

# Public policies for restructuring the coal sector - Polish case study

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# IBS most relevant [projects](#)

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1. [Transrisk - European Commission \(H2020\)](#) – social, economic, technical and environmental assessment of low emission transition pathways
2. [Coal transitions - KR Foundation](#) – developing trajectories and policies for transition for coal sector
3. [Transformation of the Konińskie lignite subregion - ECF](#) – preparing a socio-economic and technological strategy
4. [Energy poverty – ECF](#) – adapting measures of Energy poverty and devising public policies in Poland

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## Past and forthcoming publication used for this presentation

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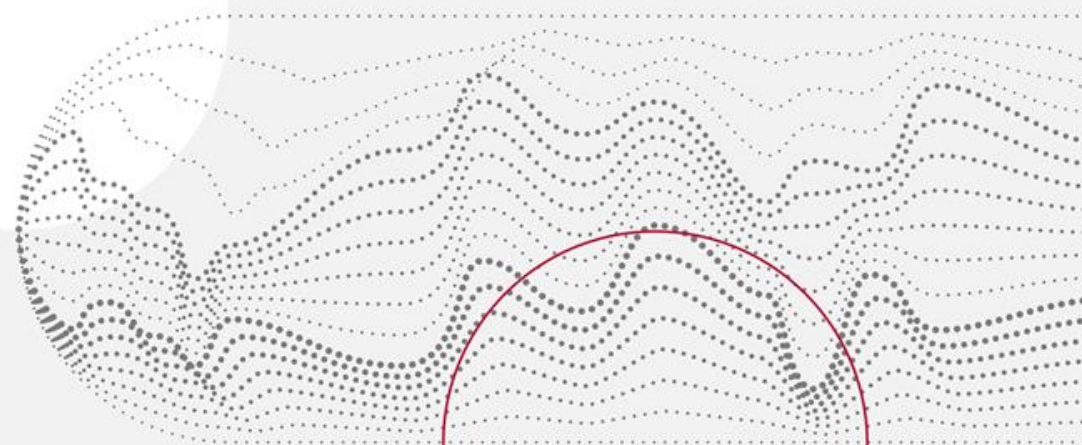
### Publications:

- Szpor, A., Ziólkowska, K., (2018). *Transformation of the Polish coal sector*, Published by the International Institute for Sustainable Development
- Szpor, A., (2017). *Coal transition in Poland*, Published by IDDRI and Climate Strategies

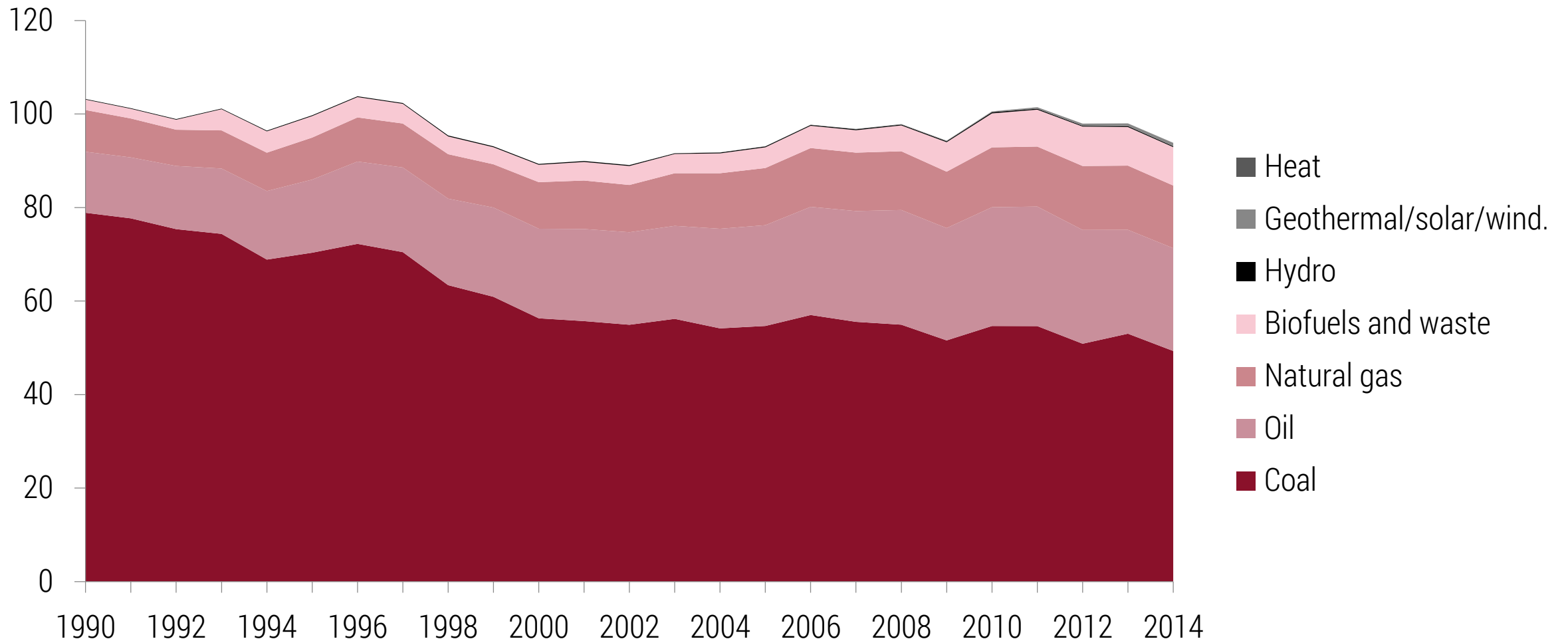
### Forthcoming:

