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EXPLORING THE REQUIREMENTS FOR GREEN COMPETENCIES IN RECRUITMENT AND PERSONNEL SELECTION PROCESSES

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ABSTRACT: The aim of the article was to evaluate the extent to which green competencies are featured in recruitment and personnel selection processes as criteria for assessing and verifying candidates' suitability for job opportunities. The method applied in the study was existing data analysis, which involved a literature review and an analysis of job advertisements on the job portals pracuj.pl and doinggood.pl (N=3617). To complement the analysis with qualitative data, individual unstructured interviews with the management and staff of recruitment firms (N=55) were conducted. As a result, an original catalogue of green competencies sought by employers in various industries was developed. The study further revealed that green competencies, although emerging in the economy as it progresses towards "greening", are not yet commonly recognised. While they are well described in the literature, business practitioners often understand them in terms of generalised statements indicating skills in reducing negative environmental impact. Consequently, they are not always treated as an objective factor in assessing a job candidate's suitability for a position at the company.

KEYWORDS: green competencies, green HRM, prospective employee assessment

Introduction

The concept of green competencies has been increasingly acknowledged in scientific, political, entrepreneurial, and educational discourse. Likewise, the topic has gained prominence in the agendas of institutions engaged in developing ideas to limit and eventually reduce the negative impacts of human activity on the environment. In our opinion, the topic of green competencies is timely and relevant and urgently requires more than just theoretical foundations to build knowledge upon. This includes not only theoretical studies and publications as well as research in this field but also practicable and useful guiding principles that can support effective legal, organisational, and social solutions.

In recent years, we have witnessed an increasing number of efforts to design studies that provide insights into and recommendations for the application of green competencies in pro-environmental activities. This applies not only at the organisational level but also at the levels of regions, countries, and even groups and communities of countries (e.g., the EU). The text that follows is intended to serve a similar purpose. It builds on theoretical resources to justify the identified research gap and achieves its research objective by following a defined research methodology.

We started the study by pondering the question of whether the assumptions of European and national policies concerning environmental measures were comprehensible and implementable in the activities of enterprises, including personnel selection processes. Environmental policies consist of regulations and actions taken by the European Union to protect the environment, promote sustainable development, and combat climate change. They refer to a framework of recommendations and obligations resulting from the activities of various entities, including businesses. These policies significantly change the conditions for the functioning of the economy, which means that businesses need to implement environmentally friendly technologies and innovative solutions. While this may involve initial costs, it also creates jobs that require specific competencies. Additionally, these policies affect all businesses, regardless of the industry in which they operate. Of course, the manner in which they respond to the requirements set out in the policy directions may vary among them. For this reason, we have included all businesses in our analysis.

The question we posed is particularly pertinent in light of the current state of knowledge, which suggests that the activities of enterprises have thus far responded to these assumptions to a limited extent. Depending on the industry, type of activity, or size of the enterprises, the scale and scope of such involvement vary. This was demonstrated by the results of the monitoring of innovation among Polish enterprises conducted in Poland from 2017 to 2023 (PARP,2023). In our opinion, this situation justifies the need to verify how widespread the use of competencies essential for implementing processes that reduce the negative environmental impact of companies is.

Given the above, the aim of this article was to evaluate how extensively green competencies are featured in recruitment and personnel selection processes as criteria for assessing and verifying the suitability of candidates for job opportunities.

To achieve the research goal, the following research questions were posed:

- P1. How do companies approach the identification and interpretation of green competencies as a criterion for assessing job candidates?
- P2. What types of green competencies are most sought after by companies?
- P3. What factors influence the integration of green competencies in recruitment processes?

Research methodology

The discussed issue is as important as it is cognitively complex. A large number of research methods are available to explore it. In fact, their range and diversity pose a significant decision-making dilemma in the research process. The analysis of existing data is the primary method selected for the present study. This is a foundational method for essentially all analyses, wherein a review of the existing scientific contributions in a given field is conducted, along with an analysis of data provided through other sources related to the subject matter of the study, such as job postings. First, a literature review was conducted, which allowed us to establish the theoretical foundations. The primary focus was on publications in the field of organisational theory, management, and human resource

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management. These topics were linked with subject headings used to search databases of scientific publications and library collections. The intention behind this approach was to systematise the theoretical foundations underpinning the problem and become familiar with the research findings of other authors. Efforts were made to gauge the interest of employers in green HR and green competencies, as well as to determine the relationships between employees' green competencies and their significance in the assessment of individuals in recruitment processes.

The analysis of the current state of knowledge was based on a review of literature published until the end of February 2024. The analysis utilised full-text databases: EBSCO, Scopus, and Web of Science. In the case of the EBSCO database, the Discovery Service (EDS) was used, an aggregative search engine that simultaneously searches multiple EBSCOhost databases. This approach was employed to obtain results from various sources, significantly facilitating a systematic literature review and minimising the risk of overlooking important publications. The literature search primarily focused on publications related to HRM, Green HRM, and Green Competencies.

The analysis was conducted using a combination of the following queries: "Human Resources Management", "Green Human Resources Management", "Competences", and "Green competences." The authors used the following SLR strategy when formulating the below query: (TOPIC ((("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("green human resource management" OR "green HRM" OR ghrm))) OR ABS ((("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("green human resource management" OR "green HRM" OR ghrm))).

Then, the searched phases were combined: "Green competencies AND recruitment process", "Green competencies AND candidate evaluation", "Eco-competencies AND hiring process", "Eco-competencies AND selection criteria", "Sustainability competencies AND green HRM", "Sustainability competencies AND organizational culture", "Green skills gap AND talent acquisition", "Green skills gap AND employer branding", "ESG competencies AND sustainable business practices", and "ESG competencies AND environmental regulations." For example: ((TOPIC (("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("recruitment process"))) OR (ABS (("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("recruitment process"))) OR (TOPIC (("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("candidate evaluation"))) OR (ABS (("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("candidate evaluation"))) OR (TOPIC (("eco-competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("hiring process"))) OR (ABS (("eco-competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("hiring process"))) OR (TOPIC (("eco-competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("selection criteria"))) OR (ABS (("eco-competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("selection criteria"))) .

Next, an additional third factor was introduced to limit the number of searched articles. The final search phrases are: "Green competencies" AND "recruitment process" AND "candidate evaluation"; "Eco-competencies" AND "hiring process" AND "selection criteria"; "Sustainability competencies" AND "green HRM" AND "organizational culture"; "Green skills gap" AND "talent acquisition" AND "employer branding"; "ESG competencies" AND "sustainable business practices" AND "environmental regulations." For example: ((TOPIC (("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("recruitment process" AND "candidate evaluation"))) OR (ABS (("green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("recruitment process" AND "candidate evaluation"))) OR (TOPIC (("eco-competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("hiring process" AND "selec-

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tion criteria"))) OR (ABS (("eco-competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("hiring process" AND "selection criteria"))) OR (TOPIC (("sustainability competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("green HRM" AND "organizational culture"))) OR (ABS (("sustainability competencies" OR "green knowledge" OR "green skill*" OR "green behavior" OR "green attitude*" OR "green abilitie*" OR "green awarenes*" OR "green competenc*") AND ("green HRM" AND "organizational culture"))).

