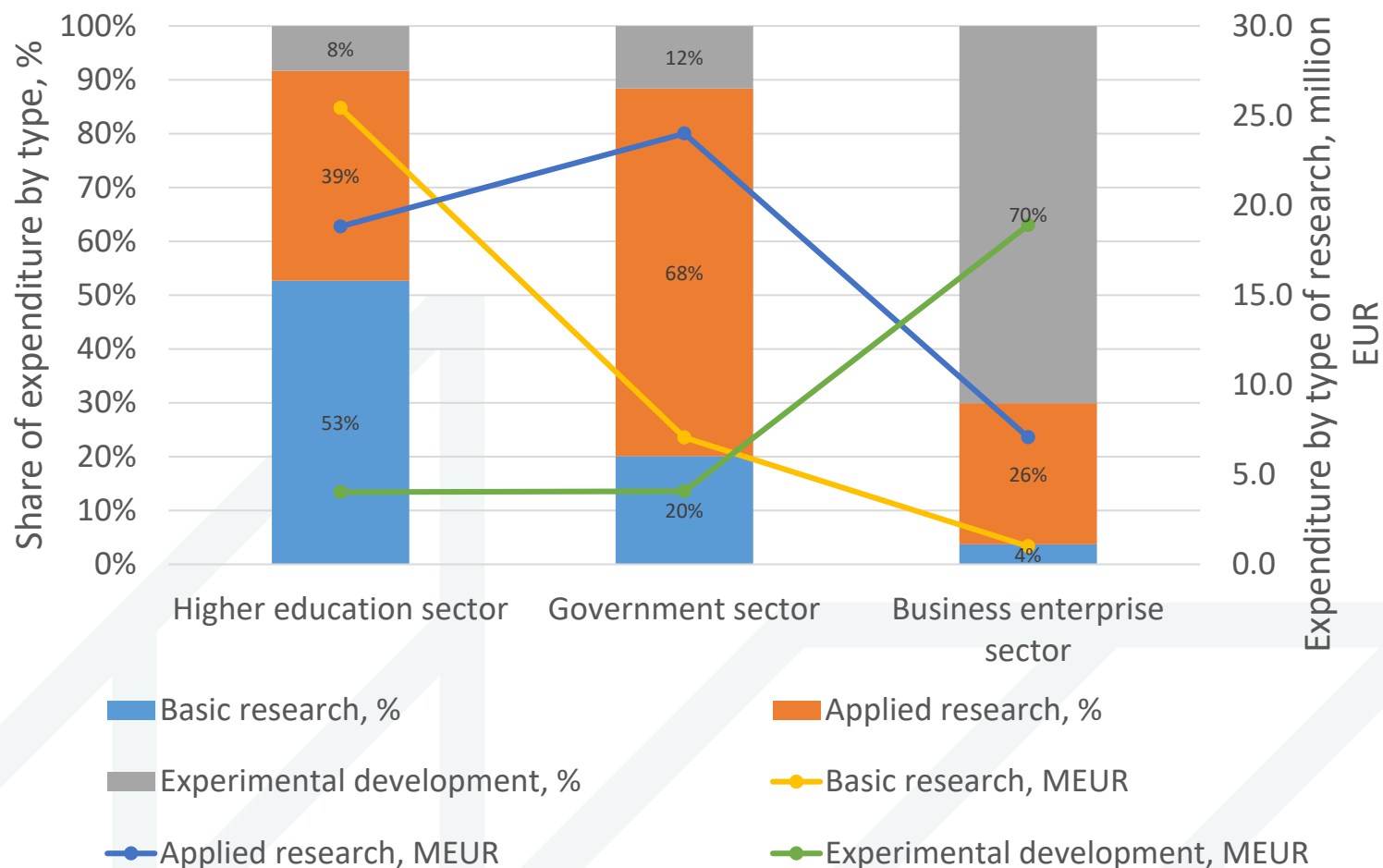


- Majority of available funding is spent on basic and applied research.
- Total funding has decreased between 2014 – 2016
- Between 2010 and 2016 ~45% of total funding has been spent on higher education

Source: http://data.csb.gov.lv/pxweb/lv/zin/zin__zin/ZI0031.px/table/tableViewLayout2/?rxid=ce8aac91-f2b0-4f13-a25d-29f57b1468fb



EXPENDITURE ON RESEARCH AND DEVELOPMENT IN 2016



In higher education sector most of available funding is spent on basic research (53%), 39% is spent on applied research, but only 8% is spent on experimental development