- Antosiewicz, M., Baran, J., Lewandowski, P., Szpor, A., Witajewski-Baltvilks J, (2018). *Managing coal sector transition under the ambitious emission reduction scenario in Poland*

# Poland's coal dependence



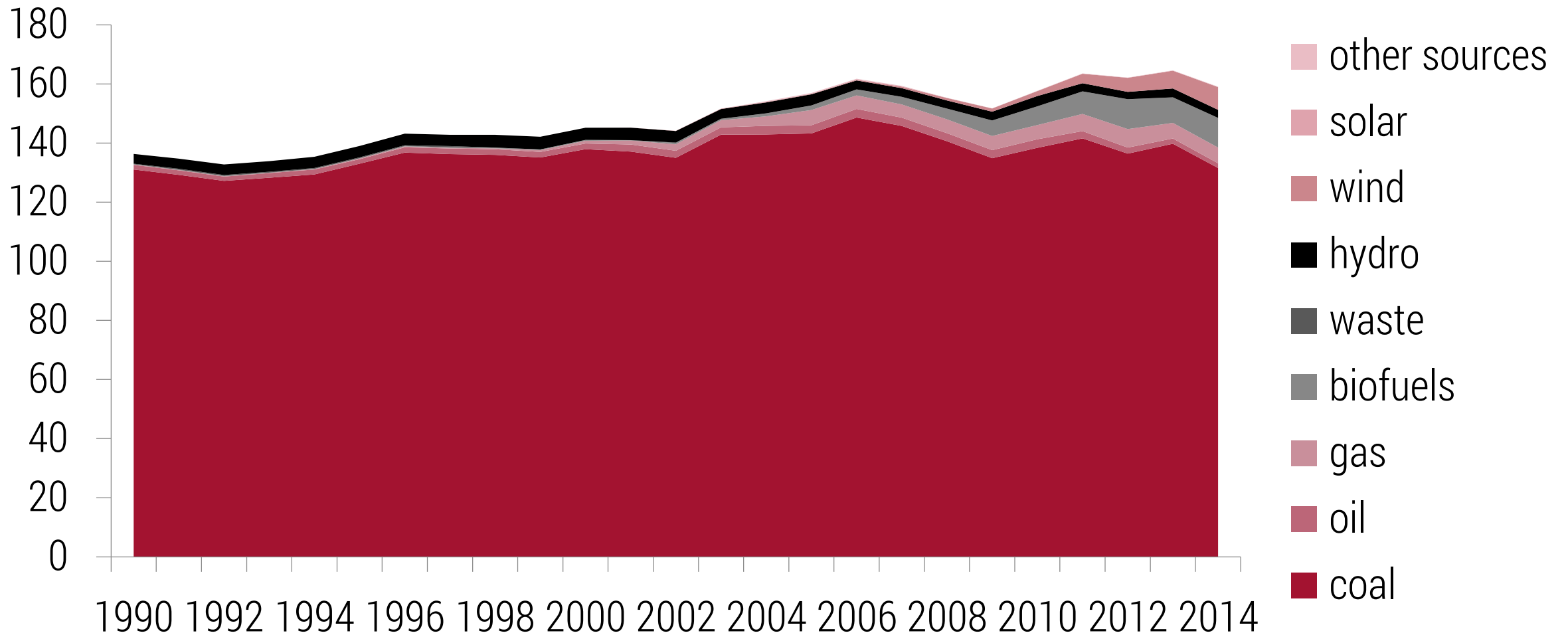
# Prevalence of coal in TPES (Mtoe\*)



