140 Characters of Ambiguity: From Anti-nuclear Stance to Crisis Response?

Political ambiguity and inconsistency by Flemish politicians on the nuclear energy issue in the aftermath of the Ukraine crisis on Twitter.

Aline Janssens

[s0162469]

Master's thesis
Master of Political Communication

Promotor
Prof. dr. Peter Thijssen

Co-promotor
dr. Tanja Perco

Co-evaluator
Prof. dr. Bjorn Kleizen

University of Antwerp
| **Faculty of Social Sciences**

Abstract

In 2035 zal de laatste nucleaire reactor in België sluiten. Over de jaren heen veranderden sommige partijen van standpunt over kernenergie terwijl anderen dit niet deden. Deze thesis onderzoekt de impact van de Russisch-Oekraïense oorlog op issue-framing en ambiguïteit van de Vlaamse partijen over het kernenergievraagstuk op sociale media. Door het coderen van tweets van Vlaamse politici, bekijken we de attitude tegenover kernenergie geuit in hun tweets en de frames gebruikt bij het argumenteren van hun standpunt. De data-verzameling spant over een periode van twee maanden voor het begin van de oorlog tot twee maanden na het begin van de oorlog. De resultaten tonen patronen in ambiguïteit in partij communicatie en gaan in op de relatie tussen ambiguïteit en regerings- of oppositiestatus. Door een duidelijke conceptualisering van ambiguïteit als inconsistentie draagt dit onderzoek bij aan de literatuur rond politieke ambiguïteit. De studie biedt waardevolle inzichten in de complexe wisselwerking tussen crisisgebeurtenissen, politieke communicatie en het Belgische kernenergiebeleid, met implicaties voor het lopende maatschappelijke debat over de wenselijkheid van kernenergie.

Keywords

Table of Contents

Figures and Tables

1   Introduction

Nuclear energy in Belgium seems to be a finite story. In 2003 the foundations were laid for a complete phase-out of nuclear energy. Although since 2003 several changes have been made regarding the timing of the phase-out calendar. Some political parties favored extensions and kept defending a pro-nuclear position, for other parties the phase-out remained non-negotiable. A calendar change was once again possible by the end of 2021. The federal government was tasked with the decision on the possible extension of Belgium's two youngest reactors. This decision was postponed until March 2022. A few weeks before the deadline, Russia invaded Ukraine. It quickly became clear this event could have an impact on the Belgian nuclear energy policy debate. The resulting war proved to affect gas prices and culminated in an energy crisis in Western Europe. The Flemish parties that are issue owners, parties that are associated with the nuclear energy issue and best fit to deal with this issue according to voters, commented on this issue in news media each taking a different approach (Budge & Farlie, 1983). Two weeks after the Russian invasion the green party, Groen, called for an additional committee meeting regarding nuclear safety. A fire nearby the nuclear power plant in Zaprozja (Ukraine) caused concern within the green party. The fire was the result of a nearby battle in the emerging Russo-Ukrainian War. Ultimately the fire did not prove to be a danger to the nuclear activities of the power plant. However, the green party used this event to raise attention to nuclear safety concerns. Highlighting the possible vulnerabilities and dangers of nuclear power production in Belgium. Groen has always defended an anti-nuclear position. Their presence in government is linked to the creation of the 2003 phase-out law (Yamasaki, 2007). The opposite position is defended by the Flemish nationalist party: N-VA. They have historically defended a pro-nuclear position. Regarding the Ukraine crisis and the subsequent energy

crisis, the party considers energy security concerns. They cite the International Energy Agency (IEA) which suggests the extension of nuclear power capacity to gain independence from Russian gas. Referring to the literature on framing we can see the parties framed the event and nuclear issue differently. As established by Entman framing is the act of "selecting some aspects of a perceived reality to make them more salient in a communicating text" (1993, p. 52). This way attention is put to a piece of information, consequently this piece of information becomes more noticeable and apparent to audiences. In this case, the parties frame the event to support their position on the nuclear energy issue. The Russo-Ukrainian War according to Groen has implications for nuclear safety. N-VA focuses on the aspect of energy security and the need for nuclear power capacity as a result of the Russo-Ukrainian war. As the Belgian news article states the parties "play of the Ukraine crisis in the fight about the nuclear phase-out" (De Tijd, 2022). Ultimately in March 2022 the extension of Belgium's two youngest nuclear reactors was authorized. Minister Van der Straeten, the Minister of Energy and member of Groen approved this extension. Despite the party historically defending an anti-nuclear position. Since the party entered the federal government decisions had to be made on the phase-out timing. In November 2021, the government initially distinguished between their preferred 'Plan A', which did not involve an extension, and a backup plan: 'Plan B' (vrt nws, 2021). Minister of Energy Van der Straeten stated they reinforced 'Plan A' which was the preferred and most desirable option. An extension was only on the table if no replacement capacity could be found for the retiring nuclear power reactors. The commitment to 'Plan A' showed a complete and fast phase-out was the goal. The backup plan was only there to keep options open if energy security were to be at risk. Finally, in March 2022 the federal government had to make the final confirmation of 'Plan A' or 'Plan B'. Only a few weeks prior Russia invaded Ukraine,

which immediately raised concerns for energy security. Additionally refused permits for replacement capacity also contributed to energy security concerns. Consequently 'Plan A' could not be realized and the federal government decided to start negotiations on the extension of the youngest Belgian reactors: Doel 4 and Tihange 3. This is a remarkable situation since this decision was the result of a government with no strong Flemish parties being proponents of nuclear energy. Even more so, the green parties in government have always defended an anti-nuclear position.

This research argues the Russo-Ukrainian War provides an opportunity to research the effect of an event on how parties take position and frame issues. While nuclear disasters have strong implications on nuclear safety and risk perception, the Russo-Ukrainian War caused an increase in energy prices, and security concerns and put pressure on governments to guarantee energy supply in uncertain times. This way the Russo-Ukrainian War fits the definition of a focusing event by Birkland (1998). Thus, the event is abrupt, and noteworthy with possible adverse effects that are geographically identifiable. The event is also known by policymakers as well as the public. Previous research on the nuclear energy issue and events often focuses on policy implications and changes in public opinion (Baumgartner & Jones, 2010; Latré, Perko, & Thijssen, 2017). By using a political communication perspective it's possible to examine parties' communication on issue positioning. More specifically this research is a test of a crisis on ambiguity expressed by issue-owners and issue-defending parties. Ambiguity can manifest in a variety of ways: parties can be vague in their issue statements, contradictory, or avoid taking a position on an issue. In the literature, there are contradicting findings on the use of ambiguity by politicians and parties (Lefevere, 2023). This is mainly caused by different

conceptualizations or interpretations of the concept. Strategies and reasons for ambiguous communication differ in how the concept is approached. This research contributes to the literature on political ambiguity by clearly defining the concept. Party ambiguity in this research is defined as party inconsistency. Parties are inconsistent when taking non-overlapping positions on an issue or they give mixed signals. The question is posed if incumbents communicate more ambiguously in the aftermath of a crisis?

Giving insight into the positioning of the Flemish parties contributes to the large-scale, societal debate about the desirability of nuclear power. A debate that is becoming more relevant due to aspired energy transition ambitions. The Belgian phase-out debate and situation allow for examining of ambiguous communication in issue statements and how this relates to being in government or opposition.

To establish ambiguity in the parties' communication, over 600 tweets from Belgian politicians covering the nuclear energy issue were collected. The analysis included two months before and after the start of the Russian invasion: from December 2021 to May 2022. Using content and frame analysis every tweet was coded establishing the tone of the tweet (positive or negative towards nuclear energy) and the main argument used by the politician to support their position on the issue.

In the next section, we discuss the history of nuclear energy policy in Western Europe and Belgium. This allows for a better understanding of the Belgian history of nuclear energy policy. When researching party ambiguity, the parties' positions on the issue are explored as well as the Russo-Ukrainian War and its impact on energy prices in Western Europe and therefore the impact on the current nuclear energy debate.

2 Theory Review

2.1 Historical Overview and Context

2.1.1 Nuclear energy policy in Western Europe

This historical overview of nuclear energy policy will focus mainly on Western nuclear energy policy and is based primarily on the book by Müller and Thurner: "The Politics of Nuclear Energy in Western Europe" (2017). This comparative study focuses on political factors driving policy decisions on nuclear energy policy. For example, the decision to go nuclear, phasing out nuclear energy, policy reversals, etc. While some countries opted for nuclear energy in their energy mix, others have never decided to go nuclear. These differences in policy decisions cannot be fully explained by similarities in technological development, economic situation, or access to alternative energy sources. This is best illustrated by an example: social-economic factors could determine when a country can implement new technologies. In the case of nuclear energy production, other factors play a role. Germany a developed, rich country decided to phase out their nuclear fleet even though their economic situation allows them to stay on the nuclear path.

