

Research and surveys:


Reports: Education for the water and sewage management sector and remediation. Research and analysis of the **formal and non-formal educational offer** and their adequacy to the needs of employers

The labor market for the water and sewage management sector and remediation. Research and analyzes about **employees in the most difficult situation** on the labor market

Balance of Human Capital - the water and sewage management industry and reclamation. Reports summarizing the 1st edition of research carried out in 2020-2021 and the second edition from 2022-2023

Survey among IGWP members

 **PARP**
Grupa PFR

 Branzowy Bilans
Kapitału Ludzkiego II

Raport z I edycji badań

**Branża gospodarki
wodno-ściekowej
i rekultywacji**

Branżowy
Bilans Kapitału Ludzkiego II



The research defined 10 key workplaces for the sector:

- water technologist / chief water technologist,
- operator of intakes and water treatment stations,
- automatic,
- operator of the water and sewage network,
- electrician,
- waste water technologist / chief waste water technologist,
- technologist / biotechnologist,
- environmental engineer,
- project manager / technical director



Self-assessment of employees' competences

Importance rating according to employers

less important

Surplus competences competences less important for employers, higher rated by employees	Balanced competences competences very important for employers, higher rated by employees
Sufficient competences competences less important for employers, rated lower by employees	Scarcity competences competences very important for employers, rated lower by employees

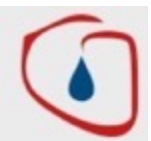
more important

higher

lower



competency gap





Research of the water and wastewater sector on competence needs

Barriers to accessing workers with desirable skills in water and wastewater industry

- The generation gap (skilled workers)
- mismatch of occupational classification to changing economic realities,
- mismatch of educational fields with the needs of the sector (capabilities of teaching staff)
- low flexibility of education and lack of focus on teaching practical skills
- low cooperation between education and entrepreneurs
- low efficiency of adult education and the level of career counseling



Research on the presence of the water and wastewater sector in the labour market 1/2

Perception of work in water and wastewater companies

- stable, secure, predictable, orderly
- companies train employees and provide advancement opportunities

but...

- Interesting job offers are offered based on personal contacts (no such job offers are publicly available)
- working in the sector requires specialized knowledge and skills, at least at the technician level



Research on the presence of the water and wastewater sector in the labour market 2/2

Perception of water and wastewater companies as employers

- Employers do not appreciate their employees
- There are barriers to gender equality - horizontal segregation and gender stereotypes
- Work in the water and wastewater sector is associated as more masculine due to its 'technical' and physical nature
- Mainly hard physical work in changing weather conditions and with great effort (humidity and unpleasant smell)
- The sector is not competitive in terms of wages



Courses and trainings that allow water and wastewater workers to improve their professional skills

- ❑ Companies in the sector need qualified employees who, in addition to environmental knowledge, should know other sectors
- ❑ Few non-formal education institutions train for the sector (e.g. IGWP, eduPartners, Gdansk Water Foundation)
- ❑ Companies in the sector select and order training for employees themselves
- ❑ Based on the sector's research, the Skills Council has developed recommendations for development qualifications by employees of water and wastewater enterprises

Forms of developing the skills of employees in the workplace

tutorials on the operation of new equipment, machines, software

internal courses and training, carried out by company employees

direct observation of the work of another employee (job shadowing)

rotation at work stations

courses and trainings provided by an external company

e-learning

coaching, mentoring

organizing team "open days", inter-team meetings



■ YES
 ■ NO
 ■ I DON'T KNOW



Assessment of employees 'skills, % of employers' indications

Do you conduct an employee appraisal? How often?