\*Without electricity; crude oil and oil products combined

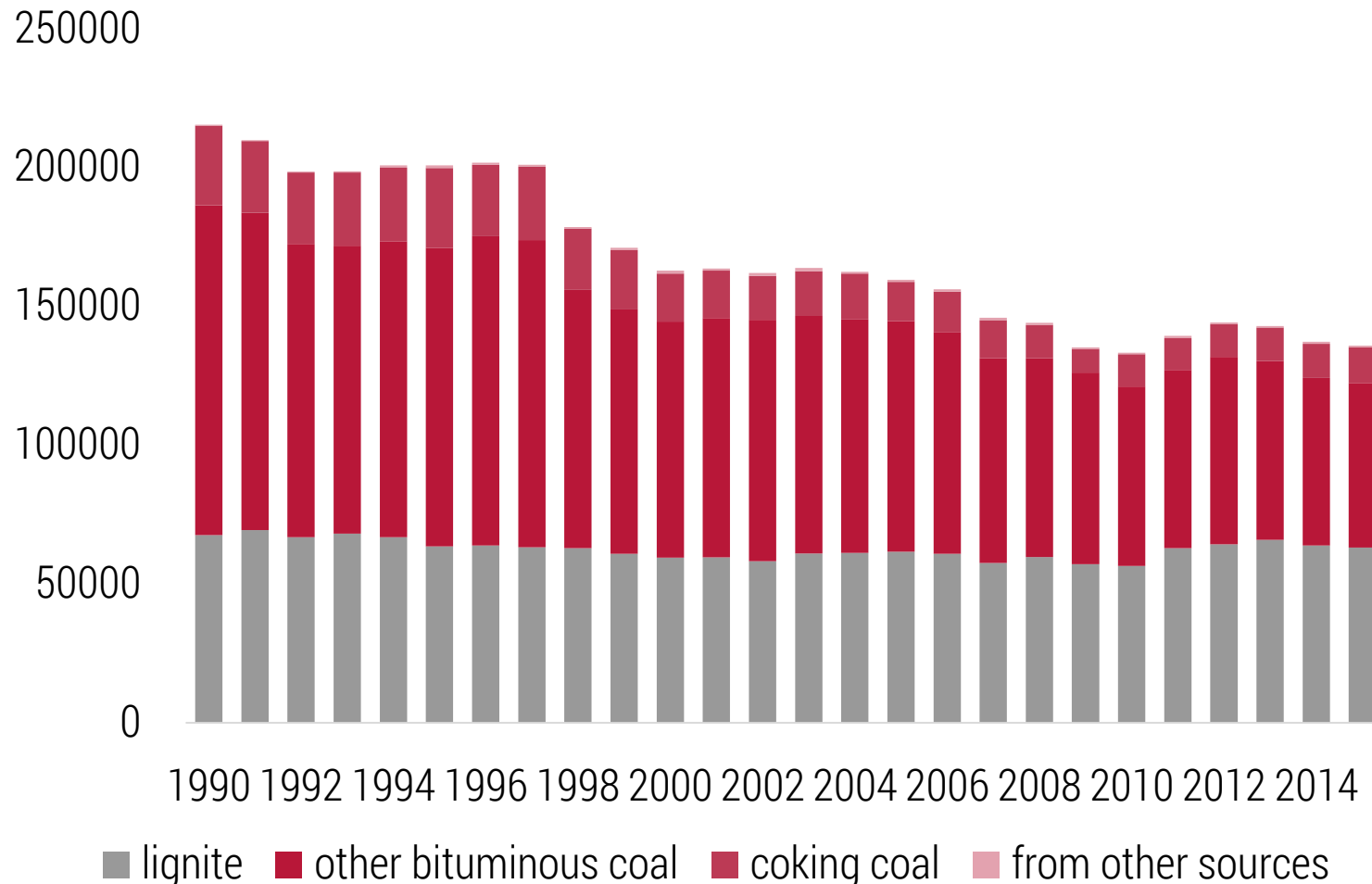
Source: IEA

# Domination of coal in electricity production (TWh)



Source: IEA

# Primacy of hard coal over lignite (1000 tonnes), 2015



## Focus on hard coal:

- ~ 4 x more labour intensive production.
- ~ 3 x more calorific than lignite
- used in different sectors (not only for energy production)

