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## THE REPORTING OF CLIMATE-RELATED INFORMATION BY CSR LEADERS IN POLAND: A CLIMATE-RELATED DISCLOSURES INDEX

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**ABSTRACT:** The article measures the scope of reporting climate-related information by companies considered CSR leaders in Poland. An original tool is employed for that purpose: a climate-related disclosures index. First, a critical comparative analysis was performed of climate-related disclosure initiatives (regulations, guidelines, standards) to pinpoint the key and commonly required disclosures. Next, an original index of climate-related disclosures was designed. It helped compute index values for 20 companies perceived as Poland's CSR leaders. Non-financial reports available in the public domain were analysed for that purpose. The study showed that virtually all climate-related disclosure initiatives implement, to a greater or lesser extent, the TCFD recommendations, which were also embedded in the developed index covering 18 indicators. The total index value (ranging from 0 to 1) for the analysed companies was 0.51, with a median of 0.42. The index demonstrates that companies named CSR leaders in Poland do not display high awareness of climate change.

**KEYWORDS:** climate-related disclosures, companies, index, non-financial reporting

## Introduction

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The latest IPCC Sixth Assessment Report (April 2022) demonstrates that humankind is standing at a crossroads. IPCC Working Group III Co-chair Jim Skea said, "It's now or never if we want to limit global warming to 1.5°C. Without immediate and deep emissions reductions across all sectors, it will be impossible" (Climate Centre, 2022). The increasingly intense negative effects of climate change, just to mention the four-year drought in Somalia coinciding with other disasters and triggering a hunger crisis (Wojcieszek, 2022); heat waves across Europe in the summer of 2022, which all-time heat records (e.g. 40.2°C at London Heathrow Airport) (PAP, 2022) and, unfortunately, the unprecedented number of deaths due to heat (over 1,000 people in Portugal and Spain between 11-17 July 2022 (BNO News, 2022); 1,063 deaths between 7-18 July 2022 in Portugal alone (TVN24, 2022)) are front-page news almost every day, making more and more people aware of the impending climate crisis. According to the Peoples' Climate Vote (the largest survey of public opinion on climate change), of the people who said that climate change is a global emergency, 59% said that the world should do everything necessary and urgently in response (UNDP & University of Oxford, 2021). According to the 2022 Edelman Trust Barometer, the percentage of people who worry about climate change is 75% and has increased by 3 p.p. since 2021 (Edelman, 2022). 72% of the population surveyed by the Pew Research Center is concerned that global climate change will harm them personally at some point in their lifetime (Bell et al., 2021).

Recent events have shown that our infrastructure is not prepared for extreme weather conditions. In the UK, July temperatures in the London Underground system were above the permissible limits for livestock transport; train services were cancelled (bending tracks and falling traction); airport departures and arrivals were suspended (runway surface meltdowns); motorways were closed (surface undulations) (Skarżyński, 2022). Consequently, the negative effects of climate change pose a business risk. As the World Economic Forum reports, climate action failure was identified as the first of the most severe risks on a global scale over the next 10 years, with extreme weather (its major outcome) as the runner-up (World Economic Forum, 2022). Companies need to factor in climate risk not only because it poses a threat to their infrastructure or affects their business operations, which is becoming a more and more crucial point for investors (88% of institutional investors subject ESG<sup>1</sup> to the same scrutiny as operational and finan-

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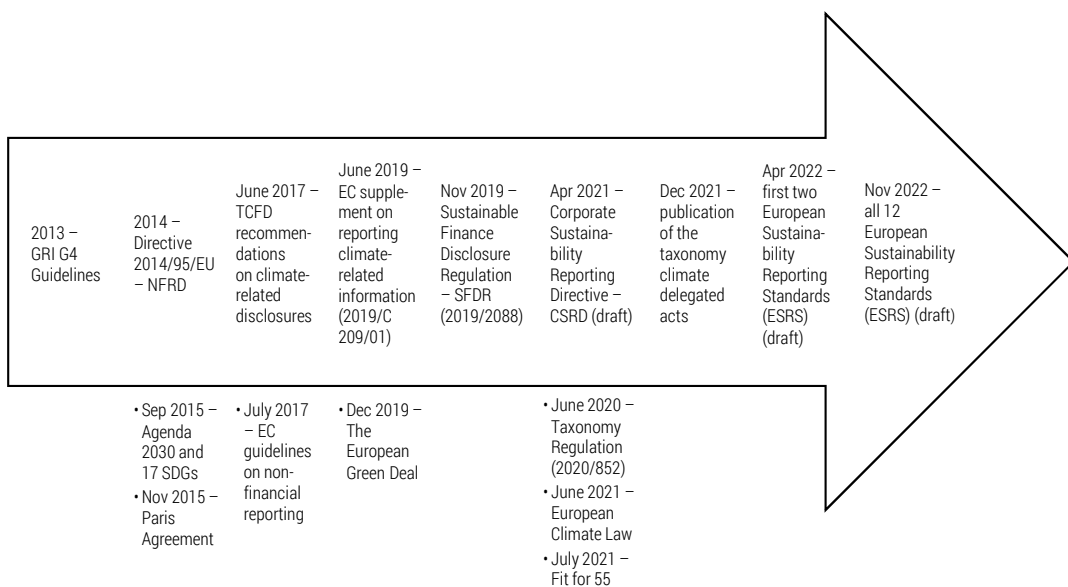
<sup>1</sup> ESG – Environmental, Social, and Governance are performance indicators more and more often used in ratings and non-financial assessments of companies and other organisations.

