

What drives OPEC production policy?

Volker Roeben  *

ABSTRACT

The Organization of Petroleum Exporting Countries (OPEC) is the international organization with the function of coordinating and unifying the petroleum policies of its member countries. It centrally controls much of the world's oil supply. While this is generally accepted, it is not well understood how OPEC exercises this broad function, what drives its decision-making. The article closes this gap in the literature through a close study of the published OPEC production policies for the period of 2019–2022. The article finds that internally predicted demand was the primary driver, over external factors that could also have affected production decisions, such as sanctions on OPEC or OPEC+ members, the rise of US shale oil, or climate change mitigation. It follows that consumer states can most effectively influence OPEC petroleum production decision-making by reducing their own oil consumption. The article finally places these findings into a broader context of the law of international organizations, where organizations have a responsibility to exercise their functions within evolving international law. Their decision-making can then be assessed through the three vector-matrix that this article proposes, comprising internal drivers, external factors, and the position of third states.

INTRODUCTION

The Organization of Petroleum Exporting Countries (OPEC) is the most important agent framing the global oil industry's setting, while other actors play a secondary part, including other international energy organizations, international media, and commercial actors that influence the market by exchanging information directly or indirectly.¹ It is the intergovernmental organization in the global energy architecture that maintains exclusive control over oil production by its members. Through this control, OPEC centrally determines the global supply of oil. OPEC production on average accounted for 40 per cent of the global crude oil supply from 1992 to 2022, reflecting the large oil reserves and production capacity held by members.² Control is used here in juxtaposition to the alternative model of a liberalized production policy, which the World Trade Organization has recommended. This would mean that other stakeholders in the international petroleum industry such as international oil companies engage in determining the production level.³

So how does OPEC exercise this critical function? OPEC acts through the Conference of its members,⁴ which at regular meetings sets oil production policy. This article therefore investigates

* Volker Roeben, Durham Law School, Durham University, United Kingdom.

¹ Ibrahim AlMuhanna, *An Insider's Account of Four Decades of Saudi Arabia and OPEC's Global Energy Policy* (Columbia University Press 2022).

² Andrea Pescatori and Yousef F Nazer, *OPEC and the Oil Market* (WP/22/183, IMF Working Paper, 2022) (<<https://doi.org/10.5089/9798400219788.001>>) <accessed 1 November 2023>.

³ Nawzad Mirali Yasin, 'Cross-Jurisdictional Unitization Agreements: A Legal Solution to the Issue of Cross-Jurisdiction Petroleum Reserves between Iran and Iraq' (2021) 7 *Oil and Gas, Natural Resources, and Energy Journal*.

⁴ art 13 OPEC Statute; John Gault and Nordine Ait-Laoussine, 'OPEC: Still an "Instrument of Change"?' (2020) 13 *Journal of World Energy Law & Business* 343.

drivers of decision-making by the OPEC Conference on production policy. The underlying assumption is that international law analysts do not need to consider international organizations as black boxes. With this aim, the article analyses OPEC production policy over a defined period that extends between January 2019 and December 2022. For this period, published records on production and reserves are available to provide recent and reliable information. It is important to note, as a caveat, that the figures released on OPEC production and reserves are difficult to verify due to the confidential nature of the information.⁵

The article proceeds as follows. It first provides an account of OPEC as an international organization. It then analyses OPEC production policy in each year between January 2019 and December 2022. It also examines external factors that could have driven OPEC production policy in this period, focusing on international sanctions, the increased production of shale oil in the USA, and climate change mitigation obligations. On this basis, the article assesses OPEC decision-making, finding that the principal driver of OPEC production policy was internally predicted global demand to realize a favourable oil price, while factors external to demand had yet to make their mark. Therefore, third states that consume oil need to reduce their demand if they wish to influence OPEC policy to comply with climate change mitigation and the transition to a global low-carbon energy system. The article finally places these findings into the context of the law of international organizations, concluding that international law analysts should consider institutional strategies to assess how international organizations make use of their often broadly defined functions over time.

Anatomy of an international organization. OPEC's structure, function, and decision-making

This part provides an anatomy of OPEC. It first situates OPEC and discusses the structure of this international organization. It then accounts for the specific function of this organization that lies in the collective management of a natural resource rather than norm-making or standard-setting and explains how OPEC exercises this function, its key decision-making mechanism. Finally, the section points out that OPEC has sought, within the global energy architecture, to work with non-member producing states and to collaborate with consumer states on demand.

Global energy governance can be defined as the 'international collective efforts undertaken to manage and distribute energy resources and provide energy services'.⁶ Within the institutional architecture supporting this governance, OPEC is the central institution controlling the global oil supply. OPEC is an intergovernmental organization founded in 1960. It is made up of a self-selected grouping of States that rely on the production and export of petroleum. The founding five members were Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.⁷ These States were joined by Qatar (1961), Indonesia (1962), Libya (1962), the United Arab Emirates (1967), Algeria (1969), Nigeria (1971), Ecuador (1973), Gabon (1975), Angola (2007), Equatorial Guinea (2017), and Congo (2018).⁸ Ecuador and Qatar have withdrawn their membership. Ecuador in 2020 cited its need for higher revenue that had been crimped by the group's oil cuts. Qatar left in 2019 due to increased diversification into gas production and a decreased reliance on petroleum. Indonesia suspended its membership in 2016, retaining the possibility to resume it in the future.⁹ Consequently, as of December 2022, OPEC had 13 members.¹⁰ Oil has remained the dominant fossil resource for most members.¹¹ Saudi Arabia is the largest supplier of oil in OPEC, providing

⁵ Morteza Behrouzifar, Ebrahim Siami Araghi and Ali Emami Meibodi, 'OPEC Behavior: The Volume of Oil Reserves Announced' (2019) 127 *Energy Policy* 500.

⁶ Rafal Ulatowski, 'OPEC+ as a New Governor in Global Energy Governance' (2020) 53 *Revista UNISCI* 241–63 (<<https://doi.org/10.31439/UNISCI-94>>) <accessed 1 November 2023>.

⁷ Organization of the Petroleum Exporting Countries (OPEC), 'Member Countries' (OPEC 2023) (<https://www.opec.org/opec_web/en/about_us/25.htm>) <accessed 1 November 2023>.

⁸ *ibid.*

⁹ *ibid.*

¹⁰ *ibid.*

¹¹ Steven Wright, 'Why Qatar left OPEC' (*Aljazeera*, 6 December 2018) (<<https://www.aljazeera.com/opinions/2018/12/6/why-qatar-left-opec>>) <accessed 1 November 2023>.

17 per cent of the global oil supply.¹² It is deemed the de-facto leader of the organization as it can always increase production.

