



Russian associated petroleum gas flaring limits: Interplay of formal and informal institutions

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ABSTRACT

The Russian oil sector, crucial to the economy, was obliged to cut its associated petroleum gas flaring to 5% of total supply from 2012. Significant progress has been made since but the target has not been reached. The impact of the weakness of formal and importance of informal institutions on the policy outcome was found to be significant. Not only is far more flaring allowed as a result of exemptions and non-compliance with subsoil licenses but it also remains unclear how much is actually flared due to unclear metering practices and if fines can be avoided or written off without much oversight. Oil sector lobby has advocated many of these informal institutions. Standard type of informal institutions dominates, while also subversive institutions as well as gaps in regulations were identified. Analysing the oil sector interests through new institutionalism shows that the dominance of informal institutions has influenced the behaviour and interests of oil companies, especially in terms of relaxing legitimacy rules on compliance. Also the norm that oil sector activities are prioritized over environmental protection partly explains the relaxed attitude towards informal institutions; the 5% target set is partly ceremonial for the government.

1. Introduction

Associated petroleum gas (APG), a side-product of oil extraction, consists mostly of methane and some heavier hydrocarbons, similar to natural gas. It has traditionally been burned in flares as waste, although APG can be utilized as fuel, as raw material for the chemical industry or re-injected to increase pressure in the oilfield. The share of APG of total gas production has increased since 2010 (Table 1). However, the economic profitability of APG utilization is site-specific, and Russian oil companies often lack incentives to invest in utilization infrastructure. Although Russia introduced a 5% limit on APG flaring in 2012, in 2015 almost 12% was still flared (Artamonova, 2016); according to a written communication from the Ministry of Natural Resources (MNR), the figure approached 11% in 2016. This article provides a status report on developments and implementation of APG flaring regulations, and investigates why policy on APG flaring limitations, which could contribute to reducing Russia's GHG emissions, remains half-implemented.

Utilizing APG instead of flaring reduces greenhouse gas (GHG) emissions, and Russia is the world's fourth-largest¹ GHG emitter (5% in

2014) (EPA, 2018). In 2012, APG flaring accounted for some 1.8–2.7% of Russia's total GHG emissions, depending on the data used² – and up to 90% of oil-industry pollution in its Northern areas (Mazanov, 2013).³

Russia tops world statistics in flaring APG by 21.2 bcm (World Bank, 2018). Utilizing APG is a declared political goal of the Russian leadership, which considers flaring as a waste of resources (Medvedev, 2009). Also Russia's negative international image as the world's largest flarer has pushed the issue forward (Putin, 2007) together with the need to demonstrate that the leadership has instigated environmental policy processes, although results may be secondary.⁴ Indeed, the Kremlin tends to announce climate-mitigation policies internationally, but with little domestic action ensuing (Kokorin and Korppoo, 2013).

The energy sector is vital to the economy. In the 2000s, oil and gas have accounted for a fifth of Russian GDP; nearly 30% of consolidated budget revenues, and over half of export revenues (Simola and Solanko, 2017, p.4) – so APG considerations involve more than efficient resource use and environmental protection. Achieving the 5% target should be technically possible, as demonstrated by several already-compliant private oil companies (Table 4). An international comparison of flaring

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¹ EU28 emits more than Russia but is not counted here, as it is not a country.

² Using NOAA's satellite data for flaring (Tollefson, 2016) and the World Resources Institute's CAIT tool's (cait.wri.org) emission data for 2012 gives the higher value; the lower value is obtained from data reported by Russia to the UNFCCC (<http://unfccc.int/2860.php> → GHG data → Old reporting requirements → Detailed data by Party).

³ Winiger et al. (2017), show that APG flaring accounts for only 6% of Russia's black-carbon emissions, previously estimated much higher (Huang et al., 2015).

⁴ This came up in the author's interviews with APG experts in Moscow, February–May 2012.

Table 1
Production of natural gas and APG 2010–2015, bcm.

	2010	2011	2012	2013	2014	2015
Natural gas	600.9	619.1	599.8	609.6	569.4	556.9
APG	49.8	51.6	54.8	58.6	72.5	78.6

Data source: Ministry of Energy (2016).

Table 2
APG utilized in Russia, 2011–2015.
Source: Artamonova (2016) (CDU TEK); Ministry of Natural Resources written communication to this project.

	2011	2012	2013	2014	2015	2016
APG utilized, % of total APG produced	75.5	76.2	80.6	85.5	88.2	88.7

intensity⁵ shows that Russia flares more per unit (5.9) than the other major oil producers, the USA (2.0) and Saudi Arabia (0.5) (World Bank, 2018).