cial considerations), but also because they are increasingly expected to display corporate social responsibility (CSR) and, by doing so, participate in solving global problems, not so infrequently caused by their economic activity (47% people strong/mandatory expect CEOs to inform and shape conversations and policy debates about global warming and climate change) (Edelman, 2022). Companies must therefore take action to manage climate change mitigation and adaptation and disclose information on their effort. Practice shows that the interest of businesses in climate action is mounting, which is seen in the emergence of various self-regulation mechanisms (e.g. United Nations' "Race to Zero" campaign, the Business Ambition for 1.5°C coalition, the World Economic Forum's First Movers Coalition or Science Based Target Initiative – SBTi) and an increase in the number of enterprises joining in. The reporting of climate-related information (climate reporting) is also on the rise as part of non-financial reporting (sustainability, ESG, CSR, social reporting), which has now become an inseparable part of financial reporting (as integrated reporting). No mandatory accounting standards are there in place yet for disclosing the bilateral impact of climate change on companies. The EU is working intensively on ESG standards addressing climate issues (see Figure 1).

The first indicators on climate reporting were found in the non-obligatory GRI Sustainable Reporting Guidelines (version G4 was published in 2013; currently binding are the 2016 GRI Standards, partially updated in 2021, and still in consultation). 2014 saw the adoption of the NFRD on disclosure of non-financial and diversity information (including regarding climate: the level of renewable or non-renewable energy use and greenhouse gas performance – GHG) (Directive, 2014). In 2017 non-obligatory EU recommendations on non-financial reporting were published, already provided for in the NFRD. Among the examples of key performance indicators, the recommendations pointed to energy efficiency and GHG emissions, but also addressing climate-related scenarios or individuals responsible for climate policy in organisations (European Commission, 2017).

The most acknowledged and trail-blazing recommendation on climate reporting is the non-obligatory TCFD's climate-related disclosures framework (Task Force on Climate-related Financial Disclosures) published in 2017. It was incorporated into most guidelines and regulations on climate reporting, just to mention the EC supplement on reporting climate-related information (2019/C 209/01), containing non-obligatory reporting guidelines. Up to the TCFD, most companies around the world had used the GRI standards to disclose climate-related information. However, nothing before the TCFD had focused on climate-related risks and opportunities in such an innovative way, which has garnered it widespread recognition and has made it the global benchmark for climate-related disclosures. This initiative has

been endorsed by regulators, jurisdictions, and international standard-setters, let alone accounting firms, such as KPMG and Ernst and Young (Demaria & Rigot, 2021). For this reason, the number of TCFD advocates has increased to more than 3,800 companies which have continued to increase their TCFD-aligned reporting (TCFD, 2022). Published in 2019, the Sustainable Finance Disclosure Regulation – SFDR (2019/2088) only concerned the financial services sector. Yet, by requiring transparency from financial market participants and financial advisers with regard to making provisions for sustainability risks in their businesses, it also supports the development of sustainable investment projects, as it requires the disclosure of impact of investment decisions on the domain of sustainability (climate-related issues are not explicitly addressed in this instrument) (Regulation, 2019).