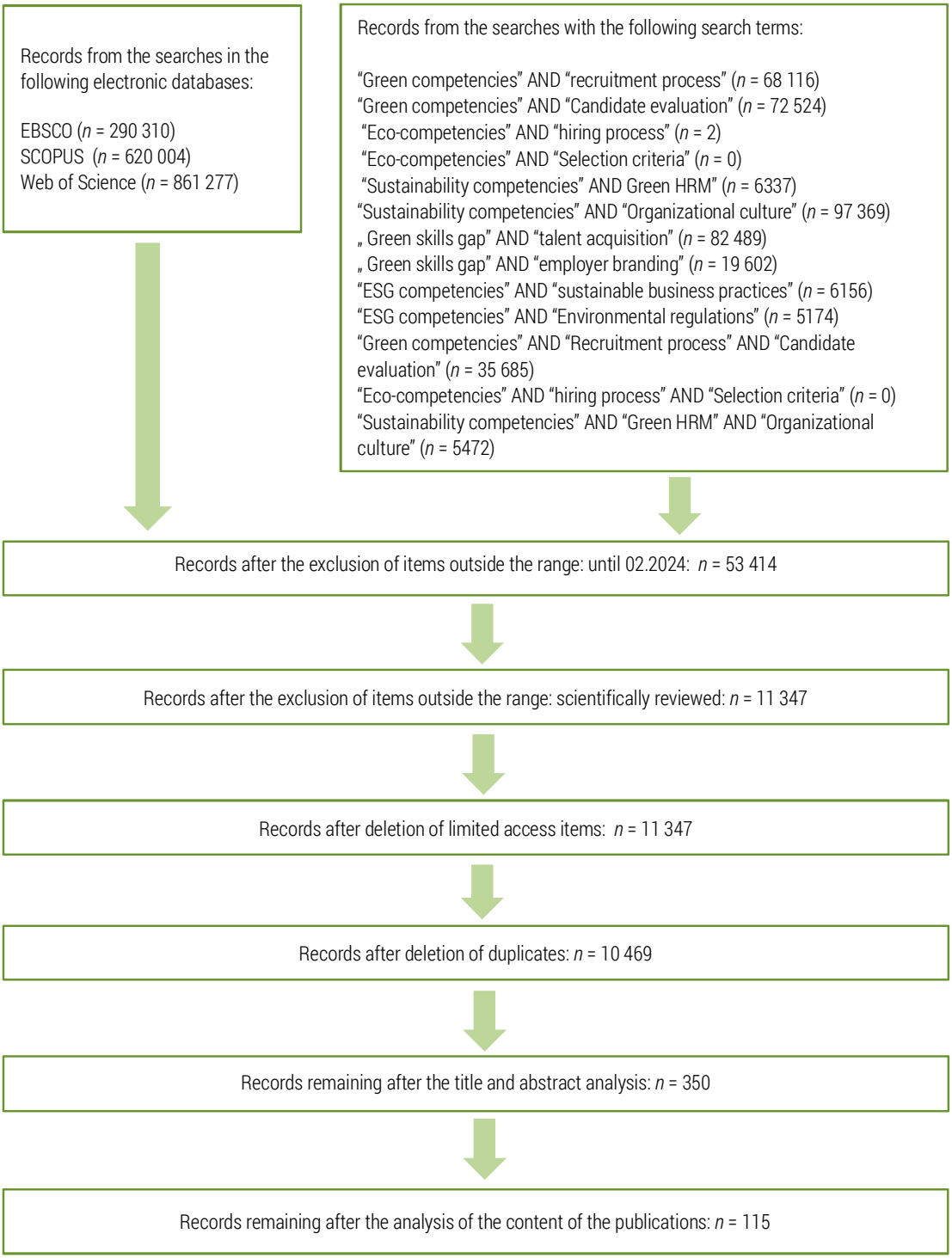

Figure 1. Flowchart of the literature search and select process

Source: authors work based on PRISMA (2020).

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The review included all items published in Polish and English. Subsequently, a selection was made based on the year of publication, retaining only those published by the end of February 2024 for further analysis. Non-peer-reviewed publications and those without full online access were then excluded. The initial search in bibliographic databases, following the designed literature search strategy, yielded a total of 12,771,591 potentially relevant publications. After excluding publications that did not meet the query criteria and those outside the time frame (up to the end of February 2024), 53,414 publications remained. The elimination of non-peer-reviewed publications and those with limited access resulted in 11,347 items. Removing duplicate sources left 10,469 publications. An analysis of abstracts and titles further reduced the number of publications to 350. Ultimately, after a detailed analysis of the publications, 115 items were selected for review. The search and selection strategy for the literature review is illustrated in a diagram based on PRISMA (2020) (Figure 1).

Further research on the existing sources involved analysing job advertisements to identify green competencies currently sought by employers. Job openings posted on two job portals were considered: pracuj.pl and doinggood.pl. The former is one of the most recognisable job portals in the Polish job market. In 2023, 59,000 employers published 844,159 job vacancies there (Pracuj.pl, 2023). The latter has different utility parameters. According to the portal management entity, the operating premise and market differentiator of its activities is that it brings together companies espousing a specific mission and job seekers looking for work that provides them with a sense of purpose. The methodological approach used for the content analysis of the portals was based on the following assumptions:

- It involved synthesising data obtained from both portals – considering their specific approaches to job offer formulation (one universal in nature, the other focusing on job vacancies) aimed to verify the extent to which green competencies are treated as selection criteria for candidates in various recruitment contexts.
- The assessment did not focus on the effectiveness of recruitment channels.
- The analysis examined unique job offers, comparing and verifying links to announcements that demonstrated similarities in job titles in terms of industry and subsequently by the entity reporting the demand.

Due to the considerable volume of job advertisements published on pracuj.pl, the analysis only included job offers posted between February 5 and 18, 2024, for the Łódź Voivodeship, resulting in the analysis of 3,323 job ads. For www.doinggood.pl, a different approach was adopted: jobs were categorised by business activity over a specific period. Several categories related to environmental impacts were considered: Clean Energy, CSR/ESG, Nature Conservation, B Corp[1], and Sustainable Food. As a result of the applied criteria, the set of analysed advertisements comprised 294 job offers published throughout 2023.

The analysis adopted an approach that included all announcements posted on the specified recruitment portals within the designated time frame. Therefore, the analysis does not consider the industry diversity of companies seeking employees through these channels.

Additionally, to supplement the conclusions drawn from the quantitative research results, qualitative studies were conducted in the form of individual interviews. These interviews were carried out with representatives of company management and employees of recruitment firms serving the sector. A total of 55 interviews were conducted, mostly (n=46) with company managers. In more than half of the cases, these were managers in areas other than HR, and one out of four managers held a CEO or equivalent position (such as president, general director, or company owner). Over two-thirds of the respondents represented medium or large enterprises.

[1] B Corps (Benefit corporations) are companies that implement a sustainable development strategy. These are enterprises that depart from the business model based solely on profit maximization and actively work for the benefit of the environment and society – see https://bcorp.pl/b-corp-w-polsce/.

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Findings from the literature review

The essence of green competencies

Competencies are interpreted differently in the literature, encompassing skills, knowledge, attributes, and behaviours that enable effective task execution (Spencer & Spencer, 2008; European Commission, 2007, 2008; Kessler, 2006; Kessler & Strasbourg, 2005). In social sciences, they refer to expertise and the ability to perform tasks as a result of learning (Ziemski, 2000). In educational psychology, competencies are defined as abilities that lead to desired behaviour (Roczen, 2011). They are divided into general and specific competencies (McClelland, 1979; Heath, 1977; Raven, 1977; Patterson et al., 2008; Armstrong, 2000), which complicates their categorisation across contexts.

A specific type of competency is professional competency, which includes both hard and soft skills (Lewandowski & Kądzielawski, 2022; Lyu & Liu, 2021; Wahab et al., 2024). Hard skills relate to technical abilities and the practical application of knowledge (DeCenzo et al., 2018), while soft skills pertain to interpersonal capabilities such as empathy and motivation (Heckman & Kautz, 2012). Soft skills also incorporate elements like self-awareness and social skills (Klaus et al., 2007; Putra et al., 2020).

Green competencies, arising from increased awareness of the impacts of environmental degradation, involve knowledge and attitudes that facilitate minimising negative environmental effects and actions aligned with the principles of sustainable development (Sulich & Kozar, 2024; Gadomska-Lila et al., 2024; Gajdos & Antczak, 2024; Sudolska et al., 2023; Kozar & Sulich, 2023; Grigorescu et al., 2023; Abdelkareem et al., 2024; Ziółkowska, 2024; Papademetriou et al., 2023; Li et al., 2023; Abdelhakim, 2024; Sinaga et al., 2024; Subramanian et al., 2016). The literature employs various terms in this context, such as green competencies (Cabral & Dhar, 2020), sustainable abilities (Thomas & Day, 2014; Thomas & Depasquale, 2016), green skills (Bawa et al., 2022; Liu et al., 2022; Vona et al., 2015; Cleverley, 2014), core green skills (Pavlova & Chen, 2019), green abilities (Subramanian et al., 2016), environmental competencies (Fraijo-Sing et al., 2016), and competencies for sustainable environments (Wiek et al., 2015).