Since the 1950's periods of enthusiasm and investments in nuclear energy have alternated with periods of public resistance, phase-out policies, or the complete abandonment of nuclear energy (Müller & Thurner, 2017). Including nuclear power in the national energy mix means long-term investments and commitments for a country. In 1954 the first atomic reactors connected to the grid in the Soviet Union (Obinisk) and the United Kingdom (Sellafield). During the post-war period, nuclear power was associated with economic growth and technological innovation. A consensus prevailed highlighting the positive impact of this energy source. Baumgartner and Jones conclude this period was characterized by a

positive *policy image* (2010, pp. 59-82). In the 70's the first citizens protest against nuclear power took place. Interest groups and the scientific community expressed concerns about the safety and potential risk that is associated with nuclear energy. This resulted in negative media attention and the presence of social movements and non-governmental organizations in the political arena. Nuclear accidents on Three Miles Island (1979) and Chernobyl (1986) further strengthened these negative sentiments. This predominantly negative *policy image* lasted up to the '90s. Nuclear power started a *renaissance* during the '90s (Müller & Thurner, 2017). Third-generation nuclear reactors were introduced and a new influx of countries decided *to go nuclear*. Although other authors minimize this renaissance and argue nuclear energy production has been in decline even before significant nuclear accidents (Schneider & Froggatt, 2014). Third-generation reactors aren't able to solve the economic challenges that accompany the construction of nuclear power facilities. For example, lengthy and uncertain construction times, the high financial cost of nuclear projects, and nuclear energy production not keeping up with the increase in general electricity demand. Especially in Western Europe characterized by limited new build and policies primarily focussing on lifetime extensions, authors doubt this is a true *renaissance* (Dekker, De Goede, & Van der Pligt, 2011).

The nuclear accident in Fukushima in 2011 gained momentum for scholars to research the effect on nuclear policy and public opinion. Müller states the accident had a limited impact on nuclear policy (Müller & Thurner, 2017). The accident did increase regulation and caused delays in the construction of nuclear new build but rarely an abolishment of nuclear expansion. Other authors argue the accident did cause a decrease in public support for nuclear energy. The research on this subject agrees that these events (nuclear accidents)

don't cause uniform reactions in public opinion (Prati & Zani, 2013; Visschers & Siegrist, 2013). In some countries, the accident caused a decrease in support for nuclear energy. In others, there was limited change in support. This created new opportunities for researchers to comparatively study the national context. Potential differences between countries are studied for example the distance from a nuclear accident, the presence of green parties in government, the share of nuclear energy in the energy mix, etc. But the moderating effect of the national context should not be overestimated (Bishop, 2014; Latré et al., 2017). It remains insightful to gain comprehension of the political debate within countries as well as potential media framing effects following focussing events.

The nuclear industry and its supporters have highlighted the environmental benefits of nuclear energy since the first decade of the introduction of the technology. Following the increasing demand for electricity generation, the public became concerned about air quality and environmental impact (Walker, 1989). Fossil fuel plants, the main producer of electricity at the time caused concern because of their impact on air quality. Starting from the mid 1960's nuclear power was put forward as the solution to this problem. By expanding nuclear capacity sufficient energy could be produced without polluting air or water. This narrative by the nuclear power industry was partly contested by environmentalists who stressed the hazards of radioactivity and radioactive waste. Thermal pollution, the degradation of water quality by changes in the water temperature, and a possible threat to animal welfare, also raised concerns. By the 1990s and 2000s, the problem of global climate change gained importance and a prominent position on the political agenda (Pralle & Boscarino, 2011). To counter global warming and thus reduce reliance on fossil fuels, nuclear power again claims to be the solution. The argument is made that reduction in emissions cannot be achieved

without nuclear power as an alternative energy source (Stoett, 2003). Consequently, the issue of nuclear power was framed in a new way. Nuclear power was framed as a sustainable, carbon "free", climate-friendly form of electricity production (Bickerstaff, Lorenzoni, Pidgeon, Poortinga, & Simmons, 2008). This way nuclear power becomes a necessity in countering climate change. Opponents are not convinced. Environmental groups and green parties reject this idea claiming renewable energy sources are a preferred solution that does not involve risks such as radioactive waste and nuclear accidents (Duffy, 2011; Pralle & Boscarino, 2011). Although in 2022 the Finnish green party declared nuclear energy as sustainable energy and pro-nuclear movements in the United Kingdom are advocating for nuclear energy as a tool to counter climate change (Gayle, 2023). As climate change remains a concern and agenda topic other green parties or environmental groups may adopt this frame in the future.

In 2018 nuclear power provides ten percent of the global energy supply (IEA, 2019). The debate on nuclear power is still ongoing and relevant to countries' energy supply. New reactors are primarily located in emerging markets and developing economies (e.g., China), while recent shutdowns (e.g., U.K and Germany) ensured a negative growth in global produced GW (Gigawatt) by nuclear power. Pushed by climate change goals commitments are being made to research new generation reactors, namely small modular reactors (SMRs). Construction of these SMRs can be more affordable and faster due to their smaller size. Although commercialization for these fourth-generation reactors is expected to be ready only by the mid-2030s.

The history of nuclear energy also shows the complexity of the issue. Nuclear accidents caused safety concerns, and the problem of nuclear waste has been a concern for both

environmental interest groups and citizens. These concerns once again create opportunities for agenda setting, and more importantly for this research: framing effects to influence nuclear energy policy by the relevant actors (Müller & Thurner, 2017, p. 32). This uncertainty and the effect of events create opportunities for actors to influence the policy image which again could influence public opinion and thus policy.

2.1.2 Nuclear energy policy in Belgium

Belgium's first reactor became operational in 1974. Initially, there was no political protest against the choice to go nuclear. Belgium followed the pattern of other Western European countries during the first post-war decades as described by Müller and Thurner (2017, p. 337). Also similar to other Western European countries; protests began to arise during the '70s. The Three Miles Island accident triggered a six-year moratorium in 1979. The government was again responsive to nuclear events with a moratorium in 1988 in the aftermath of the Chernobyl accident. This decision meant no new construction of power plants was possible since the decision in 1988. This section discusses Belgium's political system regarding nuclear policy decision-making and a short historic overview of decision-making since the first legislation on phase-out in 2003. In this overview, we focus on the Belgian parties' positions throughout the time and conclude by listing their current positions on the nuclear energy issue.

Nuclear energy is a Federal political issue. Although on the energy issue, the Federal government, as well as the regions, are responsible (IEA, 2022a; Latré, 2022). The national level is authorized for all aspects of nuclear power. In the federal government, the Minister of Interior Affairs decides on licensing nuclear power plants and their safety. The Minister of Energy handles electricity production as well as nuclear research and development. In

the current government, as of 2020, the minister of internal affairs is Annelies Verlinden (CD&V), and the Minister of Energy is provided by the green party (Groen); Tinne Van der Straeten.

Belgium's nuclear power plant construction began in the late '60s and '70s with the first reactor connected to the grid in 1975 (Müller & Thurner, 2017). One power plant is located in Flanders, close to the port of Antwerp. This power plant occupies four reactors: Doel 1, Doel 2, Doel 3, and Doel 4. The remaining three reactors are located in the second Belgian power plant in the South of the country. These reactors are called Tihange 1, Tihange 2, and Tihange 3, named after the village they are situated in and numbered by their respective seniority. All seven reactors are operated by Electrabel. The company also owns at least 50% of every reactor. The regulatory organ supervising nuclear safety and licensing is the Federal Agency for Nuclear Control (FANC), which the Minister of Interior supervises. Table 1 shows an overview of the Belgian reactors with the date they became operational and their planned phase-out dates as of January 2023. These phase-out plans and policies are discussed in detail further in this topic.

Table 1

Start dates and planned phase-out dates of the Belgian nuclear reactors.

Reactor	Start date	Phase-out date
Doel 1	15/02/1975	February 2025
Doel 2	1/12/1975	December 2025
Doel 3	1/10/1982	October 2022

Doel 4	1/07/1985	2035
Tihange 1	1/10/1975	October 2025
Tihange 2	1/06/1983	April 2023
Tihange 3	1/09/1985	2035

Note. Adapted from *Belgium 2022* by International Energy Agency (2022a).

Nuclear energy is dominant in Belgium's electricity mix. In 2020 nuclear power generated 39% of the total electricity (IEA, 2022a). Natural gas generated 30%, renewables 26,5%. Historically from 2010 on electricity generation was subject to annual fluctuations. This is visualized in Figure 1. The main reason for the decline in energy generation is the temporary closures of nuclear reactors for maintenance or safety. This was also the case in 2015 when electricity generation hit a minimum, which coincided with a peak in imported electricity. During the fall of 2018, only one reactor was operational due to delayed restarts and concrete degradation in other reactors (HLN, 2018). In 2020 all reactors were operational again and thus accounted for 39% of Belgium's total electricity generation (IEA, 2022a). From 1991 onwards Belgium was a net importer of electricity (mainly from neighboring countries France and the Netherlands) but became a net electricity exporter in 2009, 2019, and 2020.