**Figure 1.** The key climate-related disclosure initiatives, together with instruments supporting the relevant reporting measures

In 2021 the draft Corporate Sustainability Reporting Directive – CSRD (European Commission, 2021) was made public. It imposes the obligation of sustainability reporting on enterprises, however without proposing any specific indicators but only highlighting the need to develop obligatory common reporting standards<sup>2</sup>. At the end of the same year, in accordance with the

<sup>2</sup> 30 June 2022 saw the announcement of the working text of the CSRD in the shape agreed by the EU Council and the European Parliament. It will be further processed and translation into all EU languages.

Taxonomy Regulation 2020/852 (Regulation, 2020), the first taxonomy delegated acts for two climate goals (Commission Delegated Regulation, 2021) were announced. In April 2022, in accordance with the CSRD, the first draft European Sustainability Reporting Standards (ESRS) were made public, regarding general, strategy, governance, and materiality assessment (ESRS 2) and climate change (ESRS E1). In November 2022, the final set of 12 draft sector-independent standards was published. It was submitted to the European Commission to start working on delegated acts to be completed in mid-2023.

Figure 1 shows the timeline of the key climate disclosure initiatives along with the instruments supporting the relevant reporting measures.

Originally non-obligatory, climate reporting, as provided in the draft CSRD, will become obligatory and will even cover SMEs listed on European regulated markets (European Commission, 2021). Given how fast the relevant requirements are developing, greater importance is attached to the assessment of companies' climate reporting by rating agencies and watchdogs (e.g. Sustainalytics, MSCI ESG, ISS ESG, EcoVadis and CDP), let alone experts and researchers. In Poland, with its coal-based economy and the powerful coal lobby, only several such initiatives have been taken so far among publicly-listed companies. Of interest, however, is how CSR leaders in Poland perform compared with other market players, namely whether they display greater "climate awareness." Therefore, the article attempts to measure the scope of reporting climate-related information by companies considered CSR leaders in Poland. An original tool is employed for that purpose: a climate-related disclosures index. The article relies on a critical analysis of the literature on the subject, primarily research papers from the Scopus database and climate-related disclosure initiatives, as well as on non-financial reports published by companies listed in the index of climate-related disclosures.

## An overview of the literature

Climate-related reporting is explicated using stakeholder, legitimacy, and institutional theories. In view of the most discussed one, the theory of legitimacy, a company operating within a society under a social contract makes climate-related disclosures with a view to gaining, managing, and maintaining its legitimacy by demonstrating that it acts within the bounds and norms of that society (Mousa & Hassan, 2015), especially when its operations in this area are controversial or poorly institutionalised (Perera et al., 2019). In the face of growing public concern about the climate crisis, the company's disclosure of its approach to managing climate risks seems to meet public expectations and helps manifest its climate responsibility. Transparency

responds to social and regulator pressures as well as projecting the company's image as a good corporate citizen (Kouloukoui et al., 2019b). Seeking to achieve legitimacy may be linked to conveying the impression of doing the right things or not being involved in doing the wrong things when this appearance may have little in common with the company's actual environmental performance (Mousa & Hassan, 2015). In this sense, incomplete climate-related reporting is but a symbolic act undertaken by the company to solve its problems related to legitimisation, which later on makes any comparison between reporting entities almost impossible (Liesen et al., 2015).

To a limited degree, the theory of legitimacy resembles the stakeholder theory. The latter focuses on groups and individuals who are in a position to exert social and political pressures on the company (stakeholders). According to the stakeholder theory, the long-term growth and success of companies depend on stakeholders' acceptance (Freeman, 1984). With that end in view, enterprises respond to stakeholders' expectations by reporting on climate issues. Still, research shows that, given information asymmetry, the non-obligatory character of reporting permits companies to perform incomplete disclosures. Despite this fact, conscious stakeholders keep pressing businesses to reveal reliable and objective environmental indicators in order to be able to validate companies' declarations on a commitment to counteracting climate change (Liesen et al., 2015).

In turn, the institutional theory maintains that the behaviour of companies is affected by the institutional framework (external and internal-organisational) in which they operate, and their reporting practices are under institutional pressures (regulative, normative, or cultural and cognitive). Companies from the same organisational fields pursue similar practices in the process of isomorphism (coercive, mimetic, and normative) (Comyns, 2018), hence the tendency to standardise of the quality of climate-related disclosures.