Alongside the various definitions of competencies, the literature has referred to their different components and dimensions. Most approaches have primarily referenced a set of related knowledge, skills, and attitudes – i.e., components of the classical competency model. However, this has often been expanded to include many other aspects, such as personal traits, abilities, and actions aimed at reducing energy consumption, protecting ecosystems and biodiversity, and minimising emissions and waste (Dlimbetova et al., 2016). For example, green competencies may include green skills, environmental awareness, and other environmental characteristics, such as a green attitude and eco-friendly behaviour required in green workplaces to achieve financial and environmental outcomes through pollution prevention, product management, and sustainable development (Cabral & Dhar, 2019).

Among the seminal studies in the field of green competencies, Pedersen (1999) conducted a factor analysis and identified six dimensions related to green competencies (GCs). These six dimensions are conscientiousness, resource conservation, outdoor skills, practical skills, knowledge, and wayfinding. Hence, they appear to be the "classic" competencies that have been adapted to what are often referred to as "green activities." Corral-Verdugo (1996), in his work on environmental psychology, proposed GC as a higher-order factor encompassing dispositional variables such as attitudes, motives, and perceptions. Meanwhile, Subramanian et al. (2016) divided GC into natural green competency (NGC) and acquired green competency (AGC). NGC refers to inherent traits obtained from individual observations, while AGC is described as environmental knowledge and specialist knowledge acquired through experience. Studies conducted by these authors have shown that AGC is a better predictor of sustainable development than NGC and has a greater impact on employees' environmental behaviours. Therefore, management should focus on assessing employees in terms of AGC and provide them with green seminars and training to help build AGC to accelerate sustainable development (Subramanian et al., 2016).

Regardless of the approach adopted for green competencies, it seems that green knowledge and green awareness always serve as the starting points for any actions. Green knowledge (Aboramadan et al., 2022; Khan et al., 2022; Rubel et al., 2020) is defined as the knowledge of the facts, concepts,

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and relationships concerning the natural environment and the entire ecosystem (Fryxell & Lo, 2003). In the literature, it has often been perceived as a prerequisite for green competencies (Schultz, 2002), establishing awareness and reasons for ecological behaviours (Roczen, 2011). Analyses of the structure of environmental knowledge have shown that before people have a chance to act properly (pro-environmentally), they must know why they should do something for the environment and how they can do it. Additionally, they must also be knowledgeable about the specific environmental consequences of certain behaviours (Frick et al., 2004).

Green awareness (Apostu & Gigauri, 2023; Farooq et al., 2022; Kim, 2022) is the subjective ability to recognise and pay attention to the presence of an object and its features (Bower, 1990). It is defined, among other things, as knowledge about the production process and carbon footprints (Esteve-Llorens et al., 2019), awareness of air pollution (He & Liu, 2018), and understanding of energy consumption processes (Shrouf et al., 2017). The element of green awareness enables organisations to assess the impact of their activities on the environment. Employees must enhance their environmental knowledge, awareness, and concerns with the help of organisations to overcome the problems and challenges related to green practices (Yahya et al., 2022). As suggested in the literature, it can be used interchangeably with green knowledge (Bush et al., 2007; Sinha et al., 2008; Kwatra et al., 2014), which is the case in this publication.

Having green knowledge and being aware of the need for green behaviours (Chaudhary, 2020; Dumont et al., 2015; Dumont et al., 2017; Hameed et al., 2020) should translate into green skills (Bawa et al., 2022; Liu et al., 2022). Green skills are abilities that are essential primarily in green occupations but also in those influenced by the green transformation (i.e., the ability to perform tasks considering their impact on the environment in such a way as to minimise negative effects on the ecosystem). They possess both professional and general characteristics and are required for implementing environmentally friendly strategies when developing ecological products and services (US Department of Commerce, 2010; Deitche, 2010; Brown, 2013). Green skills help employees analyse and synthesise knowledge, proving useful in putting that knowledge to practical use when addressing environmental challenges. The authors of the report "Skills for a Greener Future: A Global View," prepared by the International Labor Organization (ILO), emphasise that methods for classifying and measuring these and other skills required in green workplaces are currently being developed, revised, and improved (ILO, 2019). Skills are being identified that will be crucial for future employees in combating climate change and environmental protection. The main skills are related to: installing, maintaining, and repairing renewable energy technologies; waste management; water and air purification; and other technologies that enhance environmental quality; conducting environmental assessments; analysing data on greenhouse gas emissions, resource consumption, and impacts on biodiversity; implementing projects that contribute to achieving sustainable development goals; managing risks associated with climate change and environmental protection; educating communities and employees about sustainability and environmental conservation; and adapting to new norms and standards, both national and international. Additionally, developing production processes that reduce resource waste and promote material reuse, as well as effectively managing waste, recycling, and utilising secondary raw materials (ILO, 2019). As indicated in the report of the Confederation of Polish Employers Lewiatan, by 2030, as many as 300,000 new jobs are expected to be created in sectors such as renewable energy (RES) and electromobility, primarily for individuals possessing what are known as green skills (Konfederacja Lewiatan, 2022). Both hard green skills, such as conducting thermal modernisation of buildings and installing heat pumps and photovoltaic panels, as well as soft skills in the areas of research, education, and eco-friendly communication, are needed in the market.

A list of examples of green skills (categorised into general and specific – industry-specific – skills), developed by the European Commission as part of the ESCO classification under the Creation and Support of 120 Sectoral Skills Centres (BCUs) scheme, which implements the concept of Centers of Vocational Excellence (CoVEs), is provided in Table 1.

Meanwhile, the report by Pearson, Nesta, and the Oxford Martin School indicates that by 2030, 70% of occupations will be performed differently (Pearson, 2017). The ecological factor will play a significant role in this process.

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Table 1. Examples of green skills, as specified by the European Commission in the ESCO classification of skills

Scope of skills	Examples of hard skills	Examples of soft skills
General (cross-sectoral) skills	Interpreting scientific data for assessing: water quality, air quality, carbon footprint	Developing concepts for energy conservation
	Developing resource management procedures	Developing eco-friendly communication systems
	Conducting feasibility studies for heating and cooling systems	Developing agricultural policies
	Developing waste reduction indicators	Managing water and air quality tests
		Assessing the impact of industrial activities
		Conducting environmental awareness training
Specific (sector-specific) skills	Analyzing samples: geochemical, paper production, etc.	Training employees in: reducing food waste, reducing energy waste, etc.
	Installing photovoltaic panels, heat pumps, and other solutions for utilizing renewable energy sources	
		Coordinating the sewage sludge processing process Training in recycling regulations
	Appling sustainable farming techniques	

Source: authors' work based on Ministerstwo Funduszy i Polityki Regionalnej (2024).

Having green knowledge and awareness of the need for ecological actions, as well as green skills, can demonstrate a green attitude (Haq et al., 2022; Islam et al., 2020; Malik et al., 2021). Attitudes are based on evaluative feelings about what is favourable or unfavourable regarding objects, actions, or abstract concepts (Wicker, 1969), as well as an individual's life experience (Newhouse, 1990). Green attitude is defined as a psychological tendency expressed through the evaluation of perceptions or beliefs concerning the natural environment, including factors influencing its quality, with a certain degree of favorability or reluctance (Milfont, 2007). It is a two-dimensional higher-order construct encompassing preservation and utilisation.

Preservation refers to the protection of nature and its resources – i.e., an eco-centric perspective – which includes conservation policy, eco-centric care, and engagement with nature. Utilisation means the use of natural resources for the benefit of humanity – i.e., an anthropocentric perspective – which includes factors such as changes caused by human intervention in the environment and domination over nature (Milfont & Duckitt, 2010).

The literature on the subject addresses green attitudes from the following perspectives (Cabral & Dhar, 2020; Dlimbetova et al., 2016; Pedersen, 1999):

- attitudes that are formed during environmental education geared towards environmental problems and solutions,
- attitudes towards environmental education and education for sustainable development,
- attitudes towards environmental protection,
- attitudes towards sustainable development,
- attitudes towards an environmental worldview and concern as well as a commitment to solving environmental problems,
- attitudes towards the commitment to ecological challenges,
- attitudes backed by a sense of responsibility for environmental issues, respect for nature and society, and an assessment of socio-environmental conflicts.