# Productivity and profitability – two main goals of transformation

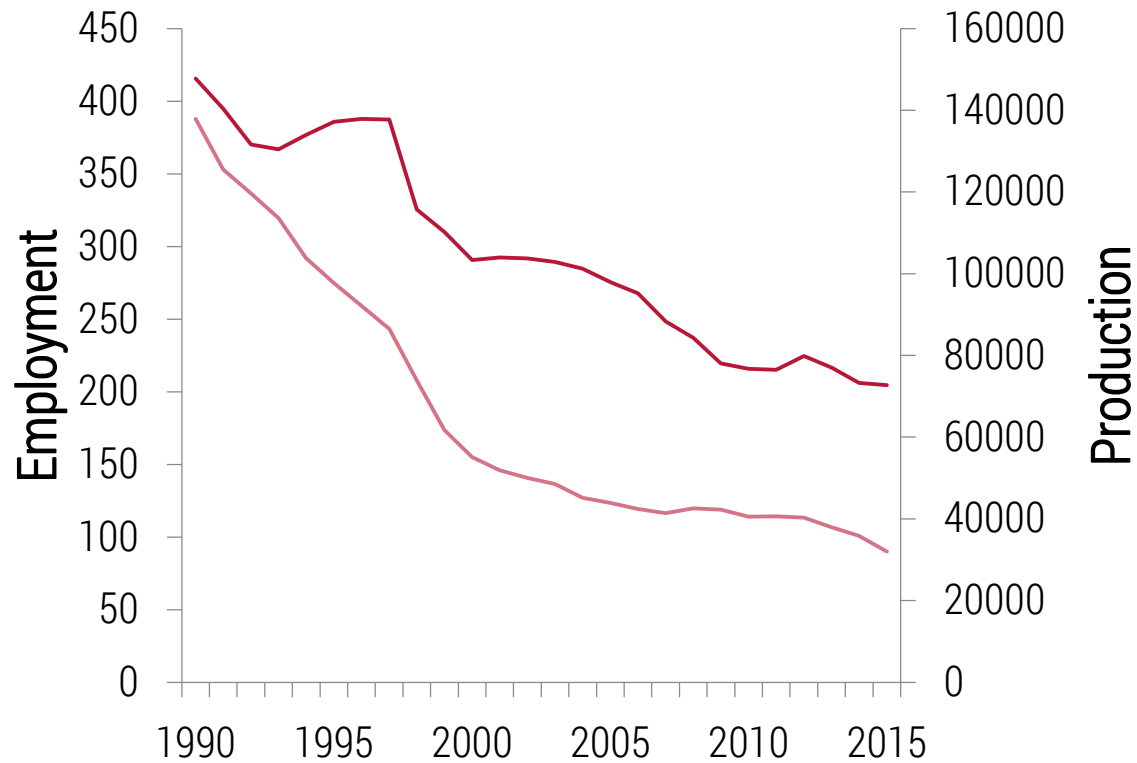
Focus on hard coal



# Improved productivity of the hard coal sector

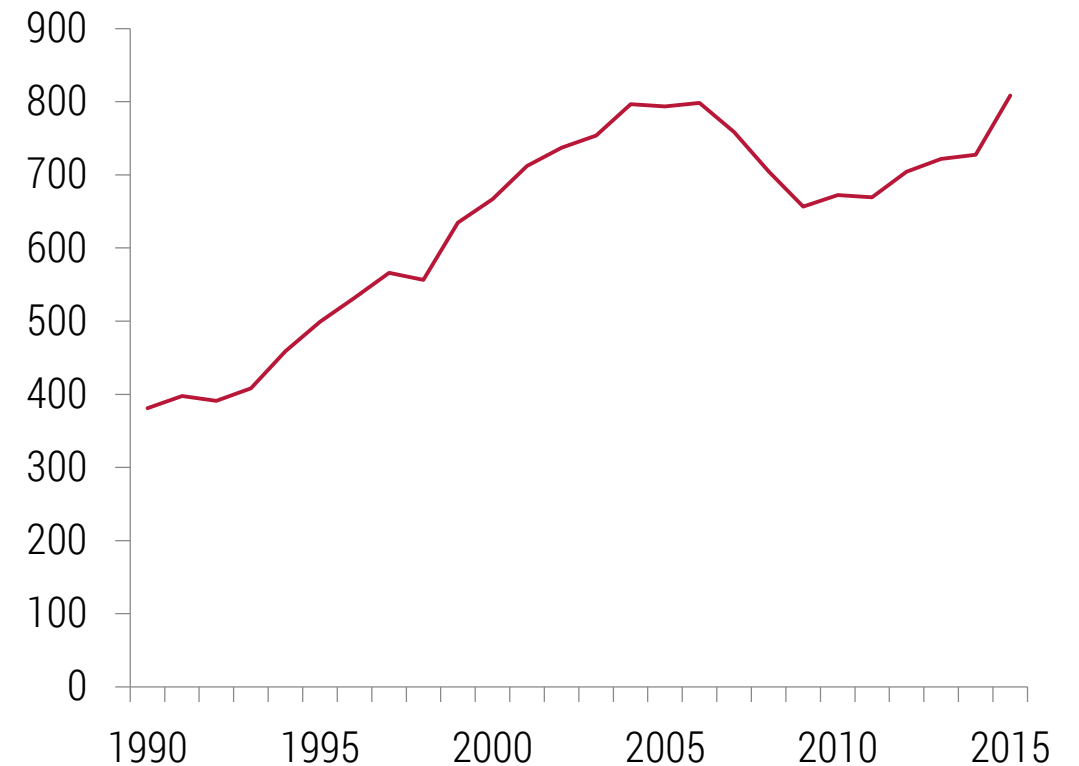


## Employment and production



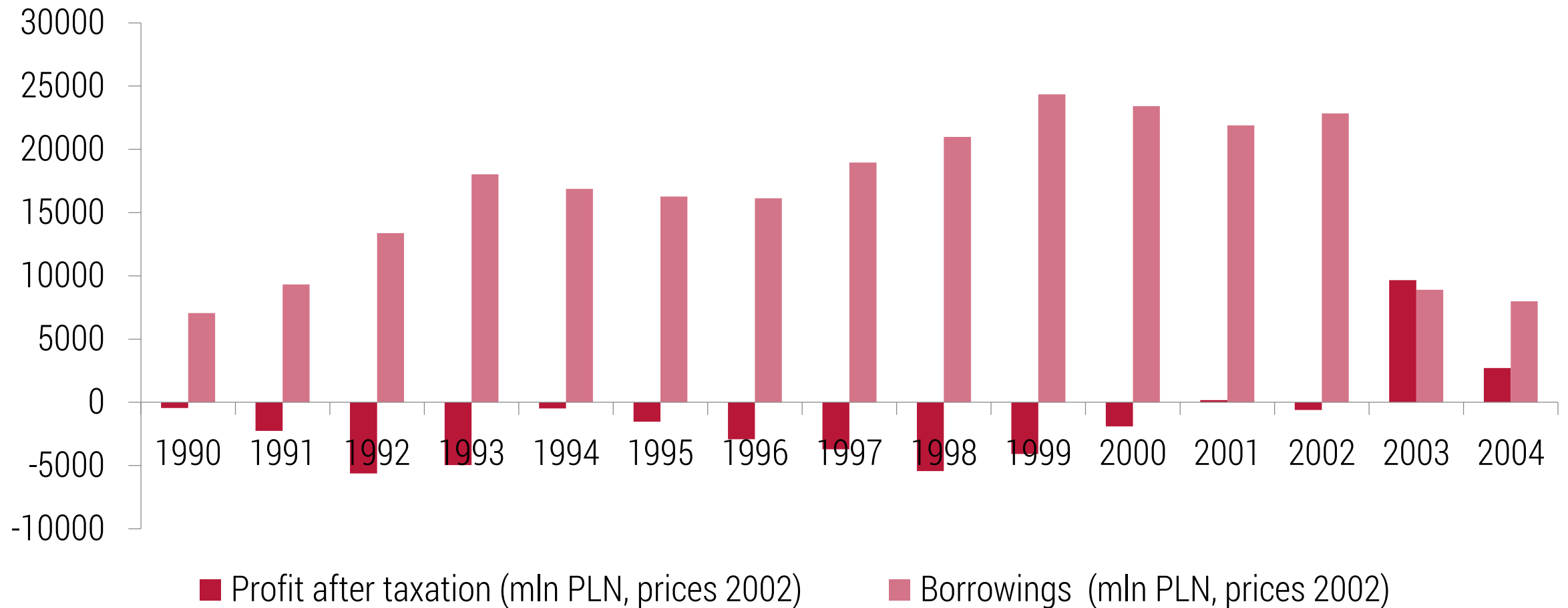
- Employment in hard coal sector (thous.)
- production of hard coal (mln tonnes)

## Productivity (tons of coal/person)



Source: Production: IEA; Employment, Bednorz 2015, Ministry of Economy

# 1990s. - losses in hard coal sector despite debt reductions



Source: Kaczorowski, Gajewski, 2008

# Hard coal labour restructuring programme (1998-2002)

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1. Early retirement (~37 thousand people)
2. Welfare allowance - redundancy payment on a monthly basis during the period of retraining and job seeking (419 people)
3. "Golden handshake" - a single, unconditional redundancy payment. (~30 thousand people)