The question of climate change is a relatively new research field stemming from environmental reporting, a practice developing since the 1970s (Maji & Kalita, 2022). In their studies on the different aspects of climate-related reporting, only a few researchers have focused on the issues of climate change (Demaria & Rigot, 2021). It is evident, however, that exploration of this field has gained momentum for the last ten years or so, and this is true of both theory and practice (Kılıç & Kuzey, 2019). The main driver of strategic corporate change regarding climate was the establishment of the IPCC (1988) and the adoption of the 1997 Kyoto Protocol, which imposed legal caps on GHG emissions in developed countries (Maji & Kalita, 2022). This, in turn, led to the non-obligatory guidelines (such as the GHG Protocol, CDP – Carbon Disclosure Project, or TCFD) and obligatory regulations in, first, sustainable, and next climate-related reporting (particularly in the w UE), getting a firm

foothold (Comyns, 2018), including under stakeholders' pressure (Kouloukoui et al., 2019a) – among them financial markets (Chen et al., 2022), disappointed with the lack of measurable progress among corporations in reducing GHG emissions (Liesen et al., 2015).

Owing to the said guidelines (soft law) and regulations, climate-related reporting was envisaged to have avoided the errors of environmental reporting, which, especially in its infancy, was mostly incomplete and disconnected from real pro-environment action (Wiseman, 1982; Noci, 2000; Llana et al., 2007), its narrative being essentially qualitative and affirmative (Moneva & Llana, 2000). The application of soft law and/or obligatory regulations results in more and better quality climate-related disclosures among companies (Comyns, 2016; Comyns, 2018; Perera et al., 2019; Demaria & Rigot, 2021; de Grosbois & Fennell, 2022) and their improved performance as regards climate action (Bauckloh et al., 2022; Chen et al., 2022). In contrast, the lack of measurable reporting requirements causes disclosures to be mere declarative statements that are not backed up by actual results (Kumar & Prakash, 2019). Most studies, however, show that the level of climate-related reporting by companies is still substantially low, both with regard to GHG, energy (Liesen et al., 2015; Wedari et al., 2021), and climate risks (Kouloukoui et al., 2019a; Kouloukoui et al., 2019b; Bauckloh et al., 2022; Chen et al., 2022).

1,109 articles can be found in the Scopus database (July 2022) with such keywords as “climate” and “performance,” and “climate” and “disclosure”. After 2013 the number of publications in the field began to increase each year to exceed 40 papers annually (134 published in 2021 only). With this in mind, the quick literature scan was limited to 835 articles for the years 2013–2022 (also because a completely new version of the GRI G4 Guidelines was released in 2013). The analysed papers focus primarily on GHG emissions by listed companies (e.g. Rodríguez et al., 2022; Demaria & Rigot, 2021; Wedari et al., 2021), often banks (e.g. Kılıç & Kuzey, 2019), in individual countries (e.g. France (Amar et al., 2022), Colombia (Rodríguez et al., 2022), Australia (Wedari et al., 2021)), and on information disclosed in CDP reports. A substantial minority of them share the results of empirical research on corporate climate-related disclosures; only twenty one present various types of indices measuring the level of climate-related disclosures by companies, nine of which focus on GHG emissions (e.g. Asare et al., 2022; Ika et al., 2022; Wedari et al., 2021), five employ the CDP methodology (e.g. de Grosbois & Fennell, 2022; Ika et al., 2022; Charumathi & Rahman, 2019), two resorted to the TCFD methodology (Amar et al., 2022; Demaria & Rigot, 2021). In few cases only, the indices relied upon more than one initiative, e.g. CDP and GRI (de Grosbois & Fennell, 2022). None of the indices covers companies based in Poland.

In Poland, the Association of Stock Issuers (SEG) made the first attempt to measure companies' awareness of their impact on climate change. In 2018 they published the first Climate Crisis Awareness Study. The study covered 2017, and 2018 annual reports of about 150 Warsaw Stock Exchange (WSE) listed companies. The authors verified whether the companies include climate impact management in their strategy papers; whether they set climate goals and action plans; and whether they report eight indicators on GHG emissions (including under Scope 2) (SEG, 2022).

In 2021 EY published the Climate Risk Disclosure Barometer based on the analysis of fifty-nine reports of the largest WSE-listed companies representing five sectors that are regarded as the most sensitive to climate change. The Barometer was part of a global study carried out in over forty countries and for over 1,100 companies and assessed the disclosure of information in accordance with the TCFD recommendations (EY, 2021).

In 2021 the UNEP/GRID-Warsaw and Go Responsible developed and published the Climate Strategies Benchmark. It was calculated for the WIG20 and mWIG40 companies listed on the WSE. It is the most comprehensive study that looks beyond climate in the strict sense and also addresses risk management, emissions reporting, climate policy, emission benchmarks, global policies (SDGs), climate partnerships, climate goals, the inclusion of RES, energy efficiency, climate governance, sustainability team, TCFD recommendations, strategic management, or sustainable operations (taxonomy) (Go Responsible, 2022).