The OPEC mandate concentrates on collective petroleum policy. The organization's function is stated in Article 2 of the OPEC Statute, which is the constitutive treaty of the organization. It provides that '[t]he principal aim of the Organization shall be the coordination and unification of the petroleum policies of Member Countries and the determination of the best means for safeguarding their interests, individually and collectively.' Members cooperate to achieve a common economic goal. Individual members set domestic petroleum policies within OPEC.¹³ Within OPEC, each member exercises their permanent sovereignty under international law over natural resources located on its territory.¹⁴ The cooperative management of production by OPEC ensures sufficient prices for members while maintaining adequate global supply. The establishment of OPEC enables petrostates, ie states reliant on revenues from the production and export of petroleum, to gain more control over this source of income.¹⁵ From the outset, OPEC was seen as an instrument of natural resources policy, specifically to correct colonial policies and practices that had hindered the economic exploitation of these natural resources by developing countries.¹⁶ This collective action underpins the most controversial aspect of OPEC, that is its economic role within the global economy.¹⁷ OPEC acts as a peculiar type of cartel made up of sovereign states with similar products, rather than of profit-maximizing firms.¹⁸ It also enables each member to exercise energy sovereignty and obtain national energy security.¹⁹ Because OPEC is capable of controlling a key commodity for the global economy, it aggregates influence for smaller members which otherwise would carry lower weight in international relations.²⁰ Nevertheless, OPEC should not be viewed as a political organization, its main objective being economic not political integration.²¹ It is not a regional organization seeking to create uniform legal norms, standards, practices, or political models beyond the common production policies.²²

OPEC carries out this resource management function by setting production policy through meetings of the OPEC Conference.²³ Meetings tend to last two days and resolutions become effective after 30 days, with resolutions regarding production adopted unanimously rather than by majority.²⁴ These are not binding. Production policymaking is shaped by the preferences of OPEC members. OPEC members export most of their production, therefore the main motive for large-scale production is export.²⁵ The production quota for each member is set based on the reserve capacity and production of that member and annual demand.²⁶ OPEC member governments then determine domestic production based on the quota agreed upon at the OPEC Conference. OPEC decisions are implemented by members through their National Oil Companies (NOCs). All OPEC members follow the government-centred strategy, which is one of two types of production strategy. This strategy type provides that governments determine energy production using state-controlled institutions.²⁷ Those must respect short-term political constraints resulting from the dependence of producer economies on the revenue from oil.²⁸ The

¹² Bassam Fattouh, 'Saudi Oil Policy: Continuity and Change in the Era of the Energy Transition' (2021) Oxford Institute for Energy Studies WPM 81 (<<https://www.oxfordenergy.org/publications/saudi-oil-policy-continuity-and-change-in-the-era-of-the-energy-transition/>> accessed 1 November 2023>).

¹³ *ibid.*

¹⁴ UN General Assembly resolution 1803 (XVII) of 14 December 1962, 'Permanent sovereignty over natural resources'.

¹⁵ Giuliano Garavini, *The Rise and Fall of OPEC in the Twentieth Century* (OUP 2019).

¹⁶ Hooman Peimani, 'OPEC's Long-Term Role in Affecting Energy Security' in Hooman Peimani (ed), *The Challenge of Energy Security in the 21st Century: Trends of Significance* (ISEAS–Yusof Ishak Institute 2011).

¹⁷ *ibid.*

¹⁸ James W Coleman, 'State Energy Cartels' (2021) 42 *Cardozo Law Review* 2233.

¹⁹ Guillermo J Garcia Sanchez, 'In the Name of Energy Sovereignty' (2022) 63 *Boston College Law Review* 2475.

²⁰ Eray Erbil and Ali Oğuz DİRİÖZ, 'The Prospects of Natural Gas Organization in Light of Qatar's OPEC Exit: Some Critical Reflections' (2021) 8 *The Extractive Industries and Society* 100703.

²¹ Ulatowski (n 6).

²² *ibid.*

²³ Gault and Ait-Laoussine (n 4).

²⁴ Pescatori and Nazer (n 2).

²⁵ Yasin (n 3).

²⁶ Peimani (n 16).

²⁷ Garcia Sanchez (n 19).

²⁸ Ulatowski (n 6).

resulting fluctuating supply decisions may lead to less downstream investment than would otherwise be the case.²⁹ This differs from the market-centred strategy that seeks to ensure energy security through international liberalized markets.³⁰ It bears highlighting that OPEC Conference resolutions on production are self-executing decisions. Nevertheless, OPEC meetings by themselves do affect the oil market. In the period before a meeting, price volatility of the global price of oil can be observed due to predictions made by analysts based on current market performance as well as leaked information.³¹ Leaked information leads to speculative trading that alters the price of oil. There is evidence of this effect both for regular OPEC meetings and special meetings that are called when an unprecedented event occurs so that waiting for the next regular meeting is not feasible.³²

OPEC's limited membership means that it only controls part of total global oil production. It has sought to overcome this limitation by cooperating with other resource-rich States. On 28 September 2016, during the 170th (Extraordinary) Meeting of the OPEC Conference, a high-level committee was established to pave the way for consultations with non-OPEC oil-producing nations which became known as the 'Algiers Accord'.³³ The subsequent 'Vienna Agreement' reached in November 2016 stated that

Azerbaijan, Kingdom of Bahrain, Brunei Darussalam, Equatorial Guinea, Kazakhstan, Malaysia, Mexico, Sultanate of Oman, the Russian Federation, Republic of Sudan, and Republic of South Sudan commit to reduce their respective oil production, voluntarily or through managed decline, in accordance with an accelerated schedule. The combined reduction target was agreed at 558,000 barrels a day for the aforementioned producers;³⁴

Two non-OPEC states would join the OPEC Secretariat chaired by Kuwait with Russia acting as an alternate chair.³⁵ The adjusted oil production was to last for 6 months effective 1 January 2017 but was extendable for another 6 months.³⁶ On 2 July 2019, the Declaration of Cooperation (DoC) was adopted, formalizing OPEC+.³⁷ OPEC and OPEC+ are to jointly engage in determining production and ensure oil market stability.³⁸ OPEC+ was active for the period discussed in this article. The OPEC production quotas are announced days before the OPEC+ meeting takes place as OPEC recommends the production quota that OPEC+ should take.³⁹ This can result in contradictions and disputes, such as that witnessed in March 2020.

Yet, OPEC+, still only represents the supply side of oil. To ensure it has a better understanding of the demand side, OPEC has engaged with other institutions of the global energy architecture such as the International Energy Agency and the European Union (EU) that represent oil importing states. The OPEC-EU energy dialogue began in 2005 as an avenue for OPEC to take into consideration the energy demand of the EU while maintaining favourable pricing for OPEC members.⁴⁰ Finally, the International Energy Forum is a setting where OPEC and consuming states come together to share information and data.

²⁹ Ibid.

³⁰ Garcia Sanchez (n 19).

³¹ Ibid.

³² Ibid.

³³ Organization of the Petroleum Exporting Countries (OPEC), 'OPEC marks five years since the historic "Algiers Accord"' (OPEC 2021) (<https://www.opec.org/opec_web/en/6627.htm>) <accessed 1 November 2023>.

³⁴ Organization of the Oil Exporting Countries, 'OPEC and non-OPEC Ministerial Meeting' (No 25/2016, OPEC 2016) (<https://www.opec.org/opec_web/en/press_room/3944.htm> <accessed 1 November 2023>).

³⁵ Ibid.

³⁶ Ibid.

³⁷ AlMuhanna (n 1).

³⁸ Anar Panahov, 'Main Directions of the Principle of International Legal Cooperation in the Field of Oil Export' (2020) 2 *Law Rev Kyiv* 473.

³⁹ Pescatori and Nazer (n 2).

⁴⁰ Mohammad Sanusi Barkindo, 'Opening Remarks' (13th High-Level Meeting of the EU-OPEC Energy Dialogue, Brussels, 22 November 2018) (<https://www.opec.org/opec_web/en/5248.htm>) <accessed 1 November 2023>

OPEC production policies 2019–22

OPEC exercises its resource management function through collective decision-making on petroleum production. OPEC sets production policy for its members in an annual cycle. Production policy is therefore relative to the previous year. It may take the form of production cuts, production increases or no change over the past. Production cuts are used by OPEC to reduce supply so it does not exceed demand, which would lead to a lower price for oil.⁴¹ Production increases are implemented to further supply to meet rising demand.⁴² Production overall is broken down into a quota for every member. As OPEC-set production quotas for each member within the overall production policy are not legally binding, members can theoretically deviate from them. However, in the period covered by this article deviation from quotas was noted only in one instance, in March 2020 and that was only a small and short deviation as members largely conformed with the quota after April 2020.⁴³ This is consistent with a historic trend of compliance. Examples of non-compliance from previous periods are rare. For example, in 1976, six OPEC members imposed/enforced an embargo against the USA and the Netherlands, leading to production cuts by the members and higher global oil prices in consuming nations.⁴⁴

The forms and the compliance-pull of OPEC production policy are thus evident. What remains to be made clear is what drives this decision-making. The section seeks to ascertain the dominant internal strategy driving this decision-making on production policy. There are several different conceivable strategies within a broadly economic broad rationale that Article 2 of the OPEC Statute contains. It would cover a resource and reserve conservation strategy as well as a maximum exploitation one. What the actual strategy is must be assessed on the available evidence from OPEC-internal sources. This article resorts primarily to official, published OPEC statements as a reliable indicator of actual production by members. The following three sections examine the published policies separately for each year from 2019 to 2022.