**Success:**  
High pace of job  
reduction

**Failure:**  
Increased number of  
inactive or jobless  
miners

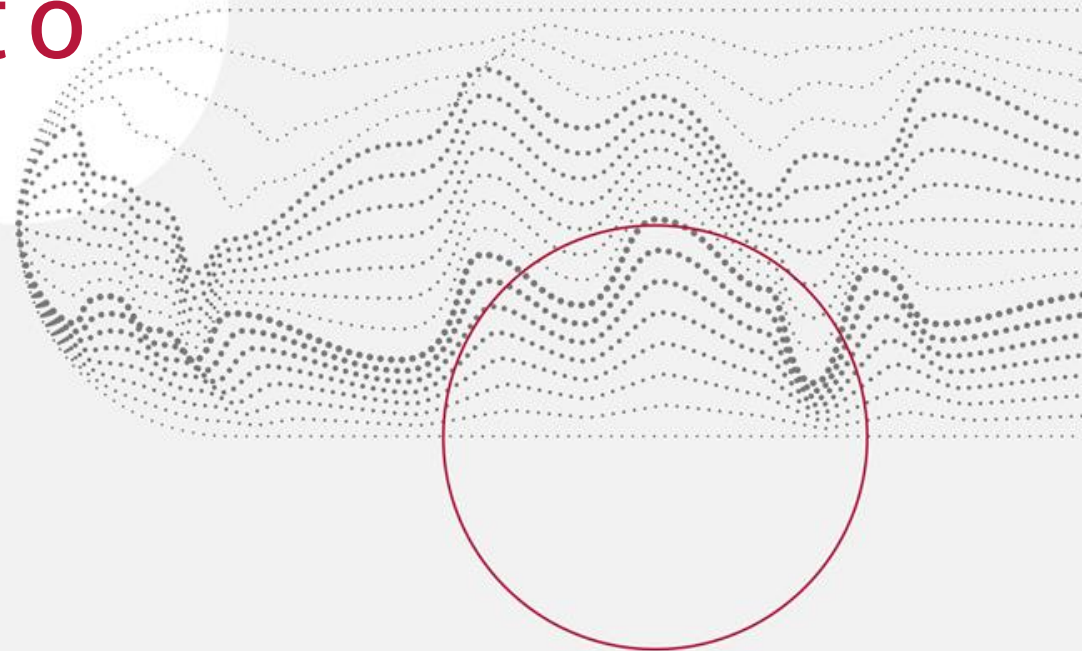
# State support for the hard coal sector between 2007-2015



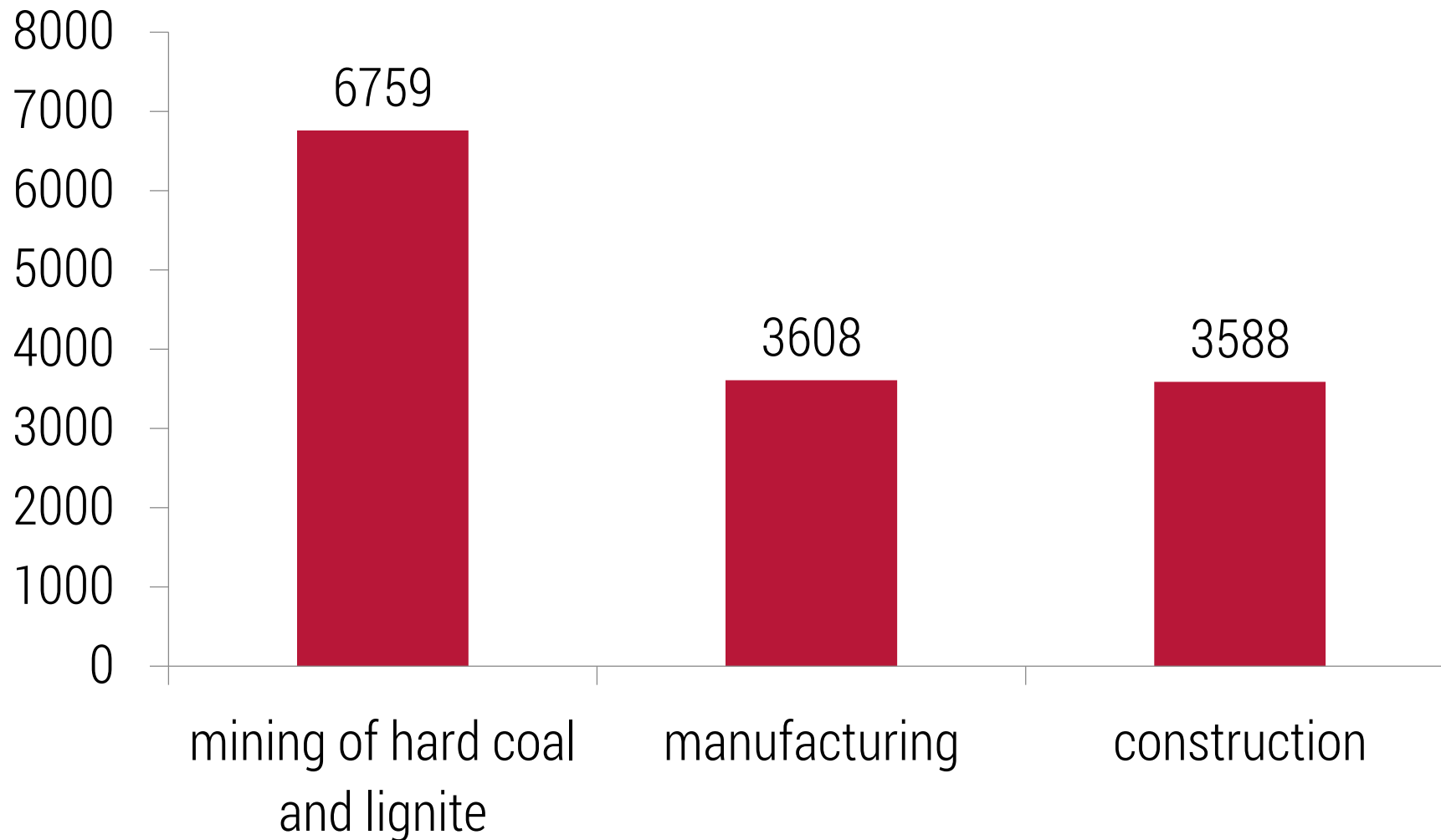
Category	Cumulative value (Euro)
Expenditures on miners' retirement pension in part which was not covered by the revenues from contributions	13 bilion.
Recapitalisation of the sector	0,6 bilion
State aid	1,1 bilion
Monitoring of the sector	0,1 bilion.
<b>TOTAL</b>	<b>14,8 bilion</b>