The studies discussed above focused only on WSE-listed companies due to the growing importance of climate risk for investors. However, no less interesting is whether the market players that are CSR leaders in Poland also lead the way in terms of climate action.

## Research methods

The study was phased into two stages. First, a critical comparative analysis was performed of climate-related disclosure initiatives (regulations, guidelines, standards) to identify the key and commonly required disclosures. All climate-related disclosure initiatives shown in Figure 1 were subject to analysis. Selected were those which contained detailed guidelines for such disclosures, i.e. (in chronological order): TCFD Framework, EC Supplement, GRI Guidelines and the draft ESRS (ESRS2, ESRS E1). The analysis focuses on obligatory disclosures that directly refer to/concern climate and not on their explanatory notes. Next, based on that, an original index of climate-related disclosures was designed, which is able to assess the scope of



the company's climate-related disclosures using the formula proposed by Zoysa and Takaoka (2020):

$$\text{Climate-related disclosures index} = \sum_{i=1}^m (d_i/m). \quad (1)$$

where:

$d_i$  – climate-related disclosures (1 = makes disclosures, 0 = does not make any),

$m$  – maximum number of disclosures.

The index values fall within the range <0-1>.

In the other stage of the study, the index for CSR leaders in Poland was calculated, namely, twenty companies from the top 10 of the oldest and well-established Polish Ranking of Responsible Companies 2021 (ROF)<sup>3</sup>. They are listed in Table 3. The index calculation was based on analysing the content of the latest non-financial reports available on the Internet (mainly on corporate websites) in early June 2022.

## Results of the research

A comparative analysis of selected climate-related disclosure initiatives revealed that all of them (except the currently updated GRI Guidelines) incorporate the TCFD recommendations to a greater or lesser extent (the EC Supplement relies on them entirely). The GRI Guidelines contain the fewest disclosures, which is bound to change when the latest update is released. Table 1 presents the results of the comparative analysis. It divides climate-related disclosures into categories, partly inspired by the TCFD recommendations: corporate governance, business model and strategy, risks, energy efficiency, emissions.

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<sup>3</sup> The latest ranking for 2022 was not available before completing this article; it was released later than usual: at the end of June.

**Table 1.** Guidelines/recommendations concerning climate-related disclosure in leading initiatives with codes (duplicate entries are in bold type)

Categories/ guide- lines	TCFD Framework 2017	EC Supplement 2019	GRI Guidelines 2016/2021	ESRS draft 2021 (ESRS2, ESRS E1)
Governance	<p>Description of the board's oversight of climate-related risks and opportunities (Governance A).</p> <p>Description of management's role in assessing and managing climate-related risks and opportunities (Governance B).</p>	<p>Description of the board's oversight of climate-related risks and opportunities (covers TCFD).</p> <p>Description of management's role in assessing and managing climate-related risks and opportunities and explain the rationale for the approach (covers TCFD).</p>		<p><b>Roles and responsibilities of the administrative, management and supervisory bodies with regard to sustainability matters [i.e. climate] (2-GOV 1).</b></p> <p>Information of administrative, management and supervisory bodies about sustainability matters [i.e. climate] (2-GOV 2).</p> <p>Sustainability matters addressed by the undertaking's administrative, management and supervisory bodies [i.e. climate] (2-GOV 3).</p> <p>Integration of sustainability strategies and performance in incentive schemes (2-GOV 4).</p> <p>Disclosure of general assessment regarding how company embeds the core elements of due diligence in its sustainability statements [i.e. climate] (2-GOV 4).</p>
Business model and strategy	<p><b>Description of the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario (Strategy C).</b></p> <p>Description of the targets used by the organization to manage climate-related risks and opportunities and performance against targets (Metrics and Targets C).</p>	<p>Description of the ways in which the company's business model can impact the climate, both positively and negatively.</p> <p><b>Description of the resilience of the company's business model and strategy, taking into consideration different climate-related scenarios over different time horizons, including at least a 2°C or lower scenario and a greater than 2°C scenario (covers TCFD).</b></p> <p>Description of any company policies related to climate, including any climate change mitigation or adaptation policy.</p> <p>Description of any climate-related targets the company has set as part of its policies, especially any GHG emissions targets, and How company targets relate to national and international targets and to the Paris Agreement in particular.</p>		<p><b>Interaction of risks and opportunities and the undertaking's strategy and business model (2-SMB 4).</b></p> <p>Disclosure of plans to ensure that its business model and strategy are compatible with the transition to a climate-neutral economy and with limiting global warming to 1.5°C in line with the Paris Agreement (E1-1).</p> <p><b>Policies implemented to manage climate change mitigation and adaptation (E1-2).</b></p> <p><b>Measurable targets for climate change mitigation and adaptation (E1-3).</b></p> <p>Climate change mitigation and adaptation action plans and resources (E1-4).</p>