■ Yes, systematically, at least 1/year

■ Yes, occasionally, less than 1/year

■ No

■ I don't know



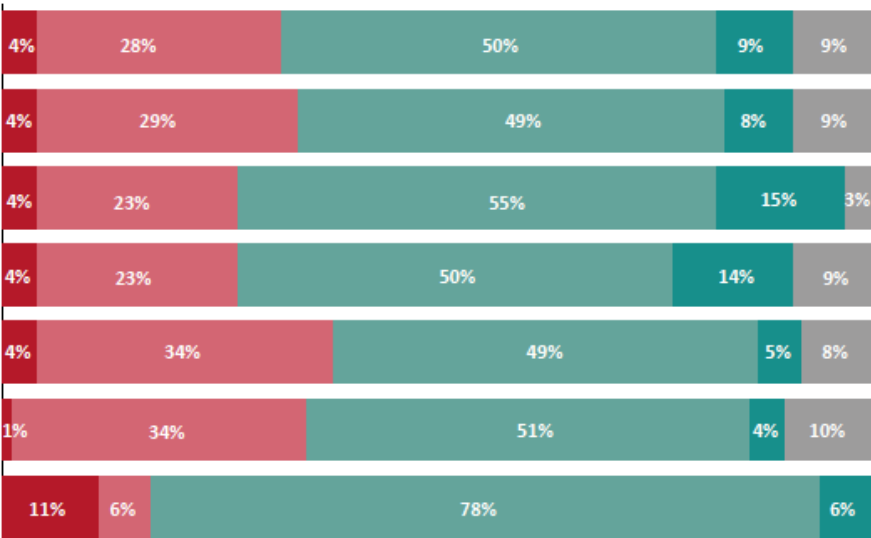
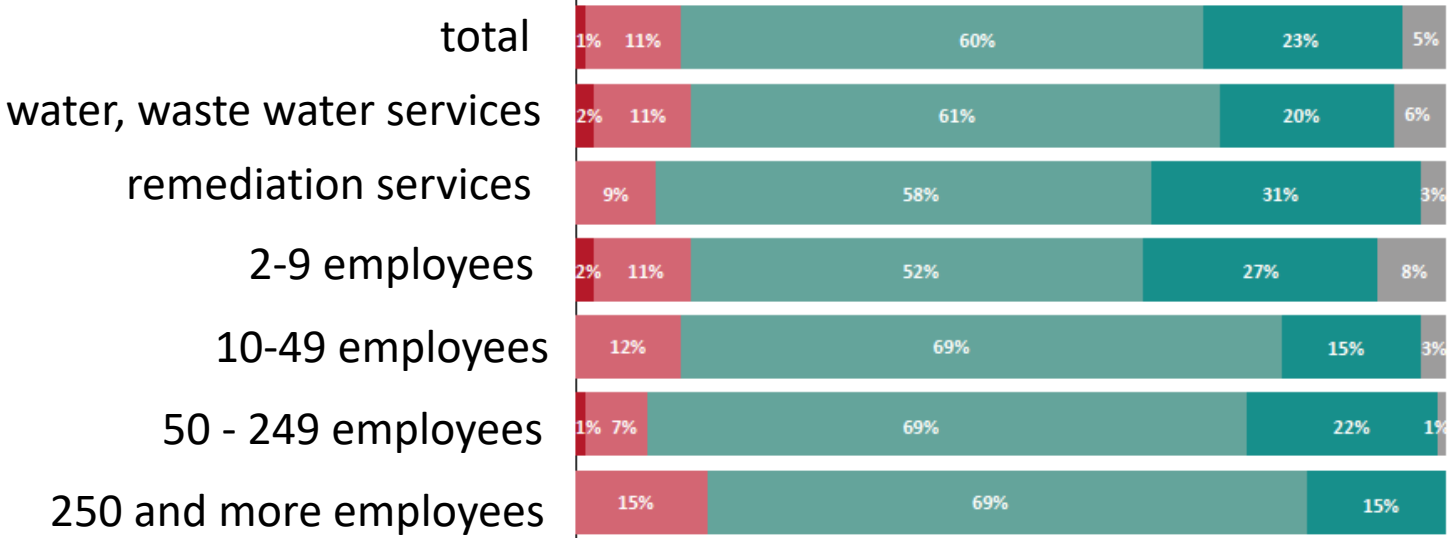
Assessment of the skills of a vocational school graduate or university graduate

employee

employer

are you well prepared for your work?

is the new employee well prepared for work?



■ definitely not
 ■ rather not
 ■ rather yes
 ■ definitely yes
 ■ I don't know





Qualifications needed in the water and wastewater sector 1/3

1. Consulting for companies and preparing offers
2. Market analysis in the sector
3. Obtaining external funding for companies
4. Mentoring of practical preparation for professional activities
5. Crisis management in the sector
6. Planning and implementation of communication strategies
7. Monitoring of technological trends and implementation of research and development projects



Qualifications needed in the water and wastewater sector 2/3

8. The O&M of a small water supply system (1,000 m³/d or serving less than 5,000 people)
9. The O&M of a small WWTP
10. The O&M of a sewage pumping station
11. The O&M of water supply and wastewater networks
12. Maintenance of water mains
13. Maintenance of sewage networks
14. Installation and maintenance of water and sewage networks
15. Operation, repair, and maintenance of industrial automation systems in water and wastewater facilities
16. Operation, repair, and maintenance of electrical systems in water and sewerage facilities
17. Operation, repair, and maintenance of machines and devices, mechanical and electronic systems in water and wastewater facilities