Production policy in 2019

OPEC production was not expected to increase greatly as the global economic projections for 2019 showed lower demand for oil.⁴⁵ In December of that year, OPEC+ decided on a reduction of 0.9 million barrels per day over the previous production to improve prices for members.⁴⁶ In 2019, OPEC accounted for 39 per cent of the global petroleum production.⁴⁷ OPEC supply was 29.3 million barrels per day, this was 2.5 million barrels per day less than was produced in 2018.⁴⁸ It led to an average OPEC production that was 0.6 million barrels per day below demand.⁴⁹ This cut was allocated to individual members in quotas. Some OPEC members witnessed decreased production, this was Iran, Venezuela, Saudi Arabia, Angola, Kuwait, Algeria, and Equatorial Guinea.⁵⁰ Production increased in Libya, Iraq, the UAE, Nigeria, Gabon, and Congo.⁵¹ In September 2019 two major Saudi oil processing facilities were damaged following a drone strike.⁵² This was an unplanned shock to OPEC supply and led to a short-term reduced supply that amounted to 1.8 per cent of global crude oil production. However, by October 2019 supply had returned to normal levels.⁵³ Oil prices rose in 2019 compared to 2018.⁵⁴

⁴¹ Ulatowski (n 6).

⁴² Pescatori and Nazer (n 2).

⁴³ Jason Bordoff and Meghan L O'Sullivan, 'The New Energy Order: How Governments Will Transform Energy Markets' (2022) 101 *Foreign Affairs* 131.

⁴⁴ AF Alhaji, 'Three Decades after the Oil Embargo: Was 1973 Unique?' (2004) *Journal of Energy & Development* 30223.

⁴⁵ Barkindo (n 40).

⁴⁶ *ibid.*

⁴⁷ Dominic Quint and Fabrizio Venditti, 'The Influence of OPEC+ on Oil Prices: A Quantitative Assessment' (2020) European Central Bank (<<https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2467~c8f35853cc.en.pdf>>) <accessed 1 November 2023>.

⁴⁸ International Energy Agency (IEA), 'Oil Market Report - November 2019' (2019).

⁴⁹ *ibid.*

⁵⁰ Organization of the Petroleum Exporting Countries (OPEC), 'The 7th OPEC and non-OPEC Ministerial Meeting concludes' (No 14/2019, OPEC 2019).

⁵¹ *ibid.*

⁵² Jochen Guntner and Johannes Henbler, 'Exogenous Oil supply Shocks in OPEC and Non-OPEC Countries' (2021) 42 *Energy Journal* 229.

⁵³ *ibid.*

⁵⁴ Organization of the Petroleum Exporting Countries (OPEC), 'Annual Report 2019' (2020).

The OPEC+ meeting in December 2019 was the last pre-Covid meeting held and at the time the output agreed upon was 1.7 million barrels per day for other members and an additional commitment from Saudi Arabia leading to a total of 2.1 million barrels per day.⁵⁵ The decision was reached based on analysis of the global oil economy for the next year 2020. However, the COVID-19 pandemic changed the demand for oil globally.

Production policy in 2020

The COVID-19 global pandemic was an unprecedented event that caused unforeseen changes to both the supply and demand of oil globally. The sanitary containment measures depressing demand were mainly limited to China during the first quarter of the year; however, in March 2020 global incidence of COVID-19 greatly increased, leading to containment measures in most states globally.⁵⁶ Supply was disrupted due to unloading delays at ports.⁵⁷ Storage space also proved to be a hurdle as demand had fallen leading to low oil prices, traders intent on selling at a better price struggled to find adequate storage space rather than sell the oil at a loss.⁵⁸

The year, which saw OPEC's 60th anniversary, tested the ability of members to collaborate in the face of such an immense challenge. It has been noted that the larger the shock whether positive or negative the more likely OPEC is to reach an agreement.⁵⁹ This proved true as the price of oil decreased greatly in March 2020 but by April 2020 OPEC+ was able to come to an agreement. This required OPEC to make changes to the production quota. OPEC production cuts in 2020 proved to be the longest and largest witnessed in the organization's history.⁶⁰ In 2020, OPEC then implemented a compensation mechanism for members. The compensation scheme was meant to ensure that members unable to cut production in line with the production quota set could compensate for this by reducing production gradually over the following months.⁶¹ Saudi Arabia, Kuwait, UAE, and Oman also agreed to further voluntary production cuts to stabilize the market.⁶² In 2020 OPEC production was 25.65 million barrels per day, against global crude oil production of 69.08 million barrels per day.⁶³ OPEC averaged higher supply than demand for most of 2020, except for the third quarter where supply was below demand, as global oil demand fell by 9.6 million barrels per day.⁶⁴

The reduction in global demand caused a dispute between Russia and Saudi Arabia in March 2020, leading to a temporary breakdown of OPEC+.⁶⁵ Russia stated that it would not abide by the proposed production cut or the Declaration of Cooperation. In retaliation, Saudi Arabia increased production, leading to a steep decrease in the price of oil globally.⁶⁶ In April 2020, the two states resolved the dispute, with Russia agreeing to abide by the DoC.⁶⁷ The risk of losing market share was an important consideration for Saudi Arabia, which was less likely to reduce production further if it would lose significant market share.⁶⁸ Production cuts by OPEC that were not in tandem with OPEC+ could lead to market share loss for Saudi Arabia, given the large market share already held by Russia. In the short term, OPEC production response to non-OPEC

⁵⁵ *ibid.*

⁵⁶ Ivan Timofeev, 'COVID-19 and the Policy of Sanctions: An Event Analysis' (2021) 45 *Fletcher World Affairs* 89.

⁵⁷ Organization of the Petroleum Exporting Countries (OPEC), 'Annual Report 2020' (2021).

⁵⁸ Adam Hanieh, 'COVID-19 and Global Oil Markets' (2021) 42 *Canadian Journal of Development Studies / Revue canadienne d'études du développement* 101.

⁵⁹ Fattouh (n 12).

⁶⁰ Organization of the Petroleum Exporting Countries (OPEC), 'Annual Report 2021' (2022).

⁶¹ Organization of the Petroleum Exporting Countries (OPEC), 'Market Rebalancing, Full Commitment to Conformity Remains the Focus - JMMC' (No 11/2020, OPEC 2020).

⁶² Organization of the Petroleum Exporting Countries (OPEC), 'Statement: 11th OPEC And Non-OPEC Ministerial Meeting' (OPEC 2020).

⁶³ OPEC 2020 (n 57).

⁶⁴ *ibid.*

⁶⁵ Pescatori and Nazer (n 2).

⁶⁶ Hanieh (n 58).

⁶⁷ Organization of the Petroleum Exporting Countries (OPEC), 'Deepening Dialogues: The importance of multilateral cooperation' (OPEC Bulletin 11/20, OPEC 2020).