Green skills are another dimension of green competencies (Muisyo et al., 2022a; Muisyo et al., 2022b; Yadav & Mathew, 2022). The authors define skills as specific characteristics of an individual, including their intellectual qualities and the ability to quickly acquire new competencies. These are individual abilities to integrate theoretical and practical knowledge about the natural environment to address real environmental challenges. As indicated by Cabral and Dhar (2020), these skills can have

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both a natural and an acquired character. The former relates to engaging in actions aimed at achieving environmental protection outcomes, while the latter are developed through the transformation of organisational policies into environmental actions as a response to social pressure. This is a critical variable that influences green human resource management (GHRM) innovation in an organization.

With reference to the European Competency Framework for Sustainable Development published in January 2022, the following green skills have been identified, with fostering them considered essential from the perspective of green transformation: the ability to embrace sustainable development values; the ability to accept the complex nature of sustainable development (including systems and critical thinking); visualisation of a sustainable future (including exploratory thinking and adaptability); and actions for sustainable development (including the ability to demonstrate initiative) (European Commission, 2022).

It seems that pro-environmental attitudes and abilities are significant predictors of pro-environmental behaviours (e.g., Hines et al., 1987; Tan, 2011). Green behaviour is defined as behaviour that leads employees to adopt sustainability-oriented practices in their work, preserve resources, and discourage others from contributing to environmental degradation while initiating environmental protection actions themselves (Ones & Dilchert, 2012). Steg and Vlek broadly define environmentally friendly behaviour (also called "green behaviour") as an individual activity that minimises harm to or benefits the natural environment (i.e., overall green behaviour) (Steg & Vlek, 2009).

Norton et al. (2015) categorise green behaviours into two categories: compulsory green behaviours and voluntary green behaviours. Compulsory green behaviour occurs when employees perform their tasks and duties in the workplace, resulting in environmental outcomes that facilitate and support the organisation's environmental protection policy. Voluntary green behaviours refer to environmental actions performed by employees outside their organisation. These behaviours encourage organisational engagement in environmental protection actions, which may be supported by environmental activism, further influencing employee involvement in environmental programs. Importantly, voluntary green behaviours are not specified in job descriptions or systematically monitored or rewarded by organisations. They are an ecological, behavioural element of the construct of organisational citizenship behaviour (Kim et al., 2017). This does not mean that they are not or should not be part of an organisation's green HR initiatives.

The essence of the Green Human Resources Management

Green competencies are integral to embedding sustainability into organisational practices, allowing employees to actively contribute to reducing environmental impacts while aligning with the principles of sustainable development. These competencies, defined as a combination of knowledge, skills, and attitudes, equip individuals to implement and support pro-environmental actions in the workplace (Subramanian et al., 2016; Cabral & Dhar, 2020). They enable employees to actively contribute to reducing environmental impacts while fostering long-term organisational value.

In the realm of HRM, green competencies represent a targeted approach to integrating sustainability into workforce practices (ILO, 2019). Green recruitment and selection strategies prioritise candidates with high environmental awareness and skills to engage in resource-efficient practices. Training programs further build these competencies, ensuring employees are prepared to address ecological challenges in their roles (Roscoe et al., 2019; Renwick et al., 2013). Practices such as green recruitment and selection focus on candidates with strong environmental awareness, while training and development programs aim to build green skills and behaviours that align with organisational goals (Zihan et al., 2024).

Unlike broader Green Human Resource Management (GHRM) practices that encompass organisational culture, leadership, and sustainability frameworks, this study narrows its focus to specific competencies directly related to environmental performance. For instance, organisations implementing green recruitment often prioritise analytical skills for energy audits, knowledge of sustainability certifications, or skills in renewable energy technologies (Vona et al., 2018). By emphasising such actionable skills, HRM becomes a conduit for operationalising sustainability in diverse organisational contexts.

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GHRM practices

As indicated by publications concerned with identifying and describing GHRM practices, regardless of the differences in terminology, i.e., GHRM areas (categories) or GHRM practices, the way they are formulated points to the domains where the most important recruitment and retention activities are undertaken in relation to GHRM characteristics.

The following key areas of GHRM practices can be distinguished (Różańska-Bińczyk et al., 2020; Urbaniak, 2022; Ackermann, 2017; Lakshmi & Battu, 2008; Shaban, 2019):

- green human resource planning – job descriptions for all positions should take into account environmental issues, green competencies, and tasks, as well as the inclusion of pro-environmental attitudes and behaviours in codes of ethical conduct,
- green staff recruitment – preference should be given to candidates with an interest in and experience with sustainability, as well as those possessing green competencies and high environmental awareness and sensitivity,
- green employee development and training – training should be provided to develop employees' green skills and attitudes, fostering a proactive approach to environmental issues,
- green employee motivation – green employee behaviour should be rewarded through both financial and non-financial motivation. Examples include benefits for cycling to work, recycling rewards (e.g., praise, bicycle service on company premises, and charging stations for electric cars),
- performance evaluation – sustainability objectives should be included in employee evaluations, embedding environmental criteria in periodic assessments and providing feedback on employees' contributions to the company's achievements in the area of environmental performance.

As Urbaniak (2022) points out, GHRM starts with job descriptions, as they provide information about the competencies required of prospective employees. Knowing what employees the employer seeks is essential for recruitment and selection. This is the starting point of a sequential process that goes from GHRM planning to improving the organisation's system by fostering a climate conducive to a sustainable process where employees take pro-innovative actions and promote eco-intrapreneurs. Such activities can support the establishment of a GHRM system. Furthermore, organisations that initiate GHRM can also develop new areas that are well-established in traditional HRM but not in GHRM, such as introducing disciplinary measures for employees who violate the company's principles and standards of green behaviour (Bombiak, 2019).

The discussed aspects do, in fact, overlap with the classic GHRM model. However, the way that organisations view their goals and the resources needed to achieve them is changing. A shift from merely incorporating an ecological component into HRM to giving ecology a lead role has been observed. Hence, the authors believe that limiting practices to GHRM precludes demonstrating their leading role. It appears necessary to extend the descriptions provided to include the strategic orientation of the organisations themselves and the context in which these organisations operate.

Today, the environment determines the conditions for the development of existing GHRM practices and the introduction of new ones. The location of a company and the markets in which it sells its products matter. Consequently, the EU's Green Deal, for example, includes policies such as the Green Deal Industrial Plan for a carbon-neutral era. The document indicates that the Commission is working with Member States to set targets and indicators to monitor the supply and demand for skills and jobs in sectors relevant to the green transition. This implies a direct impact on the current and future labour market in the EU, along with associated forms of organisational and financial incentives, as well as educational efforts to raise awareness among business owners regarding the expected changes in the EU (European Commission, 2023).

This is not the only example of change; individual countries are increasingly beginning to develop or co-implement pro-environmental policies. Another example is provided by the declarations of the World Summit for Climate Action COP 28 (Council of the European Union, 2023). The authors of this article consider the impact of these various policies to be of paramount importance, and they could form the basis of in-depth analysis that leads to meaningful research findings in this area. However, the focus of the article is narrowed to those GHRM measures that are currently in existence.

As economic practice shows, the environment for GHRM in pro-environmental activities in developing countries is radically different from that in developed countries that have adopted a clear

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pro-environmental strategy. In countries with an underdeveloped system of pro-environmental standards, GHRM may be virtually non-existent in their domestic companies. However, this does not mean that GHRM departments should not make efforts to establish a system within these countries. This task seems particularly well-suited for the management of multinational corporations, as they can set an example for other companies in the region through their own GHRM practices. It is through the organisation's general managers (directors and top managers) and HRM professionals that GHRM practices can be demonstrated as a source of competitive advantage for their own company, as well as a standard (requirement) for cooperating with local and national companies in the area.

The topics analysed in this publication have been intentionally centred around the environment and ecology to clearly indicate the need for a redefinition of previous business models that have not included a concern for the environment and ecology.

Based on the identified GHRM practices, it is evident that organisations should not just react to political decisions and changing regulations but rather take the initiative to educate their employees. This also opens up a discussion about the condition of organisations concerning green workplaces. In the following section, we identify key points in this area.

Green jobs

The enterprise of defining green jobs reflects the complexity of the GHRM subject matter. In the literature on Green Human Resource Management (GHRM), this concept has been discussed in publications reviewing existing definitions. In most definitions, GHRM refers to the use of HRM practices to enhance the sustainability of organisational resources, which, in turn, helps reinforce environmental sustainability and increases employee awareness related to environmental performance (Sharma & Gupta, 2015; Amjad et al., 2021). The goal of green workplaces is to reduce an organisation's environmental footprint through sustainable human resource management practices, technology, infrastructure, and day-to-day business operations.