Figure 1

Energy production in Belgium from 2000 to 2021 in GWh

Energy Production in GWh
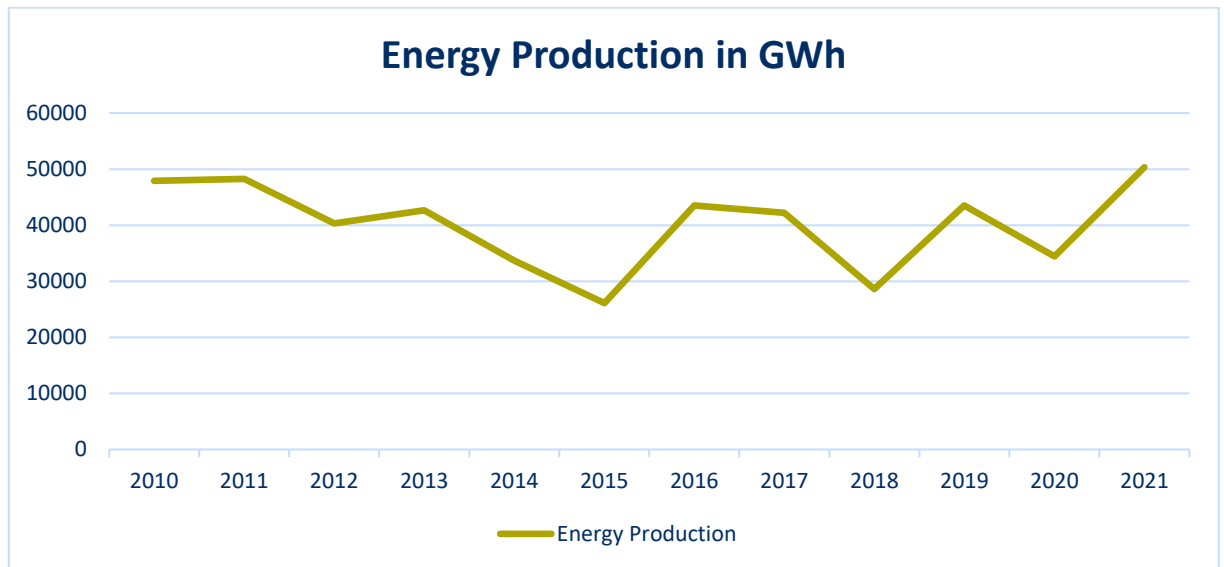
Note. Adapted from

The most recent IEA rapport states Belgian is facing energy security challenges (2022a). Specifically, this means a risk of blackouts and energy shortages. The main cause for these concerns is the prospects of the nuclear phase-out. Nuclear power covers almost half of the electricity generation in the country in 2020, meanwhile, the current federal government planned to phase out most nuclear electricity generation by 2025. There are also concerns about the dependency on fossil fuels. Belgium still heavily relies on fossil fuels, nuclear power being the main low-carbon source of electricity generation. Nuclear power represents 70% of low-carbon electricity generation.

2.1.3 Impact of the Russo-Ukrainian War

The following paragraphs give an overview of the effects of the Russo-Ukrainian War (RUW) on energy policy. The effects are summarized for both the European level (EU) and the national (Belgian) level. Developments regarding the war and peace talks as well as EU sanctions and policy are ongoing. A general context is given, and developments are

described until the end of 2022. The latest research that states conclusions and implications for (energy) policy compiled by scholars are also discussed.

During the Covid-19 pandemic the energy sector experienced price fluctuations due to demand shocks in the energy market (Benton et al., 2022). In February 2022 Russia invaded Ukraine. This has further increased price fluctuations as well as supply changes and security concerns. The EU introduced economic sanctions on coal and oil imports, while the Russian state-owned gas company, Gazprom, cut down gas supply to the EU by 80% (IEA, 2022c). The IEA states: "Energy markets and policies have changed as a result of Russia's invasion of Ukraine, not just for the time being, but for decades to come."(IEA). These developments made for an increased energy price in Belgium with multiple Belgian newspapers reporting about the energy crisis (HLN, 2022; tijd, 2022).

Russia is a lead exporter of oil (the world's third largest), natural gas (the world's largest), and coal (the world's third largest). In terms of global energy production, Russia produces about ten percent of the global energy production and is the EU's largest source of imported energy (bp, 2022). Russian natural gas accounted for 45% of imports and almost 40% of European Union gas demand in 2021 (IEA, 2022b). Belgium relies on Russian energy imports for oil, coal, and natural gas. The ratio of Russian imports to domestic consumption as a share of the total energy supply for all fossil fuels in 2021 is shown in Table 2.

Table 2

Belgium's reliance on Russian energy imports: ratio of Russian energy imports to domestic consumption as a share of total energy supply per type of fuel in 2021

Type of fuel	Ratio

Oil (crude oil + oil products)	43.6
Natural gas	7.9
Coal	31.1

Note. Adapted from https://www.iea.org/reports/national-reliance-on-russian-fossil-fuel-imports/which-countries-are-most-reliant-on-russian-energy

High inflation and increased energy prices caused a strong focus on the topic of the war in the Belgian press and politics. The effects of the RUW on the EU are noticeable in multiple other economic sectors, with the greatest price increases in the food, energy, and fertilizer sectors (Benton et al., 2022). In Belgium, in the category of housing, utilities, and other fuels inflation reached a peak of 33.91% in October 2022 (Statbel). The IEA stated these high and volatile energy prices can harm households and businesses (IEA, 2022c). In March 2022 the federal government started negotiations on the possible extension of 2 GW of nuclear capacity. Measures countering energy poverty and accelerated energy transitioning included the expansion of the social tariff, temporary VAT rate reduction on gas and heat (21% to 6% until April 2023), and multiple one-off premiums for households ("Regeringsmaatregelen en energiepremie," 2023).

The EU announced commitments to phase out imports of Russian energy (Osička & Černoch, 2022). The UK and USA have already banned all Russian energy imports. Although the EU is in the process of establishing price caps for both natural gas and oil (Reuters, 2022a). This could lead to further tension and the possibility of Russia cutting natural gas deliveries in total. Multiple private energy companies have exited their operations and shares in Russian energy companies (Benton et al., 2022). In efforts to counter energy poverty and the cost-

of-living crisis, the EU is also focussing on the demand side. High energy prices and mild temperatures in winter 2022 caused less demand, but more efforts are needed as the IEA warned of insufficient energy supply in 2023 (Reuters, 2022a).

Already in 2020 scholars argued the Russo-Ukrainian conflict could halt globalization and increase deglobalization (Kim, Li, & Lee, 2020). Another implication of this conflict is the effect on the EU's (and the rest of the world's) greening transition. High energy prices (for fossil fuels) offer incentives to step away from fossil fuels, but the increased pressure on energy security may drive states to invest in or extend their fossil fuel supply and infrastructure (IEA, 2022c). Although policies and efforts implemented (e.g. the green deal) to accelerate the green transition, fossil fuels are still at the base of energy use in Europe (Kuzemko, Blondeel, Dupont, & Brisbois, 2022). Pushed by this uncertainty the RUW provides, short-time policymaking may prioritize the current (nongreen) energy industries and look for new fossil fuel supply routes (Zakeri et al., 2022). This way the RUW can have a negative effect on climate change policies and green agendas. Further research is needed to support this hypothesis or debunk it, keeping a close watch on future energy policies. We can demonstrate some states amplify their investments in renewables while others strengthen investments in (existing) fossil fuels. United Kingdom government considers new domestic oil and gas production, and the latest developments see the UK opening a nuclear fund to cut Russian energy dependency. To fill the energy supply gaps some states take the route of going nuclear or argue for the extension of existing reactors. In 2022 the EU decided to account for nuclear energy as clean energy with the possibility of including gas facilities in a step towards the green energy transition (Reuters, 2022b).

We conclude by stating the Russian-Ukrainian war has had an impact on energy policies and the energy debate. Important for this thesis is the possibility of the energy and cost of living crisis could create momentum for nuclear revival and an increased focus on energy security.

2.2   The Party Politics of Nuclear Energy in Belgium

Muller and Thurner (2017) describe that political parties have an important role in nuclear energy politics. In the 1970s and 1980s focus of studies on nuclear energy politics was often on social movements and Green parties (Latré, 2022). Green parties' presence in parliament can explain support for nuclear energy in a population (Jäckle & Bauschke, 2011, p. 30). Citizens are more critical of nuclear energy in countries where the green party is relevant. Nowadays issue ownership on (nuclear) energy policies is no longer attributed to Green parties only. In Flemish tv-news items on nuclear energy, the green party (Groen) and Flemish nationalist party (N-VA) were most mentioned between 2011 and 2019 (Latré, 2022, p. 89). In this section, the importance of political parties in the Belgian nuclear energy policy debate is highlighted. An overview is given of the policy changes in nuclear energy policy in Belgium. This overview pays additional attention to the parties' positions on the nuclear energy issue and how they have evolved since the nuclear phase-out law in 2003. Note that this overview focuses primarily on the Flemish-speaking parties because the collected data of this research includes these parties only.

The importance of political parties in the nuclear energy debates can be substantiated by their presence in news media and the characteristics of the Belgian political system and its consequences. Politicians and political parties in general have the most speaking time on Flemish nuclear energy tv items. In the timeframe 2011-2019: about one out of five items mentions at least one political party (Latré, 2022, p. 88). Thus, showing political parties are

highly visible in the Flemish nuclear energy debate. By contrast, other actors for example experts, regulatory agencies (e.g., FANC), and energy commissions (e.g., CREG) are far less present in the Flemish news. Although they can provide more complex (thus factual and technical) information. This absence of expert actors in television media results in these actors only being known by the public to a limited extent. A 2016 study showed only 30% of Belgian respondents were familiar with the nuclear safety authority (FANC) (Turcanu et al., 2016). Social movements and NGOs also have the means to provide clear statements to the public about the nuclear energy study, but once again these actors are not very present in the news (Latré, 2022).