⁶⁸ Pescatori and Nazer (n 2).

increased production is to reduce production to maintain favourable prices; however, in the long-term OPEC increases production to secure market share globally.⁶⁹

The actions of OPEC and OPEC+ were praised by the EU as a consumer for the efforts in market stabilization due to the unprecedented effects of COVID-19 in 2020.⁷⁰

Production policy in 2021

Oil demand gradually increased throughout the year as containment measures were loosened in some parts of the world.⁷¹ This was due to rising demand occasioned by increasing vaccination levels globally, leading to increased manufacturing levels.⁷² Production was gradually increased by OPEC and OPEC+ with high conformity among members throughout the year.⁷³ On 18 July 2021, OPEC and OPEC+ agreed to adjust production upwards by 0.4 million barrels per day monthly from August 2021 to eventually phase out the 5.8 million barrels per day adjustment set.⁷⁴ OPEC supply increased to an average of 26.32 million barrels per day which was below demand by an average of 1.6 million barrels per day.⁷⁵ Supply was improved as more oil tankers were available compared to 2020 when demand was lower than supply, keeping the price low.⁷⁶ The year 2021 ended with a generally positive outlook for OPEC as the alliance with OPEC+ was still intact and oil demand was growing steadily globally.⁷⁷

Production policy in 2022

The agreement by OPEC+ reached on 18 July 2021 as discussed above remained valid into 2022. In February 2022, OPEC+ increased supply by 0.4 million barrels per day.⁷⁸ This remained the case until the increased production level of 0.6 million barrels per day in July 2022 and August 2022.⁷⁹ However, for September 2022 the adjustment was an increase of 0.1 million barrels per day as reduced investment in the petroleum industry led to reduced availability of storage therefore production had to be in line with the current supply chain constraints.⁸⁰ In October 2022 the production adjustment reverted to that of August 2022.⁸¹ Production was reduced by 2 million barrels per day from November 2022 due to uncertainty of global demand.⁸² This meant that 2022 ended with an OPEC+ production cut.⁸³ Consequently for 2022, global oil production was on average of 100 million barrels per day, with an average of 34.17 million barrels per day from OPEC.⁸⁴ The reduced demand for oil from China contributed to decreased production by OPEC in 2022.⁸⁵

Due to the invasion of Ukraine, OPEC+ came under increased scrutiny from the USA as sanctions placed on Russia require the cooperation of the other members of OPEC. This led to tensions between the USA and Saudi Arabia which the USA considers an ally, as the decision by

⁶⁹ Khalid M Kiswani, Amine Lahiani and Salma Mefteh-Wali, 'An Analysis of OPEC Oil Production Reaction to Non-OPEC Oil Supply' (2022) 77 Resources Policy 102653.

⁷⁰ Scott Laury, 'EU-OPEC Energy Dialogue Convenes to Discuss Pandemic Impacts' (2020) (OPEC Bulletin 11/20, OPEC 2020).

⁷¹ *ibid.*

⁷² *ibid.*

⁷³ *ibid.*

⁷⁴ Organization of Petroleum Exporting Countries (OPEC), '19th OPEC and non-OPEC Ministerial Meeting' (Press Release No 21/2021).

⁷⁵ *ibid.*

⁷⁶ *ibid.*

⁷⁷ International Energy Agency (IEA), 'Oil Market Report 2021' (IEA 2021).

⁷⁸ Organization of Petroleum Exporting Countries (OPEC), '24th OPEC and non-OPEC Ministerial Meeting' (Press release No 02/2022).

⁷⁹ Organization of Petroleum Exporting Countries (OPEC), '29th OPEC and non-OPEC Ministerial Meeting' (Press Release No 12/2022).

⁸⁰ Organization of Petroleum Exporting Countries (OPEC), '31st OPEC and non-OPEC Ministerial Meeting' (Press Release No 23/2022).

⁸¹ Organization of Petroleum Exporting Countries (OPEC), '32nd OPEC and non-OPEC Ministerial Meeting' (Press Release No 25/2022).

⁸² Organization of Petroleum Exporting Countries (OPEC), '33rd OPEC and non-OPEC Ministerial Meeting' (Press Release No 30/2022).

⁸³ International Energy Agency (IEA), 'Oil Market Report-December 2022' (IEA 2022).

⁸⁴ United States Energy Information Agency (EIA), 'Short-Term Energy Outlook' (EIA 2023).

⁸⁵ Edward Luce, 'Saudi Arabia and the US are Drifting Back on to the Rocks' *Financial Times* (London, 21 September 2022) <<https://on.ft.com/3UuTxxm>> <accessed 1 November 2023>.

OPEC+ to cut oil production in September 2022 was seen as an alignment with Russian energy policy.⁸⁶ The effect of these sanctions will be discussed in the next section.

External drivers influencing OPEC decision-making

The previous part has examined the OPEC-internal driver of production policymaking. To assess the OPEC and OPEC+ decisions in the context of the global oil market, other factors than demand should be considered that could have been likely to drive OPEC production rates downwards. This part will consider a limited number of factors with that potential effects in the period under consideration: Sanctions on the oil sectors, the rise of shale oil, and climate mitigation obligations with renewable energy.

Sanctions as external drivers of OPEC production policy?

This section will examine sanctions on the oil sectors of OPEC or OPEC+-members. Sanctions are restrictive measures imposed by an initiating state or states against a target state or persons to bring about a change in that state's foreign or domestic policy.⁸⁷ Where sanctions are imposed directly or indirectly on the oil production sector of an OPEC or OPEC+ member, these sanctions aim to reduce income for the affected state by preventing export of and trade in the oil.⁸⁸ They thus may drive OPEC policymaking to reduce the production of oil that then cannot be sold on the global market. Relevant sanctions in the period examined were directed at Iranian and Russian oil exports. Iran and Russia are members of OPEC and OPEC+ respectively. The sanctions were meant to prevent this export and trade in line with the foreign policy of the USA and the G7. These sanctions, if effective, could have forced OPEC to reduce the production.

Considering that 60 per cent of crude oil reaches its destination through the sea, sanctions targeting and disrupting the maritime sector can cause serious problems in oil transportation to the market. That in turn may affect production. A Chinese shipping company (COSCO Shipping Tanker) was the subject of sanctions imposed by the USA due to its transport of Iranian oil, which reduced the number of available shipping containers. In 2019, the USA imposed sanctions on a subsidiary of COSCO due to allegations that the tankers were ferrying oil from Iran hence defying sanctions imposed by the USA.⁸⁹ This was predicted to reduce supply as insurers were unlikely to cover tankers affected by sanctions and western countries were unlikely to purchase petroleum ferried from the affected tankers.⁹⁰ These sanctions were lifted in January 2020.⁹¹ In 2020, the USA imposed sanctions on three companies from Hong Kong, China, and the UAE found to be purchasing petrochemicals from Iran.⁹² The USA has imposed sanctions on entities engaging in the trade and transportation of Iranian oil as recently as in March 2023.⁹³

The result of sanctions on Russian oil has been, in addition to an increase in the production of coal in Asia, that measures were adopted by importing states to counter the high prices of oil that had led to increased energy costs.⁹⁴ Yet, while Russia is the object of sanctions imposed by the G7, other states have continued to purchase Russian oil. For instance, India which abstained at a vote at the UN General Assembly in March 2022 to compel Russia to end its offensive in Ukraine,⁹⁵

⁸⁶ James S Brady, 'Press Briefing By Press Secretary Karine Jean-Pierre And Covid-19 Response Coordinator Dr. Ashish Jha' (Press Briefing, The White House 2022).

⁸⁷ Timofeev (n 56).

⁸⁸ Adnan Vatanseve, 'Put over a Barrel? "Smart" Sanctions, Petroleum and Statecraft in Russia' (2020) 69 *Energy Research & Social Science* 101607.

⁸⁹ Aime Williams, Gregory Meyer and David Sheppard, 'US Blacklists Chinese Companies for Shipping Iran Oil' *Financial Times* (London, 25 September 2019) <<https://on.ft.com/2X0igNd>> <accessed 1 November 2023>.