Despite the shortcomings of the Soviet state and political system, informal institutions served keep the economy and society afloat (Gel'man, 2004; Ledeneva, 2013).⁶ The ensuing collapse of the capacity of the state and its formal institutions led to a takeover of informal institutions, and arbitrary rule. The 1990s saw a weak state, strong interest groups (oligarchs, regional leaders) and state capture: distortion of the preparation of legislation or implementation rules for private / network benefits. Since 2000, Putin has restored the formal state, with broad societal support. However, instead of the rule of law, Putin and his administration have moved Russia towards 'dictatorship of law': arbitrary use of the law and sanctions to further the leaderships' interests, as shown when the TV companies lost their independence and the oligarchs their assets in the early 2000s (Gel'man, 2004). All this contributes to consolidating power from private actors to Putin and his close allies. Re-nationalizing or retaining important assets, especially energy resources (oil – Rosneft,⁷ Gazpromneft, gas– Gazprom), in the close innermost circles and under political control ensures that the interests of key stakeholders rarely diverge from those of the leadership. Still, with state-controlled Rosneft (Farchy, 2016) and Gazpromneft (Henderson and Grushevenko, 2017) accounting for some 42% and 7% of Russia's oil production, respectively, over half the oil is produced by private companies.

I examine the interplay of formal and informal institutions during the process of establishing and implementing APG flaring limitation regulations. What are the vehicles for informal practices? How do they influence the policy-making process, and ultimately the level of APG flaring? I apply New Institutionalism to explore the interplay of formal and informal institutions on Russian oil companies: how is this interplay reflected in their behaviour and interests?

My understanding of informal institutions in Russia stems from Russia/transition studies. Soviet informal institutions have mostly remained intact throughout transition (Oxenstierna, 2015). *Sistema* (governance based on informal networks of power; see Ledeneva, 2013) or an administrative regime (the parallel world of informal relations, factional conflict, and para-constitutional political practices) pairs the formal constitutional order in what Sakwa (2010) calls the dual state. In particular, I draw on Gel'man (2012), who argues that Russia's formal

⁵ gas flared (m³) per oil production (1000 barrels per day).

⁶ See Gel'man (2004) for in-depth analysis of the origins of the Russian informal institutions beyond the Soviet tradition.

⁷ See Poussenkova (2007) on the state-controlled Rosneft's decline in the 1990s as a result of loans-for-shares privatizations of state assets to support President Yeltsin's re-election campaign, and the recovery and rise of Russia's leading oil company in the 2000s when the Putin administration started stripping the oligarchs of their assets.

and informal institutions should be understood as an embedded, symbiotic relationship, whereby informal practices contrary to the spirit of existing laws often become formalized through legislation.

Russia's APG flaring policies remain under-researched (Loe and Ladehaug, 2012; Røland, 2010; Vanadzina et al., 2015) although brief overviews of the regulatory framework have been published (Korppoo and Kokorin, 2013; Korppoo and Kokorin, 2017). Some analysis is available in less-academic formats, especially by WWF Russia (Kiryushin et al., 2013; Knizhnikov and Poussenkova, 2009; Knizhnikov et al., 2015; Kutepova and Knizhnikov, 2010; Kutepova et al., 2011) as well as others (Carbon Limits, 2013; IEA, 2014; Vygon et al., 2012). While 'institutions' commonly appear in analyses of sociotechnical regimes, the term is often not defined, or there are only general mentions of the basic concepts of institutionalism, and few authors draw on institutionalism systematically (Andrews-Speed, 2016, p.221). That applies also to studies of Russian energy policy, with the few exceptions of Locatelli and Rossiaud (2011), and Kalyushnova and Nygaard (2008). This study adds APG policy to these systematic analyses of institutions in Russian energy policy-making and policy-implementation processes.

2. Background

The volumes of APG flared in Russia have been decreasing steadily, although actual target had not been met by 2015 (see Tables 2 and 3). It is unclear, however, how reliable these data are. Table 3 shows a significant discrepancy between Russian statistics on APG flaring and NOAA satellite data. This gap might indicate underreported APG flaring; but it must be noted that the data-collection methods differ greatly.⁸

Table 4 shows that performance still varies among oil companies, although the worst performers have been improving significantly since 2012. The state-dominated Rosneft and Gazpromneft had the lowest APG utilization levels when the 5% rule first entered into force. Rosneft is by far Russia's largest producer of APG, followed by Lukoil, Surgutneftegas and Gazpromneft: these companies account for 81.7% of Russia's total APG production. Private companies took a more active approach to APG use already before 2012, with the state-controlled companies catching up during 2013–2015. The amount invested in APG utilization has been estimated at RUB 200 bln for 2012–2014 (Donskoy, 2015).

In 2015, the share of APG in Russian gas supplies was 14.1% – up from 9.1% in 2012, when the flaring limitation entered into force (Table 1); APG production has increased by 30% due to the introduction of new oilfields during 2011–2015 (Artamonova, 2016). In 2015, 50.3% of the APG was processed or fed into the Gazprom pipeline system; 20% was used by the companies themselves, and 7% was injected back to the wells (ibid.).

The Russian state budget is dependent on the oil sector. The main challenge in taxation is to ensure a balance between state budget revenues while allowing sufficient profit to maintain extraction levels; production from many large Soviet-era oilfields has peaked and is starting to decline (IEA, 2014, pp.144–47; RT, 9 March 2016). The state also has an interest in diversifying the economy: for instance, President Putin has been advocating the processing of APG into products for the domestic market to replace imports (Latuhina, 2013; Kolesnikov, 2013).

3. Formal legal framework for APG flaring limitations

3.1. Legal basis

In 2009, Government Decree 7 introduced a 5% limit to flaring APG

⁸ International comparisons with Russian oil and gas data are difficult due to unclear statistical practices also in general (Simola and Solanko, 2017, pp.20–22).

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