Belgium is a federal state in which Dutch-speaking parties compete with each other for votes in the Flemish region and French-speaking parties compete with each other in the Walloon region. In Brussels, the bilingual territory, inhabitants are free to vote for either a Dutch-speaking party or a French-speaking one. This choice is often made by their native language. For completeness, the German language community should be mentioned as well. The role of the German-speaking parties is minimal since, as discussed before nuclear energy policy is a federal issue and no German-speaking parties are present in the federal parliament or government. Another characteristic of the Belgian political system as established by scholars is it's referred to as a partocracy (Dewachter, 2014). Thus it can be assumed when politicians communicate on the nuclear energy issue they will mostly stick to the position of their party (Latré, 2022).

The green parties, AGALEV (Groen from 2003 onward) in Flanders and Ecolo in Wallonia had been in parliament since 1981. Green parties, who are historically and fundamentally against nuclear energy are a condition for politicalization of the issue (Müller & Thurner,

2017; Yamasaki, 2007). In 1999 when they first took office (in a coalition with the Liberals and Socialists), the government limited the lifetime of all reactors to 40 years and prohibited the building of new reactors (Müller & Thurner, 2017). This meant nuclear energy production would eventually stop. More specifically this 2003 *phase-out law* foresaw the phase-out of all seven reactors between 2015 and 2025. Experts and government commissions contested this decision expressing concerns about energy security, emission targets, and domestic energy prices. However, the government could overrule the phase-out calendar if the security supply of energy is in danger. These concerns did remain in the next years, but the succeeding governments did not try to reverse or adjust this phase-out law. The government of Christian Democrats, Liberals, and Socialists did initiate a lifetime extension for all reactors in 2008. The GEMIX report commissioned by the government in 2009 recommended the extension of the three oldest reactors operational since 1975 (Doel 1, Doel 2, and Tihange 1). No further action was taken due to a difficult political climate at the time focussed on state reform. The 2010 elections preceded the record-breaking government formation process, during this time the Fukushima accident took place. As discussed before this made for a climate of caution. Therefore, the new government (Di Rupo 1) did not act upon the proposed lifetime extensions. In 2012 the government confirmed the phase-out, but the timetable was adjusted. The lifetime of Tihange 1 was extended for ten years, meaning the phase-out date changed from 2015 to 2025. Doel 1 and 2's lifetimes were extended by ten years as well by Michel 1 in 2015. Although completely phasing-out nuclear energy remained the Belgian government's end goal (Latré, 2022). This was again established in the 2018 'Energiepact' discussing the future of Belgian energy policy. During the negotiations surrounding this pact expert reports weighed in, giving information to the government on energy supply, nuclear waste, and raising

questions concerning these topics. Studies concluded the phase-out was possible but extra capacity was required. The discovery of concrete degradation in Doel 1 further complicated the situation. Previously hydrogen flakes were discovered in the vessel of Doel 3 and Tihange 2 in 2012. From 2010 onwards multiple problems caused the reactors not to be fully operational. For example, the possible sabotage in Doel 4 in 2014.

The latest elections in 2019 (European, federal, and regional) were getting closer to the proposed phase-out dates of Doel 3 (in 2022) and Tihange 2 (in 2023). Preceding this election, the 2018 local elections ensured electoral gains for the Green parties. Soon after the local elections, the climate change issue gained attention in various media due to large demonstrations in Brussels pushing for more ambitious policies to counter climate change (Pilet, 2021). In January 2019, Youth for Climate called for school strikes on Thursdays. This resulted in marches of over 30,000 students skipping class. Parties were forced to address and comment on the issue of climate change: an issue that is primarily owned by the Green parties. Right-wing parties feared big electoral gains for the Green parties because of how the strikes dominated the news in the months preceding the election. In response right-wing party N-VA positioned themselves as *eco-realists*. This eco-realism was inspired and has similarities to the ecomodernist movement. Ecomodernism is an approach that centralizes the role of technology and economic growth when dealing with ecological challenges (Asafu-Adjaye et al., 2015; N-VA, 2019). N-VA claims their eco-realism fights climate change with measures that prioritize economic growth, low costs, and are supported by technological developments, contrary to the proposals from green parties that would lead to tax increases and costs (Pilet, 2021). They also state nuclear energy is not taboo and is essential in fighting climate change (N-VA). After the elections, N-VA

argued the extension of the two youngest reactors (Doel 4 and Tihange 3) should be in the government agreement (Pilet, 2021). Eventually, N-VA did not participate in government. The government De Croo 1 formed in October 2020, and is often referred to as the Vivaldi coalition. The Greens (Groen and Ecolo) joined the federal government again for the first time since 1999. Ultimately De Croo 1 confirmed the phase-out of all nuclear reactors by 2025, but in but called for an evaluation in November 2021. The phase-out could only be implemented if enough, affordable alternative capacity could be provided (Latré, 2022). The deadline was March 2022. The invasion of Ukraine by Russia (see next section x) complicated the situation. The energy prices in Europe rose and as anticipated the government announced a partial fade-out by March 2022. This involved all but the two youngest reactors (Tihange 3 and Doel 4) would be phased out by 2025, the two youngest were extended for ten more years. Minister of Energy Van der Straeten (Groen) stressed a complete phase-out, and a 100% renewable future was still the end goal. As of the 31st of January 2023, Tihange 2 has been shut down. This is the second reactor closing after Doel 3 shut down in November 2022.

2.2.1   The Flemish parties' positions on the nuclear energy issue

In a pre-election survey before the 2019 elections, three parties were in favor of keeping nuclear reactors in operation after 2025 (at that time the date by which all reactors would have been shut down). N-VA and the two far-right parties Vlaams Belang and Parti Populaire (Latré, 2022). A schematic view of the Flemish parties' positions comparing 2019 before the election to the situation during the present government is illustrated in Table 3. Because the phase-out calendar has been changed since 2019, the right column in this provides a single + when a party supports the extension of the two youngest reactors and a two +'s

when a party supports the extension of more reactors, defends the position of nuclear energy in Belgium's future energy mix and/or actively advocates for new build.

Table 3

Flemish parties' positions on the nuclear energy issue from 2019 onward

Party	Position in 2019	Position during De Croo 1
N-VA	+ +	+ +
Vlaams Belang	+ +	+ +
PVDA-PTB	-	-
Groen	-	+
Vooruit	-	+ +
CD&V	-	+ +
Open Vld	-	+

Note. Adapted from

The first three parties listed in Table 3 (N-VA, Vlaams Belang, and PVDA-PTB) are not part of the federal government De Croo 1 and their position on nuclear energy remained unchanged. The parties N-VA and Vlaams Belang (both in opposition) that defend the pro-nuclear position urged the government to decide on the extensions. Vlaams Belang proposes to adapt and abolish the 2003 phase-out law, extend the lifetime of all current

reactors, and start investing in new-generation nuclear reactors (2023). The N-VA's communication on the party's website is more nuanced, they claim to keep reactors operational as long as possible, but safety must be taken into account (N-VA). The Workers Party of Belgium (PVDA-PTB) envisions energy production in the future without nuclear power in the mix as soon as possible (PVDA). The other Flemish parties are all part of the Vivaldi government (De Croo 1). Contrary to the parties in opposition they all changed their position on nuclear energy compared to before the 2019 elections. The most notable change is for the green party, Groen. The federal government announced the ten-year extension of the two youngest reactors even though the green parties (both Groen and Ecolo) are in government and Groen even provided the minister for energy. This is contradictory since the party has always defended an anti-nuclear position. Nevertheless, Groen still defends this position. In announcing the extensions, it was made clear by the minister of energy the decision was made out of necessity and a complete phase-out is still the end goal despite the two extensions. During their time in government, decommissioning of two reactors has started. On the party's website, they claim there is no future for nuclear energy in their green energy model of the future (Groen). The Flemish socialist party (Vooruit) and Flemish Cristian Democrats (CD&V) speak out in favor of nuclear power again. Vooruit acknowledges nuclear energy production isn't fully sustainable but mentions when faced with climate change it's a better alternative than fossil fuels because of the absence of carbon dioxide emissions (Vooruit). CD&V resembles the eco-realist argument of N-VA, they mention abiding by a 'sensible green' logic when discussing their energy views. Nuclear energy should have a place in a climate-neutral society (CD&V). The Flemish liberal party (Open-VLD) is probably the most unclear in its positioning. Former chairman Rutten supported the phase-out fully and announced they needed to confirm this in case of

potential government participation. The new chairman of Open Vld announced to be in favor of an extension of the two youngest reactions. Ultimately when they joined the government, the extension was realized. Chairman, Lachaert, opened the discussion in the media on the extension of another reactor for 10 years and even criticized the nuclear moratorium (Sokol, 2023). On the party's website, there isn't a separate section dedicated to nuclear energy. In the general energy overview, they do mention the phase-out that will be realized and the alternative capacity needed when the phase-out is realized (Open Vld). There is no consensus among the Flemish parties regarding the nuclear issue. More parties are again speaking out in favor of nuclear power once again. Furthermore, investments were made in the research and development of small modular reactors in 2022. This all Indicates it's not out of the question there will be future political debate and decisions regarding nuclear power in Belgium.