Total value of contributions of the sector to the public finances in the same period was  
**14,4 bilion Euro**

# Why the miners tend to stay in the sector?



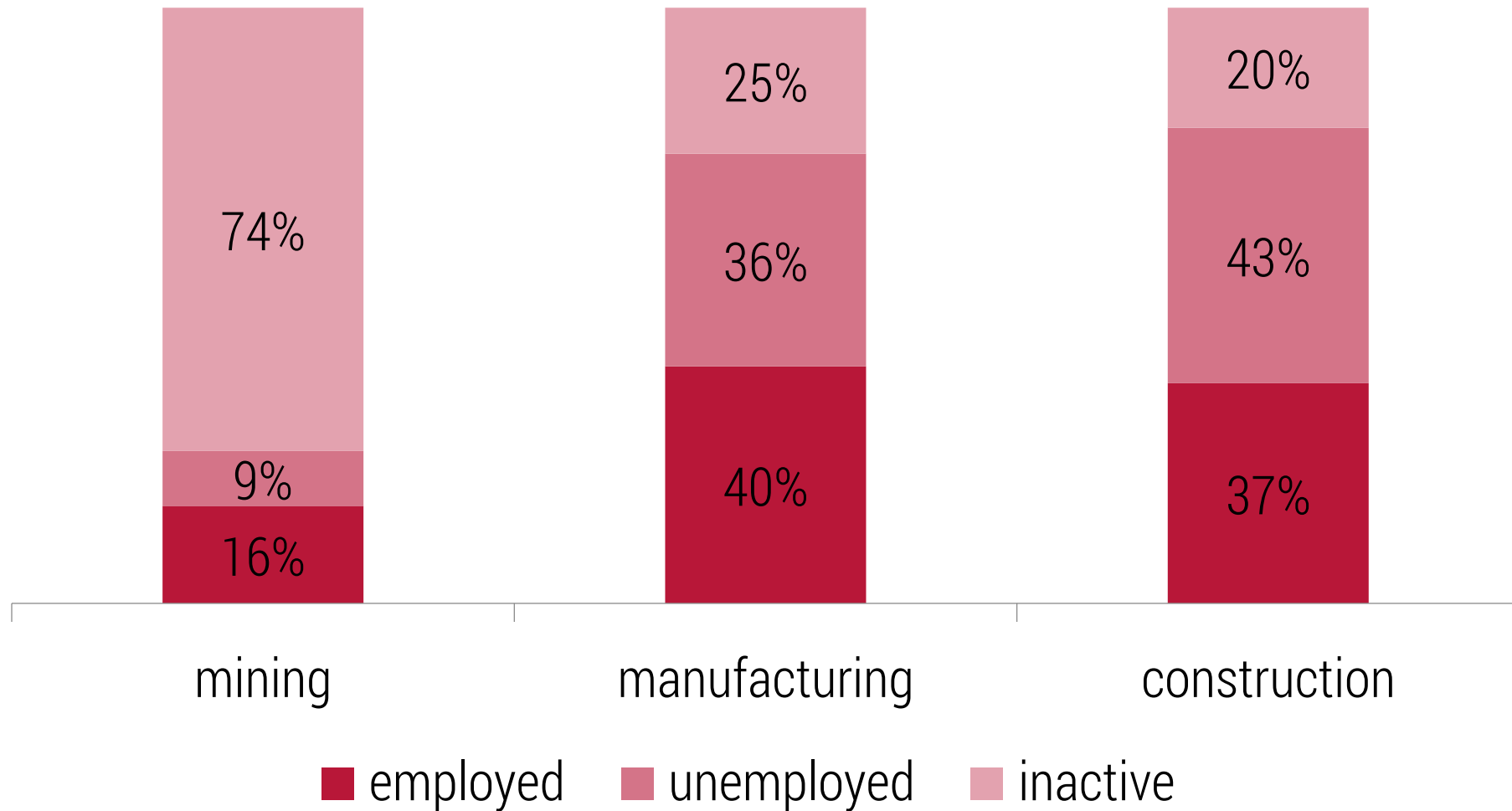
# Wages in mining and other sectors (2014, zloty)



Wages in mining sector are substantially higher compared to sectors with similar workforce characteristics

Source: SES 2014.