⁹⁰ *ibid.*

⁹¹ Harry Dempsey and Sun Yu, 'Global Shipping Market Reels from Coronavirus' *Financial Times* (London, 13 February 2020) <<https://on.ft.com/30DZZbj>> <accessed 1 November 2023>.

⁹² Michael Pompeo, 'The United States Imposes Further Sanctions on Iran's Petrochemical Industry' (Press Statement, US Department of State, 2020).

⁹³ Antony J Blinken, 'Designating Iran Sanctions Evaders' (Press Statement, US Department of State 2 March 2023) <<https://www.state.gov/designating-iran-sanctions-evaders/>> <accessed 1 November 2023>.

⁹⁴ Bordoff and O'Sullivan (n 43).

⁹⁵ Evan Schneider, 'General Assembly Resolution Demands End to Russian Offensive in Ukraine' (United Nations News 2022) <<https://news.un.org/en/story/2022/03/1113152>> <accessed 1 November 2023>.

has since quadrupled its oil imports from Russia.⁹⁶ OPEC currently is caught in a diplomatic and economic conundrum as Russia is part of OPEC+, yet the additional demand for its oil presents it with an economic opportunity.⁹⁷ OPEC has affirmed its support of the EU by increasing output to meet demand and counter the reduced supply by Russia.⁹⁸ The ban on insurance and services for ships ferrying oil from Russia will further reduce exports to the EU, UK and US.⁹⁹ The price cap of the G7 countries allows European operators to transport Russian oil but only if it is below the stated price cap of 60\$ per barrel, effective December 2022 for crude oil and February 2023 for refined products.¹⁰⁰ This ban may be prevented if Russia accepts a proposed price cap by the G7 on oil exported.¹⁰¹ Russia has retaliated by exporting less oil, departing from its production quota set by OPEC+.¹⁰²

In the period considered here, sanctions on certain OPEC and OPEC+ members thus have not driven production policy downward, but rather driven substitution in supply between members to meet demand.

The rise of shale oil and OPEC policy

A second, OPEC-external factor in the period analysed was the additional global supply resulting from the increased production capacity of states that were not members of OPEC or OPEC+. The USA and Canada, which are not members of OPEC or OPEC+, hold large reserves of shale oil. This oil is crude held in shale of low permeability. Shale oil is typically extracted through fracturing the rock by pressurized liquid.¹⁰³ It is an unconventional source of petroleum as production can easily be halted and restarted, unlike conventional oil drilling that is practiced by OPEC countries.¹⁰⁴ The USA has the largest reserves of shale oil globally.¹⁰⁵ US shale oil requires less complex refining processes than the average crude barrel.¹⁰⁶ Shale oil production grew strongly in the period.¹⁰⁷ In 2019, the USA became a net exporter of petroleum for the first time since records began,¹⁰⁸ through the expanded production of shale oil.¹⁰⁹ The export comprises of petroleum products rather than just crude oil products.¹¹⁰ Separately and due to improved refinery capacity, China also developed into a net exporter.¹¹¹

Despite the emergence of unconventional oil in the period, global supply of oil remained constant over 2018 at 99 million barrels per day.¹¹² In the period, this additional supply therefore did not drive OPEC production policy away from demand.¹¹³

⁹⁶ Edward Luce, 'The West is Rash to Assume the World is on its Side over Ukraine' *Financial Times* (London, 24 March 2022) <<https://on.ft.com/36qOREz>> <accessed 1 November 2023>.

⁹⁷ David Sheppard and others, 'OPEC+ Agrees Minimal Oil Production Rise in Effort to Placate Western Allies' *Financial Times* (London, 3 August 2022) <<https://www.ft.com/content/498fc973-9afd-4094-9790-0ee4e42edc37>> <accessed 1 November 2023>.

⁹⁸ HM Treasury, 'G7 Finance Ministers Statement on Russia's War of Aggression against Ukraine' (HM Treasury September 2022) <<https://www.gov.uk/government/news/g7-finance-ministers-statement-on-russias-war-of-aggression-against-ukraine>> <accessed 1 November 2023>.

⁹⁹ Derek Brower and David Sheppard, 'US Warns of Surge in Fuel Costs as it Renews Push for Russian Oil Price Cap' *Financial Times* (London, 27 July 2022) <<https://on.ft.com/3b9kV2h>> <accessed 1 November 2023>.

¹⁰⁰ Daniel Ferrie and Aikaterini Apostola, 'Ukraine: EU Agrees on Eighth Package of Sanctions against Russia' (IP/22/5989, European Commission 2022).

¹⁰¹ *ibid.*

¹⁰² David Sheppard and Anastasia Stognei, 'Russia to Cut Oil Output in Response to Western Nations' Price Cap' *Financial Times* (London, 10 February 2023) <<https://on.ft.com/3YDLsrX>> <accessed 1 November 2023>.

¹⁰³ Hanieh (n 58).

¹⁰⁴ Quint and Venditti (n 47).

¹⁰⁵ Emily Knaus and others, 'An Overview of Oil Shale Resources' in Olayinka I Ogunson, Arthur M Hartstein and Olubunmi Ogunson (eds), *Oil Shale: A Solution to the Liquid Fuel Dilemma* (American Chemical Society 2010).

¹⁰⁶ International Energy Agency (IEA), 'Oil 2019' (IEA 2019) <<https://www.iea.org/reports/oil-2019>> <accessed 1 November 2023>.

¹⁰⁷ Tanya Heikkila and others, 'A Comparative View of Advocacy Coalitions: Exploring Shale Development Politics in the United States, Argentina, and China' (2019) 21 *Journal of Comparative Policy Analysis: Research and Practice* 151.

¹⁰⁸ US Energy Information Administration (EIA), 'U.S. Petroleum Exports Exceed Imports in September' (EIA 2019) <<https://www.eia.gov/todayinenergy/detail.php?id=42340>> <accessed 1 November 2023>.

¹⁰⁹ US Energy Information Administration (EIA), 'EIA Increases U.S. Crude Oil Production Forecast for 2019 and 2020' (EIA 2019) <<https://www.eia.gov/todayinenergy/detail.php?id=42055>> <accessed 1 November 2023>.

¹¹⁰ Bordoff and O'Sullivan (n 43).

¹¹¹ *ibid.*

¹¹² *ibid.*

¹¹³ See also David Oluseun Olayungbo, Aziza Zhuparova and Mamdouh Abdulaziz Saleh Al-Faryan, 'Oil Supply and Oil Price Determination among OPEC and non-OPEC countries: Bayesian Granger network' *Economic Change and Restructuring* <<https://doi.org/10.1007/s10644-023-09565>> <accessed 1 November 2023>.

Climate change mitigation and OPEC decision-making

This section examines whether climate change mitigation may have had a demonstrable influence on OPEC decision-making. Climate change is a common concern of the international community of states that it is addressing through a dedicated treaty regime based on the United Nations Framework Convention on Climate Change (UNFCCC).¹¹⁴ Rather, OPEC itself should be making pertinent efforts, possibly driving its production policy away from the predicted demand. Did it do so in the period?

In response to the Paris Agreement, OPEC has called for international collaboration to provide energy globally as decentralized renewable energy alone could not currently be relied upon.¹¹⁵ Notwithstanding, OPEC has recognized that it does have a role to play in advising members on solutions that will enable climate change mitigation. The organization is a member of the International Energy Agency Greenhouse Gas R&D Programme (IEAGHG) that aims to provide research into reducing greenhouse gas emissions.¹¹⁶ Some OPEC members have adopted economic diversification as a possible means to mitigate GHG emissions.¹¹⁷ Saudi Aramco, the Saudi state oil company, is a member of The Oil and Gas Climate Initiative (OGCI) an organization comprising of major oil and gas companies, with the aim of achieving net zero targets.¹¹⁸

The climate change mitigation objective also drove measures by organizations and states outside of OPEC in the period. Thus, in 2019 the International Maritime Organization imposed limits on sulphur emissions as of January 2020.¹¹⁹ To comply with the regulations, ship operators had to either switch to low sulphur fuels, install a scrubber which is an exhaust gas cleaning system that will enable the continuing use of high sulphur fuel, or use liquefied natural gas. This was likely to result in increased freight prices and reduced traffic of oil tankers.