Categories/ guide- lines	TCFD Framework 2017	EC Supplement 2019	GRI Guidelines 2016/2021	ESRS draft 2021 (ESRS2, ESRS E1)
Business model and strategy	Description of the outcomes of the company's policy on climate change, including the performance of the company against the indicators used and targets set to manage climate-related risks and opportunities (covers TCFD).			
Risks	<p>Description of the climate-related risks and opportunities the organization has identified over the short, medium, and long term (Strategy A). Description of the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning (Strategy B). Description of the organization's processes for identifying and assessing climate-related risks (Risk Management A). Description of the organization's processes for managing climate-related risks (Risk Management B). Description how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management (Risk Management C). Disclosure of the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process (Metrics and Targets A).</p>	<p>Description of the impact of climate-related risks and opportunities on the company's business model, strategy and financial planning (covers TCFD). Description of the principal climate-related risks the company has identified over the short, medium, and long term throughout the value chain, and any assumptions that have been made when identifying these risks (covers TCFD). This description should include the principal risks resulting from any dependencies on natural capitals threatened by climate change, such as water, land, ecosystems or biodiversity. Description of the company's processes for identifying and assessing climate-related risks over the short, medium, and long term and disclose how the company defines short, medium, and long term (covers TCFD). Description of processes for managing climate-related risks (if applicable how they make decisions to mitigate, transfer, accept, or control those risks), and how the company is managing the particular climate-related risks that it has identified (covers TCFD).</p>	<p>Financial implications and other risks and opportunities due to climate change (201-2).</p>	<p>Description of the processes to identify material sustainability impacts, risks and opportunities [including climate-related] (2-IRO 1). Outcome of the undertaking's assessment of material sustainability impacts, risks and opportunities [including climate-related] (2-IRO 2). Potential financial effects from material physical risks (E1-15). Potential financial effects from material transition risks (E1-16). Potential financial effects from climate-related opportunities (E1-17).</p>

Categories/ guide- lines	TCFD Framework 2017	EC Supplement 2019	GRI Guidelines 2016/2021	ESRS draft 2021 (ESRS2, ESRS E1)
Risks		<p>Description how processes for identifying, assessing, and managing climate-related risks are integrated into the company's overall risk management (covers TCFD). An important aspect of this description is how the company determines the relative significance of climate-related risks in relation to other risks.</p> <p>Assets committed in regions likely to become more exposed to acute or chronic physical climate risks.</p>		
Energy efficiency		<p><b>Total energy consumption and/or production from renewable and non-renewable sources.</b></p> <p>Energy efficiency target.</p> <p>Renewable energy consumption and/or production target.</p>	<p><b>Energy consumption within the organization (302-1).</b></p> <p>Energy consumption outside of the organization (302-2).</p> <p>Energy intensity (302-3).</p> <p>Reduction of energy consumption (302-4).</p> <p>Reductions in energy requirements of products and services (302-5).</p>	<p><b>Energy consumption and mix (E1-5).</b></p> <p>Energy consumption associated with activities in high climate impact sectors per net turnover of these activities (E1-6).</p>
Emissions	<p>Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks (Metrics and Targets B).</p>	<p>Description of the development of GHG emissions against the targets set and the related risks over time (covers TCFD).</p> <p>EU taxonomy: Percent investment (CapEx) and/or expenditures (OpEx) or Percent turnover in the reporting year from products or services associated with activities that meet the criteria for substantially contributing to mitigation of or adaptation to climate change as set out in the Regulation on the establishment of a framework to facilitate sustainable investment.</p>	<p><b>Direct (Scope 1) GHG emissions (305-1).</b></p> <p><b>Energy indirect (Scope 2) GHG emissions (305-2).</b></p> <p><b>Other indirect (Scope 3) GHG emissions (305-3).</b></p> <p>GHG emissions intensity (305-4).</p> <p>Reduction of GHG emissions (305-5).</p>	<p><b>Scope 1 GHG emissions (E1-7).</b></p> <p><b>Scope 2 GHG emissions (E1-8).</b></p> <p><b>Scope 3 GHG emissions (E1-9).</b></p> <p>Total GHG emissions (E1-10).</p> <p>Total GHG emissions per net turnover (E1-11).</p> <p>GHG removals from own operations and the upstream and downstream value chain (E1-12).</p> <p>GHG emission reductions or removals from climate change mitigation projects outside its value chain it has financed through the purchase of carbon credits (E1-13).</p> <p>Avoided GHG emissions from products and services (E1-14).</p>