This approach has been supported by the International Trade Union Confederation (ITUC), which defines Green Jobs as those that reduce the environmental impact of enterprises and economic sectors while ensuring decent working and living conditions for all involved in production and respecting workers' rights (ITUC, 2007). Similarly, the European Commission defines green jobs as jobs and occupations that ultimately reduce the environmental impact of enterprises or industries to a level considered sustainable (European Commission, 2012). The Green Group/European Free Alliance views Green Jobs as opportunities that guarantee decent work, adequate social protection, sufficient wages, healthy working conditions, respect for workers' rights, and the participation of individuals in decisions that affect their lives (European Commission, 2014).

As a result, green jobs are defined as roles that contribute to environmental sustainability by reducing ecological footprints and promoting practices aligned with sustainable development (ILO, 2019). These jobs demand specific green competencies, such as expertise in renewable energy, waste management, or energy efficiency (Vona et al., 2018).

Beyond explicitly labelled green jobs, the integration of green competencies in traditional roles is becoming increasingly significant. For instance, professionals in marketing or operations can drive sustainability efforts when equipped with skills such as lifecycle assessment or knowledge of low-carbon technologies (Vesere et al., 2021). This shift reflects the growing acknowledgement that green competencies are not confined to specific sectors but are essential across industries undergoing green transitions (Fankhauser et al., 2022). In addition, criteria are being introduced to refine the definition of green jobs (Bohnenberger, 2022):

1) business outcome – whether the product or service produced or provided is 'green.' The type of product refers to the direct (workplace) impact of the company or sector (macro level),
2) occupation – to what extent the tasks and activities performed by the employee have sustainable characteristics. Occupation classifies the direct (in the workplace) impacts of the tasks and activities of employees (micro level). In this context, tasks and activities are classified as green when they improve, restore, or protect the environment, while brown tasks and activities hinder environmental protection and encourage unsustainable solutions. Among the analysed activities are not only tasks directly required for the job but also indirect activities performed outside working hours, such as the daily commute and other activities in preparation for work,

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3) work-lifestyle – whether working conditions promote a sustainable lifestyle for the worker. Work-lifestyle assesses the indirect (socio-economic) impact of working conditions on the worker's individual sustainable lifestyle (micro level). Bohnenberger (2022) argues that working conditions significantly influence lifestyles, especially when employment is the only source of income enabling or preventing a sustainable lifestyle. A work-lifestyle is defined as sustainable if the occupation does not prevent the employee from maintaining a sustainable lifestyle and vice versa,
4) outcome efficiency – how resource-efficient the production process is. Outcome efficiency assesses the indirect (socio-economic) effects of a company or sector on the achievement of societal goals (macro level). This category includes a process perspective, as the environmental impact of production processes is assessed through the social functions of these processes, such as meeting social needs and providing employment.

In addition, it should be emphasised that the role of green competencies in job recruitment processes is significant, as it identifies how employers value these skills in candidates for various roles. Green competencies, which include both soft skills like adaptability and hard skills such as technical expertise in eco-friendly practices, are critical for fostering sustainability in the workplace (Farao et al., 2023). This broader integration underscores the transformative potential of green competencies in advancing sustainable development across economic sectors (Kozar & Sulich, 2023). The considerations presented here highlight the need to study the green competencies expected by employers, a finding confirmed by our research.

GC in HR practice – results and discussion

The considerations presented in the preceding theoretical part indicate that green competency should be viewed in a broad context. First, it is a concept that begins with the ability of enterprises to respond to challenges arising from changes occurring in the broadly construed environment. In a way, these competencies condition the demand of enterprises, or more broadly, the entire economy, for specific competencies. All these aspects materialise in the recruitment processes of companies, which – regardless of how they are conducted – should lead to the acquisition of staff with competencies that correspond to the needs of the companies. Of course, a separate factor – though not of interest to the authors of this analysis – concerns the development processes of job candidates' competencies facilitated by the educational system at its various levels.

As signalled in the methodological part of this study, we decided to focus on the previously discussed point of contact between companies and job candidates, namely the recruitment process. It is during this process that candidates learn about the qualifications expected of them, while employer representatives have the opportunity to assess them for the first time. Information about the expectations regarding prospective job candidates is conveyed through job offers. In the age of digitalisation of all kinds of processes, these offers are typically primarily posted on various job portals, career tabs on company websites, and professional social networks. It is in the job opening advertisement that all expectations regarding the qualifications of prospective employees are, and certainly should be, specified. In situations where "green" competencies are considered significant for a specific job position (or more broadly, for the organization), they should be reflected in the content of the job advertisement.

The process of identifying and analysing green competencies focused on three fundamental aspects: knowledge, skills, and attitudes. This approach is employed in research concerning the practical use of green competencies in human resource management (Sudolska et al., 2023). These aspects are relatively easy to identify and can be further developed during the collaboration with candidates after they are hired. Although abilities, behaviours, and awareness of the impact of human activity on the natural environment are also mentioned as components of green competencies, these elements are more challenging to verify in recruitment processes (Cabral et al., 2019).

For the purposes of this analysis, we adopted the following understanding of the individual components of green competencies, fundamentally derived from the findings of the prior literature review:

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- knowledge refers to the acquisition and understanding of information, facts, theories, and principles in a specific area,
- skills denote practical abilities to effectively perform tasks and solve problems in a given area, which may stem from completed courses or training, as well as professional experience,
- attitudes encompass the dispositions and beliefs regarding specific aspects of reality.

The general formulation of the assumptions for distinguishing individual components of green competencies arose from our efforts to verify existing interpretations of the essence of green competencies. A more detailed approach, consistent with the commonly accepted literature perspective, would have potentially resulted in duplicating the obtained results.

Job offers posted on pracuj.pl were analysed first. An attempt to identify green competencies among the analysed job postings involved a two-level search: (1) job titles and/or (2) detailed expectations concerning competencies provided in the content of the posting or in the descriptions of responsibilities. The researchers opted for this approach due to the diverse ways that job postings were formulated. As a result of the analysis conducted on 3,323 advertisements, data from 65 job offers were collated. Only in these few job ads (2%) was there an expressed requirement for candidates to possess any degree of green competencies.

The analysis of the expectations and requirements outlined in the selected job offers enabled the identification and definition of 99 green competencies. It is worth emphasising that a number of these competencies (about 26%) only indirectly suggest a green nature for the jobs. This applies, for example, to all positions that refer to optimisation in their title or competency description. In these cases, employers did not indicate specific areas of optimisation (such as energy or raw materials) nor did they provide a pro-environmental justification for such processes. However, it can be argued that any optimisation process should increase efficiency, contributing to specific savings. Thus, even if 'greening' the workplace did not appear to be the employer's intention, it was recognised as such for the purposes of the study.

The conclusions drawn from the unstructured interviews further reinforced that caveat. They showed that only a third of the interviewed subjects (18 respondents) had ever come across the term "green competency" by the time of the interview. This finding is somewhat consistent with research indicating that the implementation of processes related to green HR practices in enterprises is a relatively recent phenomenon. Results from studies conducted in 2020 reveal that the average duration of such activities in the context of recruitment processes did not exceed one year from the date of the study. Therefore, we are discussing a relatively young phenomenon that gains significance alongside the increasing overall ecological awareness.

In other cases, such as when managers are unfamiliar with the concept in question, even offering a "green" job position may not result in attributing specific environmental outcomes to those roles. However, it is also worth noting that managers who were not directly associated with HR activities but who managed business processes in the companies reported having encountered the concept of green competencies more frequently.

The situation was slightly different in the second of the analysed portals regarding indications of demand for green competencies in the postings. In this case, references to green competencies appeared in nearly all of the analysed advertisements, allowing the researchers to identify as many as 598 competencies, approximately 20% of which indirectly referred to pro-environmental issues.

As for the way in which the competencies required of prospective employees (in this case, green competencies) were communicated, the job opening ads from the two job portals predominantly listed the skills sought in candidates. For both portals, skills accounted for more than half of the green competencies highlighted, with a slightly higher proportion in the vacancies posted on Pracuj.pl. It appears that companies primarily focus on those aspects of potential employees' competencies that will practically translate into performing "green work" and, consequently, into business results.