2.2.2 Issue ownership and the policy defending role

First introduced by Budge and Farlie (1983) the concept of issue ownership refers to the idea that voters associate certain issues with certain political parties and indicate these political parties as the best fit to deal with these issues. Issue ownership thus compromises two dimensions. Associative issue ownership describes the association between an issue and a party, while competence issue ownership describes the opinion that this party is most suitable to handle the issue (Walgrave, Lefevere, & Tresch, 2012; Walgrave, Tresch, & Lefevere, 2015). A frequently given example of issue ownership is the ownership of Green parties regarding environmental issues. In Belgium, the association with the green party, Groen, and Belgian nuclear energy policy is strong as well. Authors discussing the Belgian phase-out law directly link the participation of the Belgian green parties in government to

the realization of the 2003 phase-out law (Yamasaki, 2007). Since they were founded, Groen has always defended the anti-nuclear position. Following many other Western countries, the Green Party owns the issue of nuclear energy in Belgium (Müller & Thurner, 2017). The Flemish media coverage reflects this fact. Between 2011 and 2019 in Flemish tv items covering nuclear energy Groen is the second most mentioned party (Latré, 2022, p. 89). Currently, Groen is participating in the federal government again. It can be expected they gained even more visibility in the media, holding the ministerial position for Energy since 2020. This puts Groen in a new role since a long time. They now need to take up the role of policy defender. A different analysis can be made for N-VA. In the timeframe 2011-2019, they were the most mentioned party in tv items with the topic of nuclear energy (Latré, 2022, p. 89). Similar to Groen they didn't change their stance on the nuclear energy issue and have always defended their pro-nuclear position. Although when the party was in federal government (2015-2019) they ultimately agreed to the 'Engergiepact' that foresaw the complete phase-out by 2025. On the regional level (in government since 2004) the party has the ministerial position for energy, where the minister often speaks out in favor of nuclear energy and suggests possible cooperation agreements regarding nuclear energy with neighboring countries. We define the parties N-VA and Groen as being issue owners with opposing stances. As discussed before N-VA advocates for new build and keeping the remaining reactors operational for as long as possible. Groen envisages a future energy mix without nuclear energy and is committed to the phase-out. In the current government, Groen fulfills the role of an issue owner as well as a policy defender contrary to N-VA being no longer in the federal government and only fulfilling the role of issue owner.

2.2.3 Party ambiguity and inconsistency

Politicians are not always clear when making issue statements. Clarity can be understood as the opposite of ambiguity (Lefevere, 2023). When confronted with a clear statement on an issue, the receiver is able to position the party on this issue. When confronted with an ambiguous statement receivers aren't able to know the position of the party on the issue and must rely on their interpretation or guesses. Analyzing this example, we can understand ambiguity as the communicative strategy of a party and the uncertainty on the end of the receiver (voter) as a consequence of this ambiguity. This understanding is widely shared in the literature on ambiguity, but there is tension in the literature regarding the attributes of ambiguity as a concept. For example, Rovny proposes in contrary to a party communicating a clear position on an issue, parties can be 'vague' on their position on the issue or present a mix of various positions (2012). Other research states parties deemphasize issues or avoid them altogether, which again creates uncertainty about the parties' position (Alesina & Cukierman, 1990; Chapp, Roback, Johnson-Tesch, Rossing, & Werner, 2019). Because of different approaches to defining ambiguity, there are conflicting results in the literature. In this research, when discussing ambiguity we follow the literature review of Lefevere that took into account the dominant perspectives surrounding ambiguity and proposes a three-dimensional conceptualization (Lefevere, 2023). The three dimensions of ambiguity are deemphasis, vagueness, and inconsistency. Deemphasis refers to how much an issue is emphasized by a party. Although it's hard for parties to completely avoid an issue and say nothing, parties choose to emphasize some issues while deemphasizing others. The less the issue is discussed the more ambiguity on the parties' position. Vagueness concerns the possible interpretations within one single statement. More possible interpretations cause a vaguer and thus more ambiguous statement. Parties can narrow down possible

interpretations in their positions by for example mentioning: intention, timeframe, direction, and magnitude in their statements (Page, 1976). The last dimension is inconsistency. Lefevere gives the example of the nuclear power issue while explaining inconsistency (2023). The example was adapted to fit the Belgian phase-out story. Parties are inconsistent when at one point stating they want to phase out nuclear power plants by 2025 and at another time communicating they want to keep power plants open after 2025. In summary, parties are inconsistent when communicating conflicting or ambivalent messages. In other words, parties take non-overlapping positions on the issue or give mixed signals.

Politicians can be deliberately ambiguous when they balance different policy solutions that might be unpopular with the electorate. Being ambiguous in their statements can help a politician avoid complicated trade-offs such as the trade-off between energy security and phasing out nuclear power. Researchers find different causes to explain why politicians may opt for ambiguity. As discussed above comparing research on ambiguity is difficult when different research uses different conceptualizations of ambiguity. Secondly, a large chunk of the research examines how voters react to ambiguity rather than how ambiguity is explained or what drives ambiguity (Lefevere, 2023). This research tests the impact of an event on party ambiguity. Thus, in this short review we focus on the underlying mechanisms of ambiguity; what drives ambiguity. Downs's theory of political action states parties can be ambiguous on certain issues to increase the appeal of their party to voters (1957). This is especially the case in two-party systems: when both parties benefit from being ambiguous, it's not rational to push the other party into making clearer statements. However, another factor taken into account by parties are their preferred policies. Parties want to put forward

their preferred policies, or the ones preferred by the parties' voters (Alesina & Cukierman, 1990). This way not only re-election is important to parties, but they make a trade-off between the policies (and thus the issue statements they make on these policies) that will win them elections and the policies they prefer themselves. However, ambiguity can't be solely explained as strategic behavior by parties. To explain ambiguity the concept can be split up into voluntary ambiguity, thus strategic behavior by parties and involuntary ambiguity (Nyhuis & Stoetzer, 2021). This involuntary ambiguity may be an underestimated and underexplored explanation for party ambiguity. The vast majority of research designs are based on majority vote and two-party systems when explaining ambiguity as a strategy to maximize re-election chances (Chapp et al., 2019). Because Belgian elections (both federal and regional) are not organized by majority vote and the country is characterized by a multi-party system it's unclear if Flemish parties benefit an equal amount from being ambiguous to maximize election chances the same way majority vote, two-party systems do. This brings us to other possible reasons for party ambiguity. Parties might not consciously express ambiguity. First of all, parties could be internally divided and consequently there's inconsistency in a parties' statements, thus observed ambiguity regarding a party's position (Lehrer & Lin, 2020). Similarly, when party loyalty decreases politicians can communicate conflicting messages and again increase ambiguity about the party's position. Although as established before Belgium is characterized by partocracy and strong party loyalty, when communicating on issues party members will mostly convey the party's position (Dewachter, 2014; Latré, 2022, p. 134). Ambiguity can also stem from confusion or uncertainty regarding an issue (Milita, Simas, Ryan, & Krupnikov, 2017). When there is limited information on an issue or a sudden change in public opinion parties might deliberately or not revert to ambiguous statements.

This research will focus on the third dimension of ambiguity: inconsistency. Moving forward in this research the terms are used interchangeably. When discussing the effect of an event on the ambiguity of issue owners, we assume that issue owners have little incentive to deemphasize their owned issues since issue ownership is rather stable (Seeberg, 2017). Personalized media, such as Twitter, created more space for politicians to spread party messages this provides an opportunity to increase the number of messages to different publics, making deemphasis less applicable to research in the age of new media (Djerf-Pierre & Shehata, 2017). Because the data was collected on Twitter where users have a character limit, it is expected most messages remain rather vague. This is inherent to the medium, 140 characters are not enough to mention the criteria compiled by Page such as intention, timeframe, direction, and magnitude (1976). It is however possible to compare parties on their consistency regarding the nuclear power issue.

3   Hypotheses

Parties with strong reputations are expected to be less inconsistent: they often earn their reputation by expressing a clear position on an issue, a clear plan to deal with an issue, and the party must express this position consistently to avoid the risk of losing its core constituency (Budge, 2015). Having a strong reputation or the gaining of trust by voters is related to issue ownership (Walgrave et al., 2015). As established before Groen and N-VA are issue owners of the nuclear energy issue. We also expect the extreme right (Vlaams Belang) and extreme left (PVDA-PTB) parties to be more consistent in their political messaging. These parties opposed to the other Flemish parties haven't changed their position on the nuclear energy issue since 2019. Even more so since their creation, neither party has changed their position. Additionally, Milita et al. (2014) found challengers were

more likely to communicate issue positions with greater clarity compared to non-challengers on candidate campaigning websites. The term challengers relates to the amount of experience held by candidates. Challengers have no experience in elected office. The parties Vlaams Belang and PvdA have no experience in Federal or Flemish government and thus can be called challengers.

Hypothesis 1: Parties with a strong reputation on the nuclear energy issue are less inconsistent than parties without strong reputations.