Categories/ guide- lines	TCFD Framework 2017	EC Supplement 2019	GRI Guidelines 2016/2021	ESRS draft 2021 (ESRS2, ESRS E1)
Emissions				Taxonomy Disclosure: disclose information on the proportion of the turnover, capital expenditure ('CapEx') and operating expenditure ('OpEx') or on their green asset ratio associated with economic activities that qualify as environmentally sustainable, among others, under the objectives of climate change mitigation and climate change adaptation.

Source: author's work based on European Commission, 2019; EFRAG, 2022a; EFRAG, 2022b; GRI, 2022; TCFD, 2017.

Taking the identified key and most frequently required climate-related disclosures from Table 1 into account (and additionally the taxonomy disclosures effective in the EU as from this year), an original climate-related disclosures index was designed, made up of eighteen disclosures shown in Table 2.

**Table 2.** Disclosures used in the climate-related disclosures index and initiatives that include them

No.	Disclosure	Initiative
1	Board's oversight of climate-related risks and opportunities.	TCFD, EC supplement, ESRS
2	Management's role in assessing and managing climate-related risks and opportunities.	TCFD, EC supplement, ESRS
3	Resilience of the company's business model and strategy, taking into consideration different climate-related scenarios.	TCFD, EC supplement, ESRS
4	Policies implemented to manage climate change mitigation and adaptation.	EC supplement, ESRS
5	Measurable targets for climate change mitigation and adaptation (targets and indicators).	TCFD, EC supplement, ESRS
6	Outcomes of the company's policy on climate change, including the performance against targets set.	TCFD, EC supplement
7	Climate-related risks and opportunities identified over the short, medium, and long term.	TCFD, EC supplement, ESRS
8	Impact of climate-related risks and opportunities on the company's business model, strategy and financial planning.	TCFD, EC supplement, ESRS

No.	Disclosure	Initiative
9	Description of the organization's processes for identifying and assessing climate-related risks.	TCFD, EC supplement, ESRS
10	Description of the organization's processes for managing climate-related risks.	TCFD, EC supplement
11	Description of how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	TCFD, EC supplement
12	Financial implications and other risks and opportunities due to climate change.	GRI, ESRS
13	Total energy consumption.	EC Supplement, GRI, ESRS
14	Energy consumption from renewable sources.	EC supplement
15	Direct GHG emissions (Scope 1).	TCFD, EC supplement, GRI, ESRS
16	Energy indirect GHG emissions (Scope 2).	TCFD, EC supplement, GRI, ESRS
17	Other indirect GHG emissions (if relevant) (Scope 3).	TCFD, EC supplement, GRI, ESRS
18	Taxonomy disclosures.	EC supplement, ESRS

Following the analysis of twenty-four non-financial reports for 2019-2021<sup>4</sup> (including eight integrated reports, six sustainability reports, as well as ESG, social responsibility, climate, and management board reports), both separate and for capital groups, the climate-related disclosures index for twenty CSR leaders in Poland was computed. The total index value for the analysed companies was 0.51 with the median of 0.42. Table 3 shows the index values for individual companies covered by the study.

**Table 3.** Climate-related disclosures index for Poland's twenty CSR leaders from the top 10 of ROF 2021

Index position	Index value	Company	ROF position
1	1.00	Cemex Polska	7
2	0.94	BNP Paribas Bank Polska	1
3	0.89	Signify Poland	4
4	0.83	Santander Bank Polska	2
5	0.83	Grupa Lotos	6
6	0.78	Orange Polska	2
7	0.78	Sopockie Towarzystwo Ubezpieczeń ERGO Hestia	3

<sup>4</sup> The analysis covered all non-financial reports shared by companies with their stakeholders prior to the study: three provided more than one report, hence a greater number of reports than analysed entities.

