Assessing Greenwashing Trough The Unsustainable Business Model Archetypes

A first approach based on the critical case of the oil and gas industry

Jaime Menéndez-Sánchez[1,2,3,*]

[1]Orkestra - Basque Institute of Competitiveness (Deusto Foundation); [2]Deusto Business School; [3]University of the Basque Country UPV/EHU

*jaime.menendez@orkestra.deusto.es

Extended abstract

The role of oil and gas (O&G) in today's global economy and its social implications represent a major challenge for achieving decisive sustainability progress. While O&G companies have developed large innovation capacities with unexploited potential for sustainability contributions (Roberts & Flin, 2020), their involvement in the energy transition remains under discussion (Herzog-Hawelka & Gupta, 2023). In fact, scholars have described how the O&G industry has historically been involved in denying climate change or supporting climate delay discourses (Supran et al., 2023; Lamb et al., 2020). As a result, the O&G business is commonly pointed as suspected of greenwashing practices.

The greenwashing phenomenon has received attention by academia and various literature reviews have been carried out. For example, according to De Freitas Netto et al. (2020), there is not a universal definition for greenwashing due to how scholars address such phenomenon from multidisciplinary academic areas. Nevertheless, they identify a series of common points shared between the main definitions, namely that greenwashing is a firm behavior that is 1) deliberate, 2) includes misleading elements and 3) focuses on the deception of stakeholders. It is important to underline that greenwashing has been considered a cross-sectorial phenomenon since the concept was born (e.g., from hospitality to fashion industries). Regarding the energy value chain, researchers and practitioners have

pointed to various players (e.g., from power to utilities to nuclear industrial equipment manufacturers). Despite the O&G industry is one of the main parts of the energy business ecosystem, the academic focus on greenwashing in the O&G sector is to date fragmented and the topic lacks an own comprehensive review paying detailed attention to such a critical concern. Therefore, this work presents a two-stage study (currently work in progress) in order to give response to this knowledge gap.

The first part aims to provide a deep understanding of the greenwashing phenomenon in the O&G industry by carrying out a systematic literature review. The term 'greenwashing' was searched in Web of Science Core Collection and Scopus, combined with terms like 'oil', 'petroleum', 'crude' or 'hydrocarbons'. Methods are based on those followed in some of the main literature reviews regarding the greenwashing concept (which do not have a specific sectorial focus, as previously indicated). Articles shared by both search engines were identified as the main selection for the analysis, while papers appearing only in one of the two search engines were considered as complementary. Grey literature was also taken into account, particularly that coming from international institutions (like United Nations and the European Union), as well as from leading environmentalist NGOs.

In the second part of the study, the results of the literature review are discussed through the lens of the 'unsustainable business model' (UBM) archetypes. These were developed by Bocken & Short (2021) as one of the latest contributions to the literature on the sustainable business model (SBM) archetypes (Bocken et al., 2014; Lüdeke-Freund et al., 2016; Ritala et al., 2018), in order to describe how unsustainable practices are institutionalized in different industries, including the energy one. Here it is important to differentiate 'unsustainability' and greenwashing. According to Bocken & Short (2021), the first can be defined as a poor performance regarding the environment (e.g., pollution, and climate change) and/or the society (e.g., promoting inequalities), even despite this can have a complex relation with short-term 'sustainable' practices from a pure economic point of view. Therefore, unsustainable practices are a necessary element in greenwashing behavior, but not sufficient. As previously mentioned, greenwashing requires a deliberate and misleading deception of stakeholders regarding environmental or social performance (once unsustainable practices take place).

Various UBM archetypes can be related to the O&G industry, being particularly outstanding the 'environmental resource exploitation and waste' one (given that O&G business is essentially based on fossil fuels extraction and transformation). Also the 'unhealthy or unsustainable offering' archetype (given that O&G products and services are specially related to greenhouse gases and pollutants emissions, particularly fuels for the transport sector), among others. Furthermore, O&G companies show growing interest in developing capacities falling within different SBM archetypes, particularly the 'closing resource loops' and 'adopt a stewardship role' ones. Addressing the greenwashing concerns regarding the

O&G industry should focus on tipping the business scales in favor of these emerging SBM archetypes in the O&G industry as responses to the identified UBM archetypes.

Finally, the discussion addresses the tradeoffs between the 'substitute with renewables and natural processes' SBM archetype and the 'environmental resource exploitation and waste' UBM archetype. On the one hand, the progressive and accelerated deployment of renewable energy sources is fundamental for a successful sustainable transformation of O&G companies (and every industry worldwide). On the other hand, this requires increasing production and treatment of critical raw materials (CRM), which constitutes a capital question with deep sustainability and geopolitical implications (Sovacool et al., 2020), similarly to the role played by O&G resources in the last decades. Although sustainability approaches like circular economy could provide solutions to reduce dependence on this issue in the long term, the forecasted demand of CRM imply that massive mineral resources exploitation will be hard to avoid in the short and medium terms. Therefore, finding equilibrium between renewable energy progress and CRM availability will be a major sustainability challenge, for which efforts must focus on minimizing environmental and social impacts, including activities related to the 'human resource exploitation and waste' or 'complex opaque global value chain' UBM archetypes, among others. This suggests a needed coexistence of SBM and UBM taxonomies that requires overcoming a greenwashing approach in order to adopt a wider perspective for understanding the complexity of this issue. One possibility proposed in this work is addressing this issue with the lens of a 'paradox' in corporate sustainability (Hahn et al., 2018). Indeed, using the concept of a 'paradox' in relation to the CRM question is not new and has already been proposed by some scholars (Birat, 2021; Buhmann, 2023) and has many examples in grey literature (e.g., Gonzales et al., 2021; Larrea, 2023). Departing from this basis, addressing the CRM sustainability 'paradox' from the field of business models for sustainability represents a novel approach that contributes to the understanding of such a complex and emerging issue.