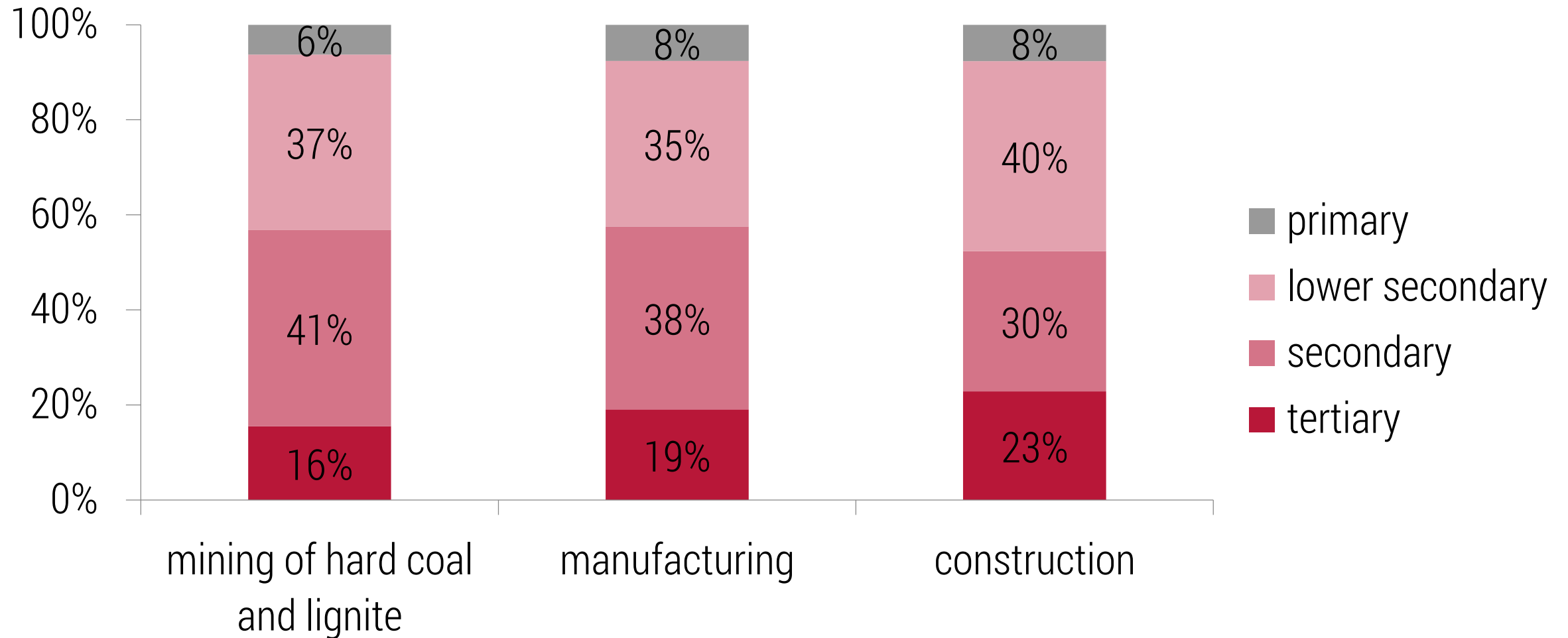
# Labour force status of workers a year after leaving particular sectors



Quitting the mining sector, unlike the manufacturing or construction, ends with inactivity for the vast majority workers.

Source: LFS.

# Low level of education among miners (%)



Source: SES 2014.



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# Sociological aspects

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- Miners have a high **social status**
- Mining community developed specific strong **cultural patterns** (eg. subordination)
- They are often the **single source of income** for their families

# Coal intensive regions – diversifying economy



# Upper Silesia – the main coal region in Poland



Almost all Polish hard coal mines are concentrated in this region. The region is:

- the most densely populated,
- the most urbanised
- most industrialised (in terms of population employed in industry)
- one of the most polluted and CO2 intensive

Source: SES 2014.

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# How to reduce negative consequences of coal dependence

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1. gradual deployment of new technologies able to provide energy in a cleaner way
2. protecting the poorest households, as they will be the most vulnerable to new policy
3. creating new jobs corresponding with skills of the former miners

Thermal retrofitting program offering help to the poorest households. It reduces Energy demand and can be conducted partly by requalified miners

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# Conclusions

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- There is a trade off between pace and sustainability of labour market transformation
- Lack of re-skilling as a compulsory component have serious effect
- Industry and construction are potentially interesting sector for former miners
- In case climate protection is not an internal driver the environment (pollution, water accessibility, Surface damage etc.) can be.
- One way to reduce carbon subsidies is to divest in Energy efficiency as close to mining as possible.

Thank you!

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