Climate change mitigation also drove renewable energy production to meet the demand for energy. Government intervention to support renewable energy production and shift demand to these sources from fossil fuels increased in the period analysed.¹²⁰

Finally, climate change mitigation motivated international efforts to reduce subsidies that support the production and consumption of fossil fuels. The reform of these subsidies is the subject of the UN Sustainable Development Goal (SDG) 12C.¹²¹ Fossil-fuel subsidies reduce financial resources that could be invested in clean renewable energy and therefore must be minimized.¹²² Reform of fossil fuel subsidies would lower fossil fuel demand, reduce fiscal expenditure on subsidies, and enhance allocation of resources.¹²³ This has been a request for some time of the G7¹²⁴ and G20¹²⁵ as well as the Conference of the Parties to the UNFCCC,¹²⁶ but that request is primarily addressed to the oil-importing States. According to the United Nations, in 2020, governments spent \$375 billion on subsidies and other support for fossil fuels, a decline from \$526 billion in 2019.¹²⁷ This decline resulted from lower prices and reduced demand in 2020 due to

¹¹⁴ UNFCCC, 9 May 1992, Entry into force 21 March 1994, 198 Parties, UNTC.

¹¹⁵ Haitham Al Ghais, 'OPEC Statement to the UN Climate Change Conference' (UN Climate Change Conference, Egypt, 16 November 2022) <https://www.opec.org/opec_web/en/7052.htm> <accessed 1 November 2023>.

¹¹⁶ *ibid.*

¹¹⁷ Gault and Ait-Laoussine (n 4).

¹¹⁸ Organization of Petroleum Exporting Countries (OPEC), 'Special Edition on Energy, Climate Change and Sustainable Development' (OPEC Bulletin, OPEC 2019). <https://www.opec.org/opec_web/static_files_project/media/downloads/publications/OB042019.pdf> <accessed 1 November 2023>.

¹¹⁹ Resolution MEPC.320(74) 2019, Guidelines for Consistent Implementation of the 0.50% Sulphur Limit Under MARPOL Annex VI.

¹²⁰ Bordoff and O'Sullivan (n 43).

¹²¹ UN General Assembly Resolution 70, U.N. GAOR, 70th Sess., UN Doc A/RES/70/1 (2015).

¹²² *ibid.*

¹²³ Tom Moerenhout, 'Trade Impacts of Fossil Fuel Subsidies' (2020) 19(3Supp) World Trade Review 1.

¹²⁴ For instance, G7 Climate and Environment: Ministers' Communique, London, 21 May 2021.

¹²⁵ In 2009, G20 Leaders in Pittsburgh committed to 'rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption'.

¹²⁶ UNFCCC, Glasgow Climate Pact, Decision 1/CMA.3, FCCC/PA/CMA/2021/10/Add.1, 8 March 2022.

¹²⁷ United Nations, *The Sustainable Development Goals Report 2022*, (Department of Economic and Social Affairs 2022) <<https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf>> <accessed 1 November 2023>.

the Covid-19 pandemic.¹²⁸ However, the increased demand for oil since 2021 has been forecast to lead to increased fuel subsidies.¹²⁹

However, these climate mitigation measures did not affect OPEC production policy during the period analysed. Supply from low-carbon sources was unable to meet the demand at present hence the reliance on fossil fuels such as petroleum sourced from OPEC.¹³⁰ In the short-term, consumer state governments remained likely to act in their energy security interests increasing demand.¹³¹

Assessing OPEC-decision-making

What is the determinative driver for OPEC production policy? The previous two parts have examined published OPEC production policy and possible external factors that could have influenced production in the period. This part provides a synthetic assessment. It considers that the findings best support the view that internally predicted demand determines OPEC production decision-making. The OPEC production policies for January 2019 to December 2022 analysed above provide a basis for determining that the main driver is keeping production as high as possible based on internally projected global demand for the commodity. Oversupply—ie beyond demand—will lead to unfavourable prices, while undersupply would lead to loss of market share reduction to other oil producers, especially US shale oil.

Certain underlying reasons stabilized this key driver of OPEC decision-making. During the period analysed, petroleum demand remained significant. OPEC was now able to increase supply to adjust to changes in demand more nimbly than for instance during the 1986 oil price shock,¹³² when the long investment cycles that were prevalent meant that the production of oil continued despite the oil price drop.¹³³ Nor was there much spare OPEC production capacity that would have made it convenient to increase production further. That spare capacity had been reduced due to the low prices in the 1980s. While spare capacity had increased to 17 per cent of global crude oil production by 1985, it had again been reduced during the 2014 low oil price shock.¹³⁴ OPEC production quotas in the period were effective in pulling compliance by all members, even though they are not legally binding. This compliance pull may be due to the stability and certainty in determining the available supply of oil that they provide for producers, traders, investors and consumers alike.¹³⁵ Finally, cooperation through OPEC+ with non-members further stabilizes the focus on total global demand rather than supply. The OPEC production quotas are announced days before the OPEC+ meeting takes place as OPEC recommends the production quota that OPEC+ should take. This can result in contradictions and disputes, such as that witnessed in March 2020.¹³⁶ In the short term, OPEC production response to non-OPEC increased production then can be to reduce production to maintain favourable prices; however, in the long-term OPEC will increase production to secure market share globally.¹³⁷

In the period, factors appeared that could have driven OPEC in its production policy decision-making away from the focus on demand. International sanctions on some OPEC+ members, the rise in USA shale oil and the climate change mitigation measures all materialized in this period. All three could have driven OPEC production down but on the evidence failed to do so. The reasons have to do with the structure of the global oil market and the ability of OPEC to adapt to changes in that structure. OPEC is a global supplier of petroleum, therefore a reduction in demand in one major economy does not equate to a reduction in production. This was illustrated during the COVID-19 pandemic. The reduced demand from China due to prolonged

¹²⁸ *ibid.*

¹²⁹ *ibid.*

¹³⁰ Victoria Roth, 'Incorporating Unconventional and Renewable Energy into the International Energy Framework: The Diminution of OPEC in a New Energy World Order' (2020) 13 *Journal of World Energy Law & Business* 68.

¹³¹ AlMuhanna (n 1).

¹³² *ibid.*

¹³³ *ibid.*

¹³⁴ *ibid.*

¹³⁵ Robert E Looney (ed), *Handbook of Oil Politics* (Taylor and Francis 2011).

¹³⁶ Pescatori and Nazer (n 2).

¹³⁷ Khalid M Kiswani, Amine Lahiani and Salma Mefteh-Wali, 'An Analysis of OPEC Oil Production Reaction to Non-OPEC Oil Supply' (2022) 77 *Resources Policy* 102653.

containment measures was offset by increased demand from other economies. Also, OPEC+ reacted to reduced demand in established markets by redirecting its supply to emerging economies. Thus, reduced demand in Europe because of the Russia–Ukraine crisis with sanctions imposed on Russia by the G7 has led to supply being redirected to India and China.¹³⁸ In the period, supply side-changes in the shape of shale oil also did not materially affect OPEC decision-making. Treaty-mandated climate change mitigation requires controlling carbon emissions from the production, transportation, and consumption of oil. But OPEC and OPEC+ did not appear normatively motivated to reduce production. Normatively required climate change mitigation measures in consumer states did not sufficiently reduce demand to lead to OPEC production cuts. Electricity storage infrastructure and renewable energy generation that could reduce demand for oil from OPEC are long-term projects.