For the Doinggood.pl portal, there was a significantly higher proportion (almost twice as much as for Pracuj.pl) of competencies related to attitudes in a broad sense. Most often, the hiring companies expected candidates to be willing to develop and update their knowledge in particular areas. This may be attributed to the specific market approach of the companies that posted their advertisements on Doinggood.pl. The operator of the portal encourages cooperation between companies and job candidates who aim to have a positive impact on the environment through their activities or professional endeavors. Naturally, this is not to say that other companies fail to formulate this kind of devel-

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opment strategy. Nevertheless, research has shown that only a fraction of companies make an effort to define the broader motives behind their business activities (cf. Kowalik, 2022).

It can be argued that commitment to a mission, even if not expressly stated in the development strategy, requires specific attitudes and approaches to certain ideas and phenomena, such as sustainable development. For companies committed to their mission, attracting employees who share similar attitudes and values may be quite important. They may, therefore pay more attention in their recruitment processes to issues specifically related to attitudes compared to other companies. Given that the most desirable attitude (the readiness to develop and update knowledge in a specific area) is of a rather universal character, it appears that we are dealing with a situation in which "classical" competencies are, in a sense, adapted to the needs arising from green jobs. In other words, as suggested in the theoretical part of the study, green competencies may be a consequence of the need for green knowledge, skills, and attitudes because the job applied for requires them; they may also be "classical" competencies transferable to 'green jobs'.

Regarding the aspect of competencies associated with knowledge, the analysed job advertisements indicated that, in addition to the required specific educational background, a significant emphasis was placed on familiarity with various norms, legal regulations, and standards governing different aspects related to the management of broadly understood sustainable development. Notably, regulations related to ESG, that is, the assessment of various aspects of organisational activity concerning environmental protection, social responsibility, and corporate governance, hold a special place.

The reporting obligations in this regard, under the Corporate Sustainability Reporting Directive (CSRD) (Directive, 2022), are mandated starting in 2024 for the largest entities – those whose headcount exceeds 500 and which report a specified amount of revenue and assets. In the future, additional groups of companies will also be required to comply with this reporting obligation. This prompts companies to make preparations in this area, including recruiting competent staff.

The growing importance of regulations concerning sustainable development, particularly EU legislation, seems significant. As companies endeavour to comply with regulatory requirements, their attention shifts to specific actions aimed at reducing their adverse impact on the environment. In addition to ESG, references in the job openings include the following:

- various types of sustainability and energy efficiency reporting guidelines and standards, e.g. Building Research Establishment Environmental Assessment Method (BREAAM), Carbon Risk Real Estate Monitor (CREEM), Global Real Estate Sustainability Benchmark (GRESB), Global Reporting Initiative (GRI), etc.,
- ISO standards (in particular ISO 14001 – the environmental management standard),
- EU climate policies and legislation (e.g. EU Taxonomy, GHG Protocol).

Beyond the familiarity with norms and standards, the examined job adverts also refer to specific expectations in terms of environmental expertise, e.g., in product lifecycle management, supply chain management, RES industry or energy efficiency, low-carbon technologies, etc., that is relevant to the company's business activity.

Derived from the expectations related to knowledge are the skills and work experience gained in similar previously-held positions, which feature in the analysed job offers relatively most often. They are the competencies related to the practical application of knowledge in processes such as:

- carrying out analyses (of production processes, buildings) to gauge compliance with sustainability requirements, e.g. energy efficiency,
- implementation of projects related to RES,
- management of supply chains and others.

In the context of skills, it is important to note one aspect related to how the concept of green competencies is understood. The literature review conducted for this article indicates that green competencies are viewed as knowledge and attitudes that facilitate minimising negative environmental impacts and actions aligned with sustainable development principles. For this reason, they are often equated with green jobs, which, as previously mentioned, are fundamentally aimed at reducing the ecological footprint of a given activity. However, it should be borne in mind that the activity of enterprises in specific areas of their operations falling under such assumptions may require a broader spectrum of competencies, including universal ones. If this be the case, their integration will contribute towards the envisioned effect of activities undertaken within the framework of green

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jobs. We are talking, for example, about marketing, sales, and broadly understood administrative skills (competencies). They were indeed listed in the job offers that fall into the category of green jobs.

Detailed lists of green competencies identified in the analysed job vacancy ads are given in Tables 2 and 3.

Table 2. Green competencies identified in the job offers posted on pracuj.pl

Type of green competencies	Expected green competencies	n
	name	
Knowledge (36.4%)	knowledge of legislation and procedures in a specific field (e.g., energy efficiency, waste management, energy market, climate policy, administrative and environmental proceedings, environmental impact assessment procedures)	8
	technical background in a specific field (energy, RES, environment) or economics (e.g. finance and accounting)	8
	knowledge of quality and certification standards and norms	7
	technical knowledge of energy/RES	5
	knowledge of energy efficiency, low-carbon technologies, etc., relevant to the field of activity of the company	4
	knowledge of supply chain management	1
	knowledge of project management	1
	Knowledge of product life cycle management (including familiarity with LCA tools)	1
	knowledge of the renewable energy industry/market (PV, FV, hydrogen projects)	1
Skills (56.5%)	skills in process optimization, including energy and resource savings	18
	professional experience in the RES sector	11
	sales skills	8
	analytical skills	6
	professional experience in areas related to sustainable development, ESG, environmental protection, circular economy (CE), energy efficiency, waste management, etc.	2
	life-cycle management skills	2
	experience in electricity trading	1
	experience in logistics process management	1
	design and development of charging systems	1
	professional experience in obtaining financing for RES projects	1
	professional experience in the field of urban planning	1
	skills in implementing environmental legislation and standards in organizations	1
	skills in energy efficiency analyses/energy audits	1
	skills in the installation of RES	1
	environmental project management skills	1
Attitudes (7.1%)	willingness to update one's knowledge and improve skills (e.g., related to reducing material consumption, or to laws and procedures)	4
	readiness to take pro-environmental initiatives	1
	awareness of the importance of specific pro-environmental activities	1
	interest in issues of broadly understood sustainable development, including RES	1

Source: authors' work based on the analysis of the job ads posted on Pracuj.pl (n.d.).

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Table 3. Green competencies identified in the job offers posted on doinggood.pl

Type of green competencies	Expected green competencies	n
	name	
Knowledge (36.0%)	technical background (energy, RES, environment) or economic background (e.g., in finance and accounting)	57
	knowledge of ESG regulations and standards	48
	knowledge of legislation and standards applicable to specific fields (e.g., energy efficiency, waste management, energy market, climate policy, administrative and environmental proceedings, environmental impact assessment procedures)	47
	knowledge of GHG standards/knowledge of carbon footprinting	12
	knowledge of EU Taxonomy	8
	knowledge of energy/RES	7
	knowledge of energy efficiency certification	7
	knowledge of electromobility	6
	knowledge of environmental impact reporting standards, e.g., CREEM, GRESB, GRI etc.	4
	knowledge of/skills in environmental reporting, including RES	3
	knowledge of the RES industry/market (PV, FV, hydrogen projects)	3
	knowledge of energy efficiency, low carbon technologies, etc., relevant to the company's area of activity	2
	Knowledge of/experience in sustainability issues	2
	knowledge of selected ISO standards	2
	knowledge of the principles of climate risk assessment	1
	knowledge of spatial planning principles	1
Skills (50.7%)	experience in ESG management/implementation of ESG objectives/reporting skills	43
	sales experience	25
	professional experience in areas related to sustainability, ESG, environmental protection, circular economy (CE), energy efficiency, waste management, etc.	23
	experience in the implementation of RES projects	18
	analytical skills	17
	marketing experience (including brand management, product development)	15
	programming skills	14
	experience in sustainability issues	14
	experience in fundraising or in NGOs	11
	experience in project management	11
	skills in preparing information and developing education materials	10
	professional experience related to accounting, corporate financial management, financial modelling	9
	competency in the area of UX, CX	9
	experience in the HR field	6
	experience in the financial sector related to sustainable development	6
	assistant/reception experience	5
	experience in the area of business analysis (e.g., analysis of development potential for RES developments)	5
	design and development of RES installations, including development/analysis of technical documentation	8