Source: Central Statistical Bureau http://data.csb.gov.lv/pxweb/en/zin/zin__zin/ZI0031.px/table/tableViewLayout2/?rxid=ce8aac91-f2b0-4f13-a25d-29f57b1468fb



EXPENDITURE ON R&D IN NORTHERN EUROPE

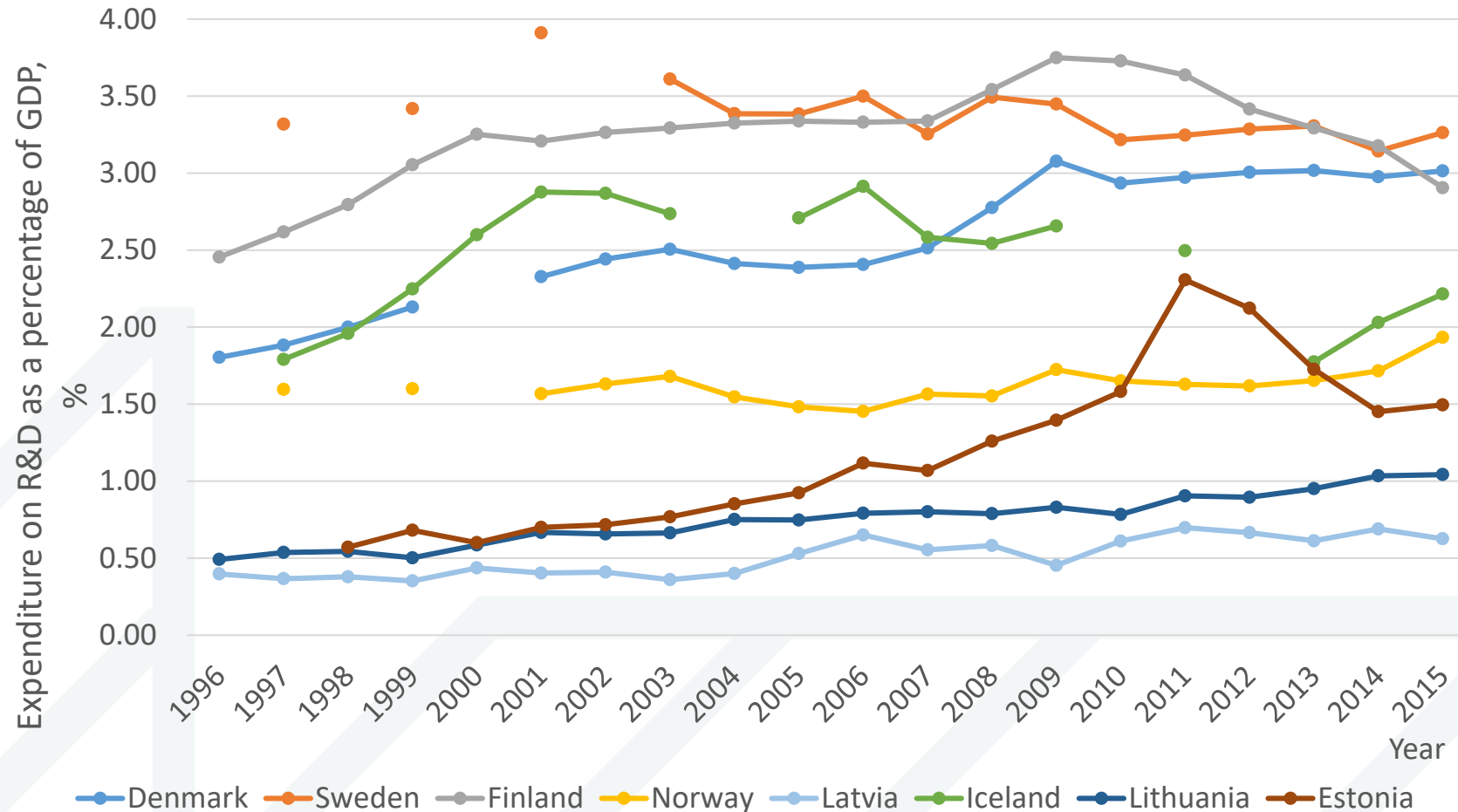


figure. Gross domestic expenditure on R&D as a percentage of GDP

Source: <https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?locations=LV>



Conclusions

- We have a lot of possibilities to reach women involvement in energy sector



The image shows the front cover of a book titled "Environmental and Climate Technologies". At the top left is the logo of Riga Technical University (RTU), which consists of a shield with various symbols and the letters "RTU" above it. To the right of the logo, the text "RIGA TECHNICAL UNIVERSITY" is written in a sans-serif font. The title "Environmental and Climate Technologies" is prominently displayed in the upper half in a large, bold, dark blue font. Below the title, the year "2016" is written in a large, bold, black font, enclosed within a yellow rectangular box. The central part of the cover is a grid of 12 square images with yellow borders, depicting various environmental and climate-related technologies: wind turbines, solar panels, industrial smokestacks, and large storage tanks. On the left side, the word "Environment" is partially visible in a large, green, stylized font, with only "nte" being clearly legible. At the bottom right, the publisher's name "RTU Press" is printed in a small, black, sans-serif font.