Is it likely that predicted demand to maintain prices will remain the pre-eminent driver of OPEC decision-making? Global oil demand is set to continue growing with India predicted to be the largest contributor to demand.¹³⁹ The forecast for long-term high demand means that OPEC members will continue to have high revenues due to the limited global oil reserves.¹⁴⁰ However, in the future, economic growth may become de-coupled from energy demand. The world is indeed becoming less energy intense in the sense of energy used per unit of GDP.¹⁴¹ Furthermore, with other economies such as China and the USA evolving into net exporters, this may lead to less demand for OPEC oil in the future, which in turn could lead to a change in production policy. In the future, shale may cause a shift in OPEC production policies as the USA will provide sufficient supply of petroleum to significantly affect the price of oil.¹⁴² US shale oil and its ability to easily adjust to short-term supply changes will prove to be most competitive to OPEC and OPEC+. The USA began exporting petroleum to Rotterdam in 2019, leading to predictions that it will be a dominant player in the European oil market.¹⁴³ The shift away from Russian oil by G7 countries may prove to be an opportunity for the USA to grow its market share. The USA is indeed projected to be the second largest petroleum producer by 2024, behind Saudi Arabia but ahead of Russia.¹⁴⁴ However, lack of storage capacity is currently an obstacle for US attempts to increase shale oil capacity not only to displace domestic reliance on imported petroleum but also to increase supply on the global market. This infrastructure would need to be financed by the federal government due to the large costs required, while the private sector is less likely to fund infrastructure only periodically utilized.¹⁴⁵

A more subtle change in the drivers of OPEC decision-making may emerge in the future in the shape of economic diversification. Policymakers in OPEC members may make economic diversification a top priority to reduce dependence on revenues from fossil fuels.¹⁴⁶ Economic diversification will also be necessary to reduce the adverse environmental effect oil production causes.¹⁴⁷ The so-called Environmental Kuznets Curve (EKC) would indeed suggest that diversification is an environmentally as well as economically sound strategy. The EKC is an economic theory that is a derivative of the Kuznets Curve, which explains the relationship between income inequality and economic growth in a country. It states that income inequality increases in the initial phase of development; however, this decreases when a certain income threshold is achieved.¹⁴⁸ In the

¹³⁸ Garcia Sanchez (n 19).

¹³⁹ Organization of Petroleum Exporting Countries (OPEC), 'OPEC Bulletin December 2022' (OPEC Bulletin 11-12/22, OPEC 2022) <https://www.opec.org/opec_web/static_files_project/media/downloads/OB11_122022.pdf> <accessed 1 November 2023>.

¹⁴⁰ Noha HA Razek and Nyakundi M Michieka, 'OPEC and non-OPEC Production, Global Demand, and the Financialization of Oil' (2019) 50 *Research in International Business and Finance* 201.

¹⁴¹ Global energy efficiency progress increased to 2.2% in 2022. IEA, 'Energy Efficiency - The Decade for Action Ministerial Briefing IEA 8th Annual Global Conference on Energy Efficiency' (2022).

¹⁴² Quint and Venditti (n 47).

¹⁴³ AlMuhanna (n 1).

¹⁴⁴ IEA 2019 (n 48).

¹⁴⁵ *ibid.*

¹⁴⁶ Victor Moutinho, Mara Madaleno and Mohamed Elheddad, 'Determinants of the Environmental Kuznets Curve Considering Economic Activity Sector Diversification in the OPEC Countries' (2020) 271 *Journal of Cleaner Production* 122642.

¹⁴⁷ *ibid.*

¹⁴⁸ Bertrand Hamaide, 'Sustainability and the Environmental Kuznets Curve Conjecture: An Introduction' (2022) 14 *Sustainability* 7372.

EKC, economic growth deteriorates environmental quality initially but eventually it will improve the environment upon reaching and surpassing a certain threshold.¹⁴⁹ The EKC theory would then indicate that in certain OPEC members environmental degradation will abate as oil production decreases, while the economy will have grown by that point.¹⁵⁰ But that may still not influence OPEC decision-making in the short to medium term, as a stable price for oil will be important to finance that transition. The revenue from oil can be used to grow other economic areas as can be observed in OPEC members such as Saudi Arabia, the UAE, and Qatar, although that state has since left OPEC.¹⁵¹

These findings lead to a specific conclusion. OPEC represents the producer states. Consumer states are not represented and have no direct influence over its decision-making. Yet they have a legitimate interest in ensuring that this decision-making considers global priorities of climate protection and energy transitions. Demand for oil is the only variable that oil-consuming states control to influence that decision-making by OPEC. These states may then wish to control this variable for reasons of climate change mitigation, energy security, and the transition to a global low-carbon energy system. Policymakers seeking to reduce demand need to implement measures that will reduce reliance on petroleum if not energy. The large-scale adoption of electric cars, for instance, will drive down demand for fossil fuels, provided the electricity itself is generated sustainably.¹⁵²

This demand control is important because supply-side changes by themselves may not have the desired climate protection effect. OPEC has the power to control production of conventional oil before reserves are depleted. This market power—creating conditions of imperfect competition in the global oil market—affects the speed but also the order of extraction of different reserves of oil, conventional and unconventional. The order of extraction should preference reserves of conventional OPEC, which is cheaper and its less carbon intensive than unconventional oil.¹⁵³ But when OPEC reduces production, unconventional oil production in the oil sands of Canada and shale oil in the USA may increase to meet static demand.¹⁵⁴ The atmospheric emissions from oil shale processing and combustion include carbon dioxide, a greenhouse gas.¹⁵⁵ The economics of the shale industry make it unlikely that these emissions will be abated. Shale oil producers need to produce and sell quickly to service the debts associated, which may make it difficult to search for a market for the associated gas produced or wait for adequate infrastructure to be built.¹⁵⁶ That unconventional production may thus cause worse emissions and other environmental damage than conventional oil production.¹⁵⁷

Zooming out: the exercise of their functions by international organizations over time

The article so far has focused on actual decision-making by OPEC. The previous part has come up with a three-pronged analytic matrix for the decision-making over a period. This matrix is generalizable, and it can be applied to other international organizations as well. This part zooms out from actual decision-making assessment, and places it within the normative framework in which such decision-making takes place.

This normative framework is provided by the law of international organizations, a branch of public international law. It provides the necessary fundamental categories through which to capture that decision-making. The constitutive treaty of the international organization is such a category. The constitutive treaty confers specific functions on an international organization for which

¹⁴⁹ Farrah Dina Abd Razak, Norlin Khalid and Mohd Helmi Ali, 'Asymmetric Impact of Institutional Quality on Environmental Degradation: Evidence of the Environmental Kuznets Curve' (2021) 13 *Sustainability* 12507.

¹⁵⁰ *ibid.*

¹⁵¹ *ibid.*

¹⁵² Roth (n 130).

¹⁵³ Hassan Benchekroun, Gerard van der Meijden and Cees Withagen, 'OPEC, Unconventional Oil and Climate Change – On the Importance of the Order of Extraction' (2020) 104 *Journal of Environmental Economics and Management* 102384.

¹⁵⁴ *ibid.*

¹⁵⁵ Coleman (n 18).

¹⁵⁶ *ibid.*

¹⁵⁷ Further in this same issue, see: Ignacio Herrera Anchustegui and Rüdiger Tscherning, 'Offshore Oil and Gas Infrastructure Electrification and Offshore Wind: A Legal Exploration' (2024) 17 *Journal of World Energy Law & Business* .

the member states pool their resources. Treaty and functions are indeed well-established categories.¹⁵⁸ But what matters here is another category that has so far received less attention. It is the category of the exercise of these functions, or, in other words, the application of the treaty, as distinct from the interpretation of it.¹⁵⁹ It then comes to light that a given function does not predetermine the exercise of these functions. Any such function will rather leave more than one course of action open to the discretion of the organization. Through a focus on exercise, analysts can capture the exercise of this discretion separately. It can also be understood that this exercise can evolve over time, it is not petrified. Such changed exercise of the same, unchanged function may be mandated by the international law that has evolved since the constitutive treaty entered into force. For the treaty remains part of the wider international legal order. This legal order evolves in response to new priorities of the international community of states. It then interacts with the constitutive treaty. That interaction can influence the interpretation and application of the treaty over time.