Index position	Index value	Company	ROF position
8	0.72	PZU	8
9	0.44	ING Bank Śląski	3
10	0.44	PKN Orlen	8
11	0.39	Coca-Cola HBC Polska	6
12	0.39	Kompania Piwowarska	8
13	0.33	Jeronimo Martins Polska	10
14	0.28	Schenker	5
15	0.28	Polpharma	7
16	0.22	Polskie Sieci Elektroenergetyczne	8
17	0.22	L'Oreal	9
18	0.17	Lidl Polska	7
19	0.17	Capgemini	9
20	0.17	Lyreco	10

The analysis of non-financial reports of twenty selected companies showed that the least frequently reported disclosures are: Disclosure 12. Financial implications and other risks and opportunities due to climate change (two cases); Disclosure 3. Resilience of the company's business model and strategy, taking into consideration different climate-related scenarios (five cases) and Disclosure 18. Taxonomy (five cases). The most frequently reported information was: Disclosure 15. Direct GHG emissions – Scope 1 (nineteen cases) and Disclosure 5. Measurable targets for climate change mitigation and adaptation (targets and indicators) (eighteen cases). It is worth keeping in mind that although this study did not aim to assess the quality of climate-related disclosures, in cases that were indisputable, the analysed companies did not score one point for a disclosure which was of such a low quality that, in fact, was not disclosure at all, although the reporting company listed it in the table of contents. The study also highlighted the fact that the quality of disclosures was extremely varied. For example, only one company presented a fair picture of Disclosure 3. Resilience of the company's business model and strategy, taking into consideration different climate-related scenarios.

## Conclusions

The climate-related disclosures index demonstrates that companies named CSR leaders in Poland do not display high awareness of climate change. This conclusion is proven valid also by other Polish studies on climate-related reporting mentioned elsewhere. In the Climate Crisis Awareness Study carried out by the Association of Stock Issuers, the average result for 2018 was 1.03 points out of 10 and was 0.09 points higher than in 2017. In 2019 the companies collected an average of 1.87 points and 1.79 points in the following year (which may be attributed to alterations to the study methodology: the authors added indicators on risks and opportunities, climate management in the organisational structure, or Scope 3) (SEG, 2022). In contrast, in the Climate Strategies Benchmark published by the UNEP/GRID-Warsaw and Go Responsible in 2021, the average for the analysed entities was not computed, but the top five companies scored 21-14 points out of 23 (Go Responsible, 2022).

The original index largely relies on the TCFD Framework, published back in 2017 and widely incorporated by various climate-related disclosure initiatives. Meanwhile, in Poland only few companies have begun to include TCFD indexes in their reports. This fact also surfaces in the Climate Risk Disclosure Barometer published by EY in 2021: in Poland the average score for compliance with the TCFD recommendations was 57%, which was significantly lower than the average obtained in the global study (70%). The Barometer also tested the quality of disclosures. In this case, the average for Poland (27%) was also below the global figure (42%) (EY, 2021).

The index proposed herein can be extended not only to include more companies from the ROF rating but also other entities publishing non-financial reports. The limitations of the designed index stem from the aforesaid high variability of climate-related disclosure initiatives. This variability manifests itself not only in the growing number of such initiatives but also in rising expectations as to the scope and quality of reported data. For this reason, the index may need to be updated within the following years. Another question to be addressed broadly in the index may be the quality of climate-related disclosures.

The designed index also led to other conclusions. As shown in Figure 1, the development of climate-related disclosure initiatives has greatly accelerated in recent years, and the relevant requirements are also growing rapidly. This is clearly seen in the analysed non-financial reports. Even between 2019 and 2021, there is unquestionable progress in reporting, both the number and quality of climate-related disclosures have changed for the better. Still, it must be noted that non-financial reports do not always reflect the actual



pro-climate activities undertaken by companies. Some companies boasted climate-related awards in their reports as if to prove their maturity in managing climate change mitigation and adaptation, yet this was not properly substantiated in the content of the reports. This is because many ratings and rankings rely on questionnaires submitted by companies and verified by auditors rather than on non-financial reports available in the public domain. On the one hand, it proves that such reports cannot be fully trusted as reliable and comprehensive sources of information about companies' impact on the environment. On the other hand, the reports are readily available to stakeholders, including investors and clients who want to make informed decisions, and they enhance the corporate image. Another thing is that the information shared by companies with stakeholders happens to be outdated. In some cases, in mid-2022, only non-financial reports from 2019 are made public.

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