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- Bioeconomy and low carbon development
- Biofuels and alternative fuels
- Energy and carbon markets
- Energy and environmental modelling
- Energy efficiency improvement
- Energy management, policy and economics
- Green transport systems
- Heat and power generation, incl. district heating and/or cooling
- Pollution prevention
- Renewable energy
- Resilience
- Resource efficiency, circular economy and ecodesign
- Smart energy and zero carbon technologies
- System approach integration in energy sector
- Four special Conference issues indexed in SCOPUS and Web of Science since 2014
- More info: conect.rtu.lv



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GROSS DOMESTIC EXPENDITURE ON RESEARCH AND DEVELOPMENT (GERD)

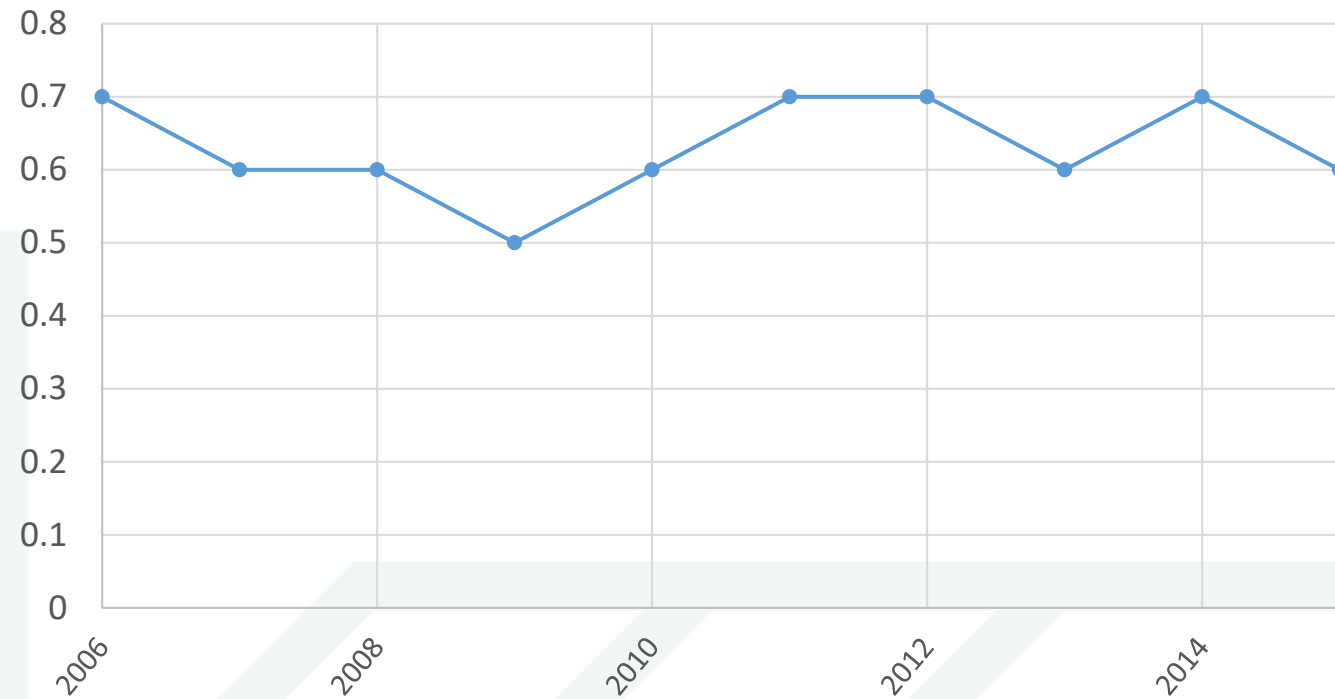


figure. Gross domestic expenditure on R&D as a percentage of GDP

Source: <http://uis.unesco.org/en/country/lv?theme=science-technology-and-innovation>