The International Court of Justice in the *Gabikovo Nagymaros* case has indicated structures of such interaction between different parts of international law.¹⁶⁰ The case concerned a transboundary dam project based on a bilateral treaty between Slovakia and Hungary, which the latter state wanted to terminate for reasons of environmental protection. The Court attributed to the principle of the protection of the environment that had formed subsequently to the bilateral treaty at issue, the capacity of reorientating the interpretation and application of that treaty henceforth. The Court did so in two ways. It first considered whether the environmental law affected Article 61 of the Vienna Convention on the Law of Treaties, which permits such termination where a treaty contravenes essential interests. The Court interpreted the term in light of the subsequent changes in international law to comprise environmental protection, even though on the facts Slovakia ultimately was unsuccessful. Later the Court emphasized that the newly developed environmental norms were relevant for the implementation of the treaty. It suggested that the parties could, by agreement, incorporate it into the operation of the treaties through the planning mechanism provided under the treaty.¹⁶¹ Thus, the Court in this case recognized that international law that has formed after a treaty has come into force can affect a change in the application of that treaty.

In an analogous reasoning, international law can alter the application of existing treaties constitutive of international organizations. They become responsible for exercising their discretion to comply with this imperative. Third states are responsible for taking measures to induce that change.

OPEC in the era of climate change and the transition to low-carbon energy exemplifies these structures. When adopted in the 1960s, Article 2 of the OPEC Statute addressed the problem of securing full control for developing states over their petroleum resources, effectuating the newly recognized principle of the permanent sovereignty over natural resources. Since then, however, the common concern for the global climate has been enshrined in treaty, first the UNFCCC and now the Paris Agreement. This treaty regime's normative requirements are being concretized through subsequent decisions of the meetings of Parties.¹⁶² This decision-making has also started to address petroleum. OPEC itself cannot be a party to this treaty regime that is open only to states and regional economic integration organizations. But all OPEC members have acceded to the UNFCCC and the Paris Agreement (PA),¹⁶³ which commits parties to reducing greenhouse gas emissions that result from the production, transportation, and consumption of oil and, at COP28, has also decided to transition away from oil.¹⁶⁴ Arguably, this means that OPEC

¹⁵⁸ Nigel White, *The Law of International Organisations* (3rd edn, Manchester University Press 2016)

¹⁵⁹ But see Michael Wood and Eran Shtoegeer, *The UN Security Council and International Law* (CUP 2023) (for the discretion of the UN Security Council).

¹⁶⁰ *Gabikovo-Nagymaros Project* (Hungary/Slovakia), Judgment, ICJ Reports 1997, p 7.

¹⁶¹ *ibid*, para 112.

¹⁶² These are means of interpretation of a treaty within the meaning of art 31(3)(a) of the 1969 Vienna Convention on the Law of Treaties. See International Law Commission, Draft conclusions on subsequent agreements and subsequent practice in relation to the interpretation of treaties, with commentaries, Draft conclusion 11, Yearbook of the International Law Commission, 2018, vol II, Part 2.

¹⁶³ Paris Agreement—Status of Ratification | UNFCCC.

¹⁶⁴ Outcome of the first global stocktake. Draft decision -/CMA.5., FCCC/PA/CMA/2023/L.17.

members cannot escape their international law obligations by shielding behind OPEC.¹⁶⁵ Rather they must act together through the OPEC Conference to exercise organizational discretion aligned with the climate imperative.

The upshot of this article is a novel approach to the law of international organization that emphasizes the application of the constitutive treaty over time. It is the exercise of its treaty-founded functions by the international organization that should receive attention, as the actual decision-making should reflect the external normative parameters. The matrix for assessing such decision-making by an international organization on the exercise of its treaty-based functions, which this article has put forward, has three vectors: internally determined drivers, external factors, and the position of third states.

CONCLUSION

Through OPEC, members coordinate and unify their oil production. Through the OPEC+ arrangement, under which OPEC has worked with key producers that are not members, the organization exerts control over petroleum production and supply globally.¹⁶⁶ The article has shown that—primarily—production policy was driven by internally projected demand in the analysed period. The OPEC production policy decision-making ultimately aimed to maintain a ‘fair’ price for members and a significant market share. Both are tied to demand as the price of oil is dependent on the supply considering the demand at a given time. Oversupply—ie beyond demand—will lead to unfavourable prices, while undersupply would lead to loss of market share to other oil producers, especially US shale oil. This determinative factor is clearer now than before as more firms are active in the oil industry, creating more resilient supply chains and reducing risk on that side of the trade.¹⁶⁷ Demand now is also more globally distributed. Consequently, OPEC supply to emerging economies has increased relative to that to developed economies such as the USA and Europe.¹⁶⁸

In the period examined, external factors did not drive OPEC’s decision-making. Also, climate change mitigation did not yet determine OPEC production, as demand for petroleum was still high globally. That, it is to be added, may change in the future. OPEC’s internal projections are that petroleum will still be utilized for years to come despite the roll out of renewable energy technology internationally.¹⁶⁹ Still, the rise of new suppliers outside of OPEC+ and climate mitigation measures working on the supply side are likely to have an effect. Third states such as the USA have increased their oil-producing capacity, while at the same time renewable energy sources, which are decentralized, are in constant growth.¹⁷⁰

The article’s findings lead to a clear conclusion. OPEC is the central, limited membership organization of global energy architecture. Its decisions are critical to achieving key objectives of the international community of states laid down in the Sustainable Development Goals, including climate change mitigation and access for all to secure and sustainable energy. Yet, third states do not have representation and voice in OPEC decision-making. They do, however, have a lever to influence that decision-making in the form of the level of demand for oil from their economies. As demand currently is the main driver of OPEC production policies and is likely to remain so for some years to come, policymakers globally will need to reduce demand to influence OPEC production policy downward. This will require change in the subsidy policies for fossil fuels and a massive rollout of non-oil energy supply, mainly from renewables.

¹⁶⁵ See Council of Europe, Parliamentary Assembly, Accountability of international organizations for human rights violations, Committee on Legal Affairs and Human Rights, Report, Doc 13370, 17 December 2013, PACE website (coe.int).

¹⁶⁶ Gault and Ait-Laoussine (n 4).

¹⁶⁷ Bordoff and O’Sullivan (n 43).

¹⁶⁸ Dina Gabbori and others, ‘OPEC Meetings, Oil Market Volatility and Herding Behaviour in the Saudi Arabia Stock Market’ (2021) 26 *International Journal of Finance & Economics* 870.

¹⁶⁹ Ulatowski (n 6).

¹⁷⁰ Gault and Ait-Laoussine (n 4).

This article contributes a new approach to the law of intergovernmental organizations. This law traditionally studies the functions of an international organization as laid down in the constitutive instrument. These are static. Yet, so this article has argued that exercise of such functions can and indeed should align with changing circumstances. Analysts may assess how the organization's decision-making on how to exercise its functions through a three-pronged matrix that distinguishes internal drivers, external factors and the perspective of third states. OPEC, in the era of climate change, exemplifies this approach. Founded for the collective management of the natural energy resources, the normative environment has now changed and comprises climate change mitigation priority, in the light of which OPEC should exercise that core function. The matrix for assessing such decision-making by an international organization on the exercise of its treaty-based functions, which this article has put forward, has three vectors: internally determined drivers, external factors, and the position of third states.