Summarizing, this work aims to contribute to the development of the UBM archetypes by proposing them as a useful framework to promote awareness of unsustainable greenwashing practices by organizations. Beyond this first approximation to the O&G industry, this could be applied in different industries (as mentioned, this is a cross-sectoral phenomenon) and provides a useful tool for academics and practitioners in order to critically analyzing companies' sustainability strategies, from both external and internal points of view. In addition, applying the UBMs taxonomy provides responses based on the SBM archetypes. Applying the 'paradox' perspective in corporate sustainability offers a further research avenue to, following the concluding statement by Bocken & Short (2021), delve into institutionalized unsustainable business practices and understand how they should be taken into account as part of a holistic integration of sustainability principles into the way business is done.

Keywords

Oil and gas, greenwashing, unsustainable business models, archetypes, paradox

References

Birat, J. (2021) How to tell the story of change and transition of the energy, ecological and societal systems. *Materiaux & Techniques,* vol. 108, no. 5-6, pp. 502.

Bocken, N.M.P., Short, S.W., Rana, P. & Evans, S. (2014) A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production,* vol. 65, pp. 42-56.

Bocken, N.M.P. & Short, S.W. (2021) Unsustainable business models – Recognising and resolving institutionalised social and environmental harm. *Journal of Cleaner Production,* vol. 312, pp. 127828.

Buhmann, K. (2023) Addressing a human rights paradox in the green transition: Guidance for invested mining operations to benefit local communities. *Journal of Cleaner Production,* vol. 419, pp. 137903.

de Freitas Netto, S.V., Sobral, M.F.F., Ribeiro, A.R.B. & Soares, G.R.d.L. (2020) Concepts and forms of greenwashing: a systematic review. *Environmental Sciences Europe,* vol. 32, no. 1, pp. 19.

Gonzales, K., Herrema, B. & Johnson, L. (2021) The green energy domestic mineral supply chain paradox. *Nevada Lawyer*. Retrieved from: https://nvbar.org/wp-content/uploads/NevadaLawyer_Oct2021_GreenEnergyMineralSupplyChain-corrected.pdf

Hahn, T., Figge, F., Pinkse, J. & Preuss, L. (2018) A Paradox Perspective on Corporate Sustainability: Descriptive, Instrumental, and Normative Aspects. Journal of Business Ethics, vol. 148, no. 2, pp. 235-248.

Herzog-Hawelka, J. & Gupta, J. (2023) The role of (multi)national oil and gas companies in leaving fossil fuels underground: A systematic literature review. *Energy Research & Social Science,* vol. 103, pp. 103194.

Lamb, W.F., Mattioli, G., Levi, S., Roberts, J.T., Capstick, S., Creutzig, F., Minx, J.C., Müller-Hansen, F., Culhane, T. & Steinberger, J.K. (2020) Discourses of climate delay. *Global Sustainability,* vol. 3, pp. e17.

Larrea, M. (2023) The paradox of the energy transition towards decarbonization. *#Beyondcompetitiveness, Orkestra - Basque Institute of Competitiveness*. Available

from: https://www.orkestra.deusto.es/en/about-orkestra/news-events/beyondcompetitiveness/2595-the-paradox-of-the-energy-transition-towards-decarbonization

Lüdeke-Freund, F., Massa, L., Bocken, N., Brent, A. & Musango, J. (2016) Business Models for Shared Value

Ritala, P., Huotari, P., Bocken, N., Albareda, L. & Puumalainen, K. (2018) Sustainable business model adoption among S&P 500 firms: A longitudinal content analysis study. *Journal of Cleaner Production,* vol. 170, pp. 216-226.

Roberts, R. & Flin, R. (2020) Unlocking the Potential: Understanding the Psychological Factors That Influence Technology Adoption in the Upstream Oil and Gas Industry. *SPE Journal,* vol. 25, no. 01, pp. 515-528.

Sovacool, S., Ali, A., Bazilian, B., Radley, R., Nemery, N., Okatz, O. & Mulvaney, M. (2020) Sustainable minerals and metals for a low-carbon future. *Science,* vol. 367, no. 6473, pp. 30-33.

Supran, G., Rahmstorf, S. & Oreskes, N. (2023) Assessing ExxonMobil's global warming projections. *Science,* vol. 379, no. 6628