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Type of green competencies	Expected green competencies name	n
Skills (50.7%)	skills in process optimization, including energy and resource savings	5
	experience in the field of PR, social media	4
	experience in supply chain management	4
	skills in environmental reporting	4
	skills in servicing charging stations	3
	experience in product life cycle management, knowledge of LCA tools	3
	knowledge of the RES sector (PV, FV, hydrogen projects)	3
	experience in the field of electricity trading, including PPA operation	2
	design and development of charging systems	2
	skills in environmental impact assessment	2
	skills in energy efficiency analyses	2
	skills in servicing charging stations	2
	experience in the field of electromobility	2
	experience in environmental and related impact assessments (environmental inventories, expert opinions)	1
	experience in strategic consulting in the field of RES	1
	experience in working with environmental documents	1
	experience in the field of health and safety	1
	experience in carrying out research projects related to energy/energy-climate issues	1
	experience in fire protection	1
	professional experience in the mining/energy sector	1
	certification as a RES installer	1
	professional experience in law	1
	professional experience in business project management	1
	professional experience in procurement management	1
	carrying out energy efficiency assessments for solar power plants and energy storage facilities	1
	strategic planning skills	1
	computer graphics skills	1
	financial reporting skills for photovoltaic farms	1
	skills in drawing up energy balance sheets of companies, installations, industrial equipment	1
	Knowledge of/skills in managing sustainable food production	1
Attitudes (13.4%)	pro-environmental views on specific issues (e.g., excessive CO_2 emissions, elimination of smog, possibility of environmentally friendly management, etc.)	35
	interest in sustainable development in its broadest sense, including RES	28
	willingness to work and/or expand knowledge/development in the field of RES, ecology, electromobility, ESG, sustainable development, etc.	16
	proactive attitude towards environmental initiatives	1

Source: authors' work based on the analysis of the job ads posted on Doing Good Foundation (n.d.).

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As is evident, the competencies identified through the analysis of the job ads overlap quite closely with the classification proposed in the theoretical section of the study. They include not only hard, industry-specific competencies but also demonstrate an appreciation for the importance of soft competencies. What requires particular emphasis is that the identified competencies extend beyond the range commonly indicated in the literature concerning green jobs. They encompass a variety of universal competencies that are closely linked to activities that can undoubtedly be considered environmentally friendly.

The observations derived from the analysis of job offers were compared with the opinions of respondents participating in the qualitative studies. As previously noted, only a portion of the managers participating in individual interviews declared familiarity with the concept of "green competencies". However, those who did may intuitively understand the term correctly. At the same time, this understanding is limited compared to the earlier approach that emphasizes the need to move away from associating green competencies solely with green jobs. Most often, the respondents attributed green competencies to the following conceptualizations:

- ability to act with respect for the environment,
- having knowledge of environmental solutions and putting it into practical use in every area of life,
- understanding of ecological issues,
- awareness of the need for circular design and care for resources (energy, water),
- knowledge of EU requirements in relation to ecology and sustainable development.

A separate issue, beyond a simple understanding of the concept of 'green competencies' and requiring them of potential employees, is their use in recruitment processes. The respondents were asked whether they were able to make a 'green assessment of a candidate's suitability for a job' in their organization. Only one in five interview participants (10 respondents out of 55) answered in the affirmative, while two thirds strongly denied it. Affirmative answers were given mainly by representatives of manufacturing companies. In their case, rationalization of resource management through process optimization not only has a pro-environmental dimension, but also, by reducing costs, translates into real business results. Interestingly, according to the respondents, green competencies (and their assessment) are not used at all in the selection of job candidates, which means that even though green competencies seem to be important and are currently perceived as needed (they certainly look good in recruitment processes), companies are not yet ready to assess them.

Here, it appears important to reflect on the presentation of green competencies by potential job candidates and their importance in the selection process. Among those recruiters who appreciate the importance of green competencies, all primarily referred to the knowledge that job candidates have. Green skills and attitudes, on the other hand, were indicated each time by 6 out of 10 respondents in this group. More importantly, however, all respondents found it difficult to provide a precise definition of such competencies. Most often, they resorted to specifying the area to which these competencies were to be relevant (e.g., *energy efficiency of production processes, waste management*) or to describing them in very general terms (e.g., *environmental activities, sustainable purchasing, social responsibility*). It seems, therefore, that the interviewees perceive green competencies very practically. Rather than defining them and creating a catalogue of them, which would provide meaningful theoretical grounding for any study, they would rather regard them through the lens of effective practical use.

It is worth keeping in mind that job advertisements, even if they offer hiring companies the most transparent way of communicating their expectations to job seekers, are not a tool for verifying the suitability of candidates for a given position. The publication of a job advertisement is, in fact, one of the first steps in the recruitment process, followed by a preliminary selection of candidates who are then invited to meetings or interviews with representatives of the employer or the company recruiting on its behalf. This sequence of activities and the role of job advertisements were pointed out by the recruiters who participated in the qualitative research.

In the unstructured interviews, the respondents indicated that in their companies' recruitment processes, the aspect of green competencies primarily appears in the job advertisement (4 out of 10 respondents). On the other hand, almost all the respondents who indicated that green competencies were a criterion for assessing the suitability of job candidates (9 out of 10) reported that this aspect (whether the job candidate possesses green competencies) was discussed or verified during the first recruitment interviews. Importantly, in nearly half of the cases (4 out of 10 respondents), the desired

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green competencies '*are discussed once a candidate has been hired for a job as a standard that is adhered to at the company*'. In such cases, green competencies may not be featured as desirable or required of the prospective employee in the job advertisement.

It seems, therefore, that the way entrepreneurs and HR staff approach the recruitment process may be a factor in predicting possible expectations regarding green competencies. The reason these competencies are not communicated to candidates in job advertisements may be attributed to several factors. According to the interviewed company representatives, the main one is '*the difficulty in defining them, and therefore, accurately assessing and verifying them in the recruitment process*'.

Twelve out of 34 respondents who did not consider green competency as a criterion in evaluating job candidates' suitability believed that this type of competency was not applicable to the activities of the companies they represented. A decidedly different opinion was held by the second, similarly sized group of respondents, who viewed green competencies as a universal and self-evident response to the requirements of modern times. In these cases, green competencies would not appear in job advertisements, as they were '*so obvious that there is no need to mention them*'. A similar situation applies to one in five companies where relevant green attitudes and skills are imparted and cultivated among new hires after they have joined the organisation.

It follows, therefore, that for the interviewed entrepreneurs, green competency did not constitute a key competency in the recruitment process. Importantly, the reason for this may not be that this factor is irrelevant but that green competency is regarded as universal, self-evident, and a natural requirement for every 21st-century worker.

When analysing the results, one should consider the companies employing the respondents through the lens of their business activity, based on the premise that the competencies sought among job candidates correspond to the scope and specific character of that activity. The respondents declared that their companies took measures to reduce their negative impact on the environment (37 out of 46 representatives of the enterprises participating in the interviews). It should be emphasised that most often, these measures consisted of relatively simple actions, such as proper waste segregation, limiting the use of paper documentation in favour of electronic communication, or (to a slightly lesser extent) using systems to manage consumption in production processes, and utilising energy generated from renewable sources.

It is evident that these processes are not always directly related to the company's core business activity. However, it must be acknowledged that among the companies declaring a desire to seek workers with green competencies, actions are also taken that align with their adopted business model.

They may, therefore, require the following skills of their employees:

- processing and further use of waste derived from their own production processes,
- upcycling, i.e., transforming used products and generated waste into new materials or products of higher quality and value (a combination of recycling and designing new products),
- eco-design, i.e., design to produce products that offer the possibility of, for example, repair, part replacement, refilling/content replacement, to extend product life span.

However, the green competencies indicated by the interviewed participants did not always explicitly refer to the field of activity, which lends further support to the previously described findings from the unstructured interviews, namely, that specific expectations of employees are often formulated only within the scope of their job responsibilities, once they have taken up employment. Alternatively, the employee's universal competencies (e.g., in process optimisation) are adapted to the specific business processes of the company, or, finally, that green competencies are considered as a given in any employee's portfolio of competencies in today's labour market.