These parties with strong reputations include the issue-owning parties N-VA and Groen as well as the challengers: PVDA and Vlaams Belang. This hypothesis, therefore, refers to parties currently in the federal government and parties who aren't. This brings up the question about the effect of incumbency or the role of a policy-defending party on party ambiguity. Issue owners benefit from a strong reputation on an issue and do not want to jeopardize this reputation towards their constituents. When comparing both issue owners (N-VA and Groen) does it matter what role the party currently fulfills? As mentioned before research concerning party ambiguity can be compared only to a limited extent because of different conceptualizations of ambiguity. Looking at the dimension of inconsistency, Alesina and Cuckierman (1990) found incumbents to be more ambiguous. Incumbents choose policies that are more moderate than their own 'true' preferences by hiding their preferences or being inconsistent. As stated in hypothesis 1 issue owners have little incentive to hide their preferences since they might benefit during elections because of their strong reputation on an issue. Secondly, research by Alesina and Cuckierman assumes a two-party system, contrary to the Belgian system where winning elections is no guarantee for government participation. Therefore, the trade-off faced by the incumbent between

pushing their preferred policies and securing future government participation is less relevant to our research based on Flemish parties. Incumbents might be constricted in the degree of inconsistency they can express due to their track record in the previous term (Lefevere, 2023). If the incumbent clearly expressed their position on an issue through communication or policy, they might not be in the position to be ambiguous about the issue. However, it's possible to rule out this interpretation since the issue owner currently in government (Groen) did not participate in the previous federal government. Another reason incumbents might express more ambiguity is proposed by Koedam (2021). Parties might take up inconsistent positions, send out mixed signals to appeal to different voter groups, and/or strengthen the coalition's unity. Nevertheless, incumbents in multiparty governments often try to distinguish their party from the other members of government in their communication by giving clear statements in order to build or restore their reputation (Eichorst & Lin, 2019). This all demonstrates it isn't clear if incumbents generally make more consistent issue statements than opposition parties. However, when dealing with a crisis we suspect inconsistency to increase for the party that fulfills a policy-defending role.

Contrary to strategical reasoning when faced with unexpected events parties can be 'forced' to express ambiguity in issue statements or the ambiguity is a sign of internal divide or uncertainty within the party. When faced with the Russo-Ukrainian war and new challenges etc. and new challenges rise. Salience is high for the issue-owning parties, resulting in reluctant communication, and carefulness that may lead to more moderately vague statements, thus showing inconsistency.

Hypothesis 2a: Issue owners use more ambiguous communication after the start of the Russo-Ukrainian War than before.

Parties in government have to respond, possibly defend policy or question previous policies related to these new conditions caused by the event. Summarized policy-defending parties need to defend their policies. In a situation of high uncertainty caused by a focussing event, the issue-owner that is in government needs to tackle the crisis, increasing the salience for the party. This will result in more inconsistencies in party communication.

Hypothesis 2b: This effect is strongest for the party that fulfills both the role of issue owner and the role of policy defender.

4   Methodology

To examine party ambiguity on the topic of the Belgian nuclear energy debate, data was collected on Twitter. Tweets from Belgian politicians related to this debate were collected between December 2021 and May 2022. The tweets were collected with a social media monitoring tool named Coosto. After exploring the data, the final selection of tweets from Flemish politicians included 451 tweets from 64 different politicians.

The tweets were coded on two dimensions. Firstly, the position on the nuclear energy issue was established by coding the tweet as positive, negative, or neutral towards nuclear energy. This variable ('Attitude Towards Nuclear') was later used to compute an ambiguity score for the Flemish parties. Additionally, every tweet was assigned a frame. This frame reflects the main type of argument used in the tweet. These frames were based on research by Shim, Park & Wilding (2015). This research establishes three frames used when discussing nuclear energy policy: the nuclear safety frame, the clean energy frame, and the energy security frame. To achieve a mutually exclusive exhaustive frame analysis, additional frames and variables were constructed through open coding. This process included

discussion, consultation, and assessment by a second coder to increase validity. We cover the attribution of the issue-positioning code (positive, negative, neutral) in the coding section. The complete codebook is included in Appendix A.

The theory section already included a distinguishment between the issue-owning parties and policy-defending parties in the current political situation in Belgium. The current and previous positions of the Flemish political parties are displayed through the use of the Manifesto Project Database and party's website.

4.1   Social Media Analysis

Content analysis regarding nuclear energy statements often focuses on news media coverage of traditional media (Ho & Kristiansen, 2019). Geographically with a heavy focus on North America and Europe. Examples include the classic 1989 study on the frame use of traditional media when reporting or opinionizing nuclear energy in the United States (Gamson & Modigliani). More recent research in the United Kingdom and The Netherlands focusses on the reframing of nuclear energy against the background of the climate change debate (Doyle, 2011; Vossen, 2020). Different research studies the impact of major risk events on the media coverage of nuclear energy. This branch of research often uses traditional media and focuses on risk perceptions and public opinion changes (Kristiansen, 2017; Tanja Perko, Turcanu, & Geenen, 2012). Although in recent years, more specifically after the Fukushima accident we can find some examples of research that examine the discourse on social media, more specifically Twitter (Arlt, Rauchfleisch, & Schäfer, 2019; Binder, 2012; Li et al., 2016; T Perko, Mays, Valuch, & Nagy, 2015). In a 2019 review on the topic of the nuclear energy debate in academic research, the authors advocate to increase attention to the social and political discourse on social media in this field of research (Ho &

Kristiansen). Additionally, Latré argues when discussing the presence of political parties in television news, for more diversity within media as well as a qualitative analysis among the actors portrayed in (social) media (Latré, 2022, p. 209). This could lead to a better understanding of the actor's positions, arguments, and the way these arguments are framed and possibly interpreted. These propositions are answered through this research method of examining politicians' tweets on social media. The social network service: Twitter was chosen.

Twitter is an online social networking service. Users can post tweets containing limited characters, web links, videos, and pictures. Twitter is not a closed network, users can follow anybody and see their updates (Kwak, Lee, Park, & Moon, 2010). This doesn't need to be mutual. As a result of these asymmetric connections, Twitter is less about connecting with existing social relationships like friends and family. This provides opportunities for political actors. Users have other motivations than maintaining social connections on the social network site. Other motives include information sharing and following news media. Authors describe Twitter as an ideal network for political debates and activities (Gruzd & Roy, 2014). Politicians and political parties are using Twitter accounts for various reasons including agenda-setting. Traditional media are no longer the sole agenda-setting power and social and traditional media operate in a bi-directional process (Wallsten, 2007). Political actors promote their party, promote party platforms, recruit new supporters, and connect with voters. In Belgian politics, every Flemish party represented in the Flemish parliament has a Twitter account and so do most parliamentarians.

By using the social network site Twitter it is possible to take a snapshot of (public) opinion as well as it allows to follow longitudinal changes in opinion and (party) positions on the

nuclear energy issue. This way it was possible to look at the overall sentiments and arguments of the debate as well as make comparisons and study changes in positions and frame-use in a longitudinal perspective. Political parties express positions to the public through media in particular when dealing with complex issues (Hill, Lo, Vavreck, & Zaller, 2013; Zaller, 1994). The change in the information sphere and the rise of social media platforms provide opportunities for parties. Contrary to traditional media politicians can choose who they target in their communication and how much they communicate. Because politicians can communicate on their terms we might suspect communication on social media is more prone to ambiguity and inconsistency (Lefevere, 2023).

The future of Twitter is unsure. Since the data was collected in July 2022 new CEO Musk pushed through various changes. Political advertisements are allowed again, but the platform will focus heavenly on subscription revenue and limit the features of non-subscribed accounts. The future will tell if political parties and politicians follow this evolution or leave the platform. Researchers should follow up closely if the platform remains valuable for future political communication research.

4.2   Sampling of the Tweets

Tweets were analyzed over a five-month period. More specifically the sampling contains tweets posted between the 22nd of December 2021 and the 25th of May 2022, including these two dates. The starting date indicates the agreement on the phaseout of the federal government that was announced on the morning of December 23rd. The federal government negotiated the phase-out conditions resulting in a 'reinforced' 'Plan A' (staying committed to a phase-out as fast as possible). The ending date coincides with the announcement of prime minister Alexander De Croo announcing a 100 million research

budget for nuclear research center SCK CEN on the 24th of May 2022. This timeframe also allows for comparisons regarding the Russo-Ukrainian War. As mentioned in the chapter on the Russo-Ukrainian War, the conflict can be traced back to 2014 but the escalation of the conflict on the 24th of February concerning the invasion of Ukraine can be a turning point for the Belgian (energy) context. The first economic sanctions by the West were announced on February 22nd as well as Germany abandoning the 'Nord Stream 2' gas pipeline project (IEA, 2022c). This analysis includes approximately two months before the invasion of Ukraine and two months after the start of the invasion. This way comparisons before and after the invasion can be made.

The analysis includes tweets posted by politicians from this timeframe that have direct or indirect relation to Belgian nuclear energy policy. The tweets were acquired using Coosto: a commercial content and social media monitoring tool (Coosto). Coosto has been previously used for similar research purposes including analysis of Dutch MP's network through tweets (Esteve Del Valle, Broersma, & Ponsioen, 2022, p. 741). Other research where the software was used includes studies involving intermedia agenda-setting (Van Den Heijkant, Van Selm, Hellsten, & Vliegenthart, 2019) and explorative studies for certain policies. For example, in healthcare services in The Netherlands (van de Belt et al., 2015) Coosto uses data from multiple social media platforms including Twitter, Facebook, Instagram, Pinterest, LinkedIn, and Reddit. Only Twitter was used for this research. Below is the query ran in Coosto.

kerncentrale* OR kernenergie OR atoomenergie OR nucleair* OR (nucleaire energie)

The query includes the Dutch translation for nuclear powerplant, nuclear energy, atom energy, and nuclear. In the Dutch language 'kernenergie' and 'nucleare energie' are used

interchangeably. 'Atom energy' must be included as well but is less frequently used. The asterisk (*) in the query makes sure tweets containing 'kerncentrale' are included as well as continuances of the word. For example, the plural form of this word: 'kerncentrales' is included by using the asterisk in the search query. When testing the query this appeared to be important since only including the singular form of this word and 'nucleair' led to fewer hits. Coosto's guidelines and support section were consulted to run the optimal query. The query resulted in a total of 48.167 tweets.