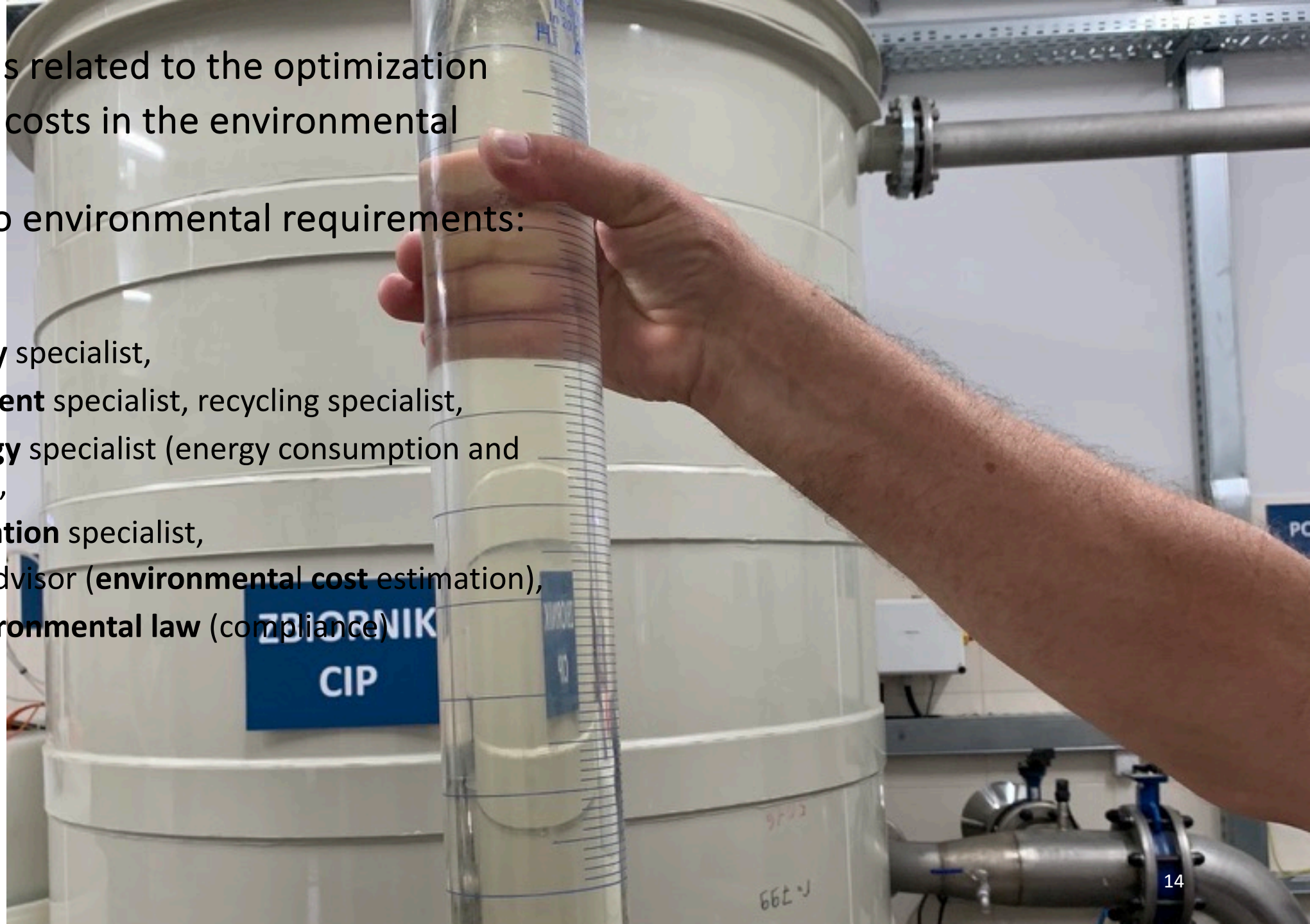


Qualifications needed in the water and wastewater sector 3/3

18. Receiving and coordinating requests from service customers
19. Energy management in a water and wastewater company
20. Managing health and safety in the operation of water and wastewater systems
21. Application of the principles of protection against hazards caused by harmful agents in the operation of wastewater systems
22. Monitoring and application of regulations in the implementation of processes and tasks of the water and wastewater enterprise, including planning processes and tasks considering anticipated changes in regulations

future professions related to the optimization of processes and costs in the environmental context and adaptation to environmental requirements:

- **circular economy** specialist,
- **waste management** specialist, recycling specialist,
- **renewable energy** specialist (energy consumption and energy recovery),
- **process optimization** specialist,
- environmental advisor (**environmental cost** estimation),
- specialist in **environmental law** (compliance)



Other areas:

- IT solutions
- Data mining
- Cybersecurity
- Crisis management
- HR : coach, mentor

Analyst:

- climate change,
- new technologies,
- economy, finances,
- energy needs.



Sectoral Human Capital Study II

Water and wastewater
management and
reclamation sector

Results from the 2nd
edition of the study

https://en.parp.gov.pl/storage/publications/pdf/23-GWSR_EN-WCAG.pdf

Conclusion

New challenges for water utilities:

- Climate change mitigation and adaptation
- Pollution of our environment (including water resources)
- Growing interdisciplinarity
- New technologies
- Complex solutions
- IT solutions
- Qualified workers
- Rationalization of costs





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