These conclusions are supported by the results of the analysis of the respondents' answers regarding the measures taken by companies to help reduce negative environmental impacts. A total of 37 out of 46 managers from the companies participating in the interviews referred to such measures. In their case, pro-environmental business processes are most often a consequence of contractors' requirements for environmentally friendly products or services (18 mentions out of 37 companies). They may also be a derivative of the environmental requirements that companies are mandated to meet, under the threat of financial liability for failing to do so (each cited by 12 out of 37 companies). Additionally, a pro-environmental image may play an important role in the competitive advan-

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tage of the companies (12 mentions). It seems, therefore, that we are dealing with a situation where the market, by influencing the business model, shapes the demand for green competencies.

It is worth noting that only a few of these companies took green competencies into account in their recruitment processes. Out of the 7 companies identified in the unstructured interviews that fall into this category (the remaining three respondents were representatives of companies providing recruitment services for other entities), a majority undertake pro-environmental activities mainly in response to the expectations of their contractors or consumers (building a pro-environmental image) or for fear of incurring financial liabilities for failure to comply with applicable environmental standards (4 mentions each). The key aspect, however, is that for the remaining 39 companies declaring pro-environmental activities, green competency is not regarded as a criterion for assessing job candidates' suitability in recruitment processes.

Conclusions

The study has shown that green competencies, although emerging in the economy with its progressive 'greening', are yet to be generally recognised. Their understanding is very often based on general statements alluding to the ability to reduce negative impacts on the environment. Consequently, they are not always integrated as an objective factor in the verification of job suitability of candidates applying for employment.

Overall, the following four possible scenarios emerged from the study for the applicability of green competencies in staffing and assessment processes:

1) Green competencies are expected by employers and explicitly defined as a requirement in job offers – in these cases, the specific nature of the company business activity calls for such competencies, and employers demonstrate their awareness of that fact by articulating them as expectations of job candidates,
2) Green competencies are required in the activity of the company, but are not treated as crucial in assessing the suitability of job candidates – in these cases, green competencies are not usually featured in job offers but are verified at the stage of the recruitment interview or are developed after the candidate has taken up employment,
3) Green competencies are treated by companies as natural and inherent in the modern economy, which means there is no need perceived by the companies to explicitly refer to them – in such cases, the employer approaches their relevance to recruitment in a manner similar to that presented in scenario 2,
4) The activities of the company take environmental aspects into account, however, it is universal competencies, such as sales and accounting skills, that are specified as required to handle these processes – this type of situation may be predominant in a given company (e.g., one that deals with the sale of green energy systems) or may be accompanied by circumstances in which the implementation of processes requiring green competencies also entails the implementation of universal processes, such as the above-mentioned administrative processes.

We acknowledge that the above research findings confirm that there is no single key source creating market demand for green competencies. Undoubtedly, the catalysts for such processes may be found among the requirements of the broadly understood environment:

- implementation of promulgated regulations to stimulate the development of pro-environmental areas of business activity, e.g. the European Green Deal,
- policies of business environment institutions,
- the level of environmental awareness in the sector in which the company operates,
- policies of suppliers (raw materials, semi-finished products meeting specific ecological requirements),
- expectations and purchasing decisions of individual customers (B2C) and policies of institutional customers (B2B).

On the other hand, there is, in the labour market, a pool of job candidates with green competencies, a resource of which organisations avail themselves. This study has clearly shown that what poses a challenge is the identification of the criteria for classifying occupations and specialties by green competencies within the framework of HRM (Ministerstwo Rodziny, Pracy i Polityki Społecznej, n.d.).

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Although the authors of this article did independently extract the criteria for the search for green competencies, they are the authors' and they have not been derived from the descriptions in the Classification of Professions and Specialties. Indeed, it appears that green competencies should be considered not only at the level of professions but also, or perhaps primarily, at the level of individual skills. These, in turn, can also be found in "non-green" professions present in the economy almost across the board. This is relevant, for example, to competencies related to attitudes (see Tables 2 and 3). If managers consider them pertinent to the activities of the company, then they should be conspicuous throughout the system, regardless of the degree to which the jobs in question are linked to pro-environmental activities.

The results of the study suggest that it is certainly not yet possible to talk about green competencies as a widespread phenomenon, i.e., frequent, generally known, and applied. They are more common in those industries, sectors, or areas of company activity that have a direct pro-environmental impact and less common in companies whose specific activities provide the opportunity to implement certain pro-environmental measures, such as reducing raw materials or energy consumption in manufacturing companies. In other cases, green competencies tend not to be generally sought after. Therefore, it is necessary to undertake further research in pursuit of practical solutions for the applicability of green competencies so that they do not become merely a trend resulting from social exigencies, potentially giving rise to a greenwashing effect, but instead producing measurable business results.

An additional aspect worth considering is the assessment and verification of candidates' possession of specific green competencies. While the issue of knowledge and skills does not present significant challenges, the situation becomes complicated when it comes to attitudes. Evaluating the authenticity of candidates' declarations, which largely pertain to the emotional sphere, appears difficult and requires assessing the extent to which demonstrating a particular attitude is essential for reliably performing duties in a given workplace.

It seems necessary to reconsider the current approach that understands green competencies as relevant only for green jobs and selected industries. In our opinion, the widespread adoption of environmentally friendly approaches to business activities implies the need to broaden this perspective. Beyond the necessity of incorporating universal qualifications for entities engaged in environmentally friendly activities, attention must also be paid to "regular" areas of operation where the impact on the environment can also be mitigated. Therefore, fostering cross-sectoral, universal green competencies should be a primary challenge for educational systems. It is also important to make businesses aware of the necessity of hiring employees with green competencies as a tool for building competitive advantage while simultaneously implementing the company's environmental policy.

Taking into account the above considerations, we must point out the research limitations we have identified:

1) Due to the use of an original research approach, the study was not conducted with adherence to the principles of sample representativeness. The novelty of the topic required us to create our own research methodology, particularly involving the use of two distinct job portals.
2) The study did not include criteria that would allow for a more detailed analysis of the results based on industry selection, seasonality of employee hiring, etc. Increasing the specificity of the sampling criteria will, in the future, enable the linking of environmentally friendly actions with the characteristics of the organisations themselves and the changes occurring within them. This will facilitate the identification of further regularities concerning the significance of green competencies and their potential application in recruitment processes.
3) There is a need to identify green competencies in the future as a criterion applied in the development of recruitment and selection procedures. Additionally, tools for measuring the development of organisations within the framework of an environmentally friendly economy should be utilised.

The limitations we have identified will be taken into account in future research processes.

The contribution of the authors

Devised the project, the main conceptual ideas and proof outline, J.G., J.R. and A.W.; developed theory and reviewed literature, J.R. and A.W.; developed and performed the analysis, J.G.; contributed to the interpretation of the results, J.G., J.R., A.W. and M.A.; wrote the manuscript J.G., J.R. A.W. and M.A.

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ZIELONE KOMPETENCJE W PROCESACH REKRUTACJI I DOBORU KADR

STRESZCZENIE: Celem artykułu jest ocena stopnia uwzględnienia zielonych kompetencji w procesach rekrutacji i selekcji personelu jako kryteriów oceny i weryfikacji przydatności kandydatów do ofert pracy. W opracowaniu zastosowano metodę analizy danych zastanych. W jej ramach zastosowano analizę literatury przedmiotu, a także analizę ogłoszeń rekrutacyjnych portali z ogłoszeniami o pracę: www.pracuj.pl oraz www.doinggood.pl. Analizie poddano łącznie 3617 oferty. Analizy te uzupełniono badaniami jakościowymi w postaci indywidualnych wywiadów swobodnych z przedstawicielami kadry menedżerskiej oraz pracownikami firm rekrutujących (N=55). Przeprowadzone badania pozwoliły na stworzenie autorskiego katalogu zielonych kompetencji poszukiwanych przez pracodawców różnych branż. Ujawniły również, że zielone kompetencje, choć pojawiają się w gospodarce wraz z postępującym jej „zazielenianiem", nie są jeszcze powszechnie rozpoznawalne. Choć są bogato opisane w literaturze przedmiotu, ich rozumienie przez praktyków biznesu często polega na uogólnionych konstatacjach, wskazujących na umiejętności ograniczania negatywnego wpływu na środowisko. W efekcie nie zawsze są traktowane jako obiektywny czynnik weryfikacji przydatności w danej firmie kandydatów aplikujących o zatrudnienie.

SŁOWA KLUCZOWE: zielone kompetencje, zielone zarządzanie zasobami ludzkimi, ocena kandydatów na pracowników

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