Only tweets (including retweets and comments) from Flemish politicians in the Dutch language are required for this research. Thus, tweets from authors that did not fit the description were deleted before downloading the data. To be included in the analysis politicians must have more than 3000 followers and be full-time politicians. This means members of a party, volunteers, local politicians who practice another job, etc. are excluded. Political directives for parties and European parliament members are included since their full-time occupation is politics. The followers of 3000 threshold was chosen because Coosto has no way to automatically select politicians from the list of authors. Using a threshold of 3000 followers it was possible to sort the authors by followers and go through the list until the 3000 benchmark. This method avoids having to go through all 6923 authors. Politicians who fit the definition were manually selected from the list of 6923 unique authors. Sorting the authors by the number of followers and the familiarity of the researcher with Belgian politicians accelerated this process. With lesser-known politicians it was needed to consult their LinkedIn page or party's website to check if they fit in with the criteria of a full-time politician and if they carry out their mandate in Belgium. This

resulted in a final list of 71 unique authors with a total of 609 tweets (see Appendix B for the list of authors).

All data required is publicly available and therefore no ethical approval was required. This also means that tweets within the timeframe but deleted by the author (or the social media platform) before the data was downloaded do not show up in the analysis. Coosto daily updates its data, so the number of tweets can fluctuate. To avoid the sample fluctuating, the tweets were downloaded on July 11th 2022 in an Excel file. This file was used to code the tweets and later input convert this data to a statistical tool: SPSS. When downloading the tweets from Coosto, some metadata is included as well. This metadata included the date of the tweet, URL, sentiment, type, discussion length, author (screen name), number of followers, and text of the tweet. More explanation on this metadata can be found in Appendix A.

4.3   Coding

The coding can be divided into four parts: metadata, mention of the war, attitude towards nuclear energy, and the dominant frame that was used. When coding the tweets we considered only the content of the tweet, without relying on assumptions about the author's party and personal experience. We avoided this possible pitfall by not taking into account the metadata of the tweet and only reading the tweet itself when assigning codes. Links should be checked to understand the context of the tweet, but the content of a link is not coded. The same applies to tweets that are in reply to another tweet. The original tweet is taken into account for context but only the reply that is part of the sample is coded.

In the following sections, we review the code being most important to the proposed hypotheses. Firstly, defining what tweets are relevant for the research and secondly assigning a position or attitude towards nuclear energy. The full codebook can be found in Appendix A, the intercoder reliability is calculated by the Cohens Kappa metric shown in Appendix C.

4.3.1 Relevancy

All the tweets within the time frame that have direct or indirect relation to nuclear energy policy are coded (variable: Relevance=1). Some tweets in the dataset were written in French and excluded (due to the word 'nucleair' in the query which is written the same in French). Some tweets concern nuclear weapons without mentioning nuclear energy policy. In total 63 tweets were excluded from the research. Table 4 shows all the types of tweets that are excluded from the analysis and their reason (Tweets coded zero for Relevance). Note that 'doubles' covers authors that retweet their own tweets without adding a new message. This is more thoroughly explained in the codebook (see: Appendix A)

Table 4

Total number of tweets coded zero for relevance categorized.

Reason for Relevance = 0	Number of tweets
Tweets in French	6
Tweets not related to Belgian nuclear energy policy	43
'Double' tweets	10

No context provided in tweet	3
Total	63

4.3.2 Position on nuclear energy

The following paragraphs paraphrase the section in the codebook that describes the category 'Attitude towards nuclear' (codes 2001-2004). Tweets are assigned either a positive attitude towards nuclear energy, a negative attitude, or a neutral attitude. Code 2004 is used when no or not enough information is given to code the tweet.

Tweets coded with a **positive attitude (code 2001)** include pleas for extension of nuclear power plants, pleas for more nuclear power in the future, highlighting advantages of nuclear power (in comparison to renewables or fossil fuels), optimism about innovation concerning nuclear energy or content is showed with decisions in favor of nuclear energy.

Tweets expressing a **negative attitude (code 2002)** can be pleas for phase-out, less nuclear power in the future, stating arguments against nuclear power (in comparison to renewables or fossil fuels), pessimism about nuclear innovation and discontent with decisions in favor of nuclear power.

When attitudes in favor and attitudes against nuclear power are both discussed, the attitude assigned is neutral. Thus, showcasing a **neutral attitude (code 2003)** This is also the case when a tweet describes events (example: 'A decision on extension will be made the 18th of March') without expressing their opinion or emotion to these events.

The last category is used for tweets where no attitude can be assigned. This category is labeled **Doesn't say (code 2004).** Tweets that don't mention nuclear energy talking points or tweets where it's not clear the position is pro or contra nuclear energy. For example: tweets expressing attitudes about members of government solely without including statements on nuclear energy. A tweet where a politician reacts to an interview with Minister of Energy Tinne Van der Straeten with 'what a desperate person' does express a negative attitude about Tinne Van der Straeten but doesn't mention anything on (her) nuclear power policies.

When a tweet doesn't provide enough content on itself to assign an attitude, we look at the tweet it responds to or media that is linked. The link or original tweet itself is not coded but we use the same process to assign an attitude to this link: being positive, negative or neutral. Then look again at what is made clear in the sample tweet. This is best shown with an example: A tweet stating, 'read this' with an article linked in favor of nuclear energy is coded 'positive'. Although the tweet itself ('read this') doesn't express the attitude in itself it responds to a positive attitude about nuclear power, encouraging their followers to read the source, establishing the author agrees with the positive attitude.

4.4   The Ambiguity Score

Ambiguity or inconsistency is measured using the "position on nuclear energy" code. This code includes tweets that are positive about nuclear energy, negative neutral as well as statements that don't contain enough information to assign an attitude. In the research of Koedam (2021) inconsistency is estimated by using a ratio of the positive, negative and, neutral codes in statements about the European Union. This ratio is then used to examine how consistent a party is on the European integration issue. We use a similar method to

Koedam to estimate ambiguity based on the attitude towards nuclear energy in politicians' tweets.

To estimate an ambiguity score it was needed to recode the categories: positive, negative, neutral and doesn't say into numeric categories. Table 5 shows the process of recoding these values.

Table 5

Recoding of values of" attitude towards nuclear" to numeric values

Attitude toward nuclear energy code	Recoded to numeric category to measure ambiguity
Positive attitude	1
Neutral attitude	0
Negative attitude	-1
Doesn't say	MISSING

When calculating party ambiguity, the mean is taken of all attitude scores of tweets from politicians of that party. The ambiguity score runs from -1 to 1. We use the absolute value for clarity. Parties that express negative as well as positive attitudes or primarily neutral attitudes will get a score close to 0. Parties that exclusively make positive or negative

mentions will get a score close to 1, this score will be higher than parties that combine negative, neutral, and positive attitudes in their tweets.

A higher value on the ambiguity score means a party is clear and takes a strong stance on the issue (Rovny, 2012). A lower score means a party doesn't take a strong stance on the issue. A lower score thus implies more ambiguity and a higher score resonates with less ambiguity.

4.5   Limitations

The sample of tweets included only tweets in the Dutch language. Excluding tweets from Belgian parties written in French was a deliberate choice. Both the main coder and second coder are not sufficiently familiar with the French language to conduct a correct content analysis. Relying on translation software could lose nuance. Tweets also differ from official written communication. On social media, especially on a social network that has a limited use of characters, the use of abbreviations and online lingo is common. Consequently, most analyses were made using only tweets from the Dutch parties excluding the parties the green French-speaking party (Ecolo) and the liberal French-speaking party (MR). This was done so it was possible to get a complete overview of the Flemish-speaking parties. Making conclusions for the French-speaking parties wouldn't give complete results since the majority of French-speaking parties don't regularly tweet in the Dutch language and thus were not included in the sample. Although most of the 'key players' in the nuclear energy debate: the minister of energy, interior affairs, and the prime minister are included in the sample. Inductive content analysis meant the sample was rather small and coding was labor intensive (Van Gorp, 2007).

Lastly, we point out some remarks about the reproductivity of this study. As established in the theory section of this research we examine the impact of an event (The Russo-Ukrainian war) on party ambiguity. To make generalizable conclusions we would need a comparative design or more data over different time periods without any impactful focussing events. We address this limitation by providing the reader with sufficient context on the Belgian political structure and the current status of the nuclear energy debate. We also provide a coherent research method that can be replicated.

5   Results

Before answering the proposed hypotheses, an overview is given of the dataset. We show the distribution of tweets by party in our sample in Table 6. We also discuss the number of tweets mentioning the Russian-Ukrainian war and the frames used by the Flemish political parties. In the second section we discuss the calculation of the party ambiguity score along with the outcomes of the hypotheses.

5.1   Descriptives

The original data downloaded from the Coosto query contained 71 unique authors. See Appendix B for a complete overview. 71 politicians tweeted tweets in the chosen timeframe containing words searched for in the query. This included tweets from non-Flemish parties MR and Ecolo. As discussed before tweets from these parties were deleted from the analysis. The total number of unique authors is 64. Only Filip Dewinter, MP in the Flemish parliament for Vlaams Belang since 2014, didn't tweet any relevant tweet and is therefore not included in the analysis.

Table 6

Overview of the number of authors and number of relevant tweets by political party

Political party	Unique authors	Number of tweets	Number of tweets %
PVDA-PTB	5	26	5.77
Groen	11	48	10.64
Vooruit	5	12	2.66
CD&V	8	41	9.09
Open Vld	11	49	10.86
N-VA	18	163	36.14
Vlaams Belang	6	112	24.84
Total	64	451	100

Table 7 shows the mentions of the Russo-Ukrainian war in relevant tweets in the analysis. In a similar time period, there were more mentions of the Russo-Ukrainian War after the invasion than in the period before the invasion. This shows politicians used the event in their tweets to make their arguments on the nuclear energy issue.

5.1.1 The Russo-Ukrainian War

Table 7

Mentions of the Russo-Ukrainian War in tweets

Before war	After War
12	36

Note. Before war= tweets

5.1.2 Frame analysis

	Clean energy frame	Energy security frame	Nuclear safety frame	Acceptance of nuclear energy frame	Economic cost of nuclear frame	Nuclear innovation frame	Nuclear is a policy issue	Other
■ Series1	47	100	26	15	59	15	154	34
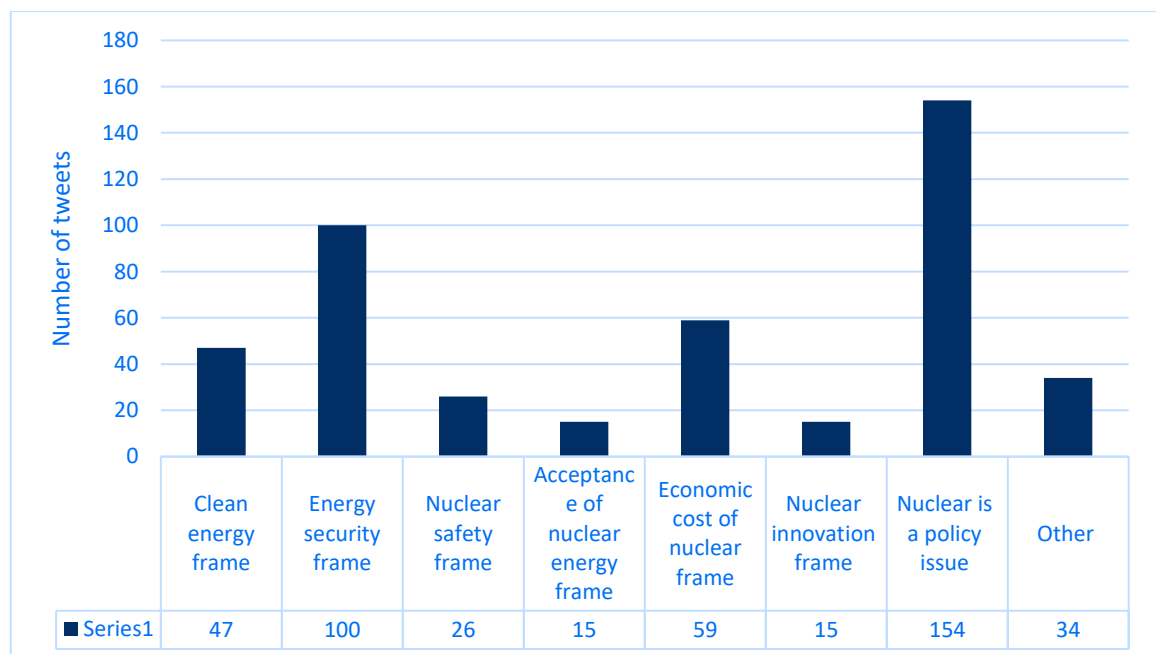
5.2   First Hypothesis

Hypothesis 1: Parties with a strong reputation on the nuclear energy issue are less inconsistent than parties without strong reputations.

The inconsistency scores (that runs from 0 to 1) per party are visualized in Table 8. Parties with a higher score communicate more consistently than parties with a lower score. The direction of the score; consistently positive or consistently negative is indicated by the bold digit in the corresponding negative or positive table. Tweets that didn't state a position on nuclear energy were not included in the calculation of the inconsistency score. The parties having a strong reputation on the issue, Vlaams Belang and PVDA-PTB scored highest. All tweets are either consistently positive towards nuclear energy in the case of Vlaams Belang or consistently negative in the case of PVDA-PTB. Issue owner N-VA has the second-highest score of 0.96. The parties that score lowest (CD&V and Open Vld) do not have a strong reputation on the nuclear issue. This corresponds with the first hypothesis. Although a notable exception is the party Vooruit. The party scores higher on consistency than issue owner Groen.

Table 8

Attitude towards nuclear energy and inconsistency score by party

Political party	Attitude towards nuclear energy				Consistency score
	Not stated	Positive	Neutral	Negative	
CD&V	14	**19**	2	6	0.48
Groen	13	0	8	**27**	0.7
N-VA	32	**127**	3	1	0.96
Open Vld	13	**28**	5	3	0.69
PVDA-PTB	7	0	0	**19**	1.00
Vlaams Belang	18	**94**	0	0	1.00
Vooruit	3	0	1	**8**	0.89

5.3   Second Hypothesis

Hypothesis 2a: Issue owners use more ambiguous communication after the start of the Russo-Ukrainian war than before.

Hypothesis 2b: This effect is strongest for the party that fulfills both the role of issue owner and the role of policy defender.

To test these hypotheses we compare two groups one including the tweets before the Russian invasion and one group including tweets after the invasion. First, we conducted an independent samples t-test for the issue-owning party N-VA shown in Table 9. We compare the means of the score attributed to the attitude towards nuclear energy based on the content of the tweet. As laid out before in hypothesis one these means equate to the consistency score.

Table 9

Independent samples t-test comparing consistency for issue owner N-VA before and after war.

Groups	N	M	SD	t	df	p (one-sided)
Before war	74	0.9865	0.11625	1.410	129	0.080
After war	57	0.9298	0.31958			

The independent-samples t-test with conditions t (129) = 1.410, p= 0.080 to compare provided no significant results, despite greater inconsistency in the tweets after the war. In other words, there is no significant difference in N-VA's party ambiguity before the Russian invasion (M=0.9865, SD=0.11625) compared to after the Russian invasion (M=0.9298, SD=0.31958).

Next, the same method was repeated to compare the inconsistency score for the issue-owning party Groen before and after the war. We conduct an independent-samples t-test to compare party ambiguity before the Russian invasion and after the Russian invasion. The results are shown in Table 10.

Table 10

Independent samples t-test comparing consistency for issue owner Groen before and after war.

Groups	N	M	SD	t	df	p (one-sided)
Before war	19	0,9474	0.22942	2.948	33	0.003
After war	16	0.5625	0.51235			

The result of the independent samples t-test shows significant results ($p<0.005$). There are significant differences between the score for ambiguity before the war (M=0.9474, SD=0.22942) and the score for ambiguity after the war (M=0.5625, SD=0.51235). The score before the war was 0.9474. The maximum value for the ambiguity score is 1, thus the score before war reflects high degrees of clarity (compared to ambiguity). Opposed to N-VA the ambiguity score reflected a negative attitude towards nuclear energy. This isn't shown in the t-tests but is made clear in Table 8 which shows the majority of tweets expressing a negative attitude towards nuclear energy. After the war, the score drops to 0.5625. This is the result of a mix of negative attitudes and neutral attitudes expressed in the two-month period after the Russian invasion.

6 Discussion

Do (some) parties become more ambiguous in the aftermath of a crisis? By answering this question, the social media discourse can show insight in the status of the current Flemish nuclear energy debate. Firstly, the sample showed predominantly positive attitudes expressed in tweets about nuclear energy. This is corresponding with the current positions of the Flemish parties on the nuclear issue. The only exception is the Socialist party: Vooruit.

Outside of social media the party has portrayed a pro-nuclear stance, this is not reflected in their tweets. Although the party recently made the switch in its position and the party was only represented to a small extent in the sample. Specifically, twelve tweets from five unique authors. Did issue-owner Groen switch positions on the nuclear energy issue as well in the aftermath of the Ukraine crisis?

Issue-owner party Groen still holds on to their anti-nuclear stance. Firstly, after the Russian invasion, we can find more neutral tweets, but none of Groen's politicians tweeted in favor of nuclear energy. This tells the party did not switch positions on the nuclear energy issue, but rather responded to a crisis with policies different than their preferred policies. This relates to their role as a policy-defending party. Contrary to N-VA, Groen had to defend government policy that conflicted with their own position on the issue. Namely extending the lifetime of two nuclear reactors instead of closing them according to the maximum lifetime of 40 years. According to Alesina and Cukierman (1990) pursuing policies different than a party's preferred policies is a cause for ambiguity. As a policy defender, the party needs to defend these policies, which could lead to inconsistencies in party communication. Consequently, voters aren't sure what policy the party will follow when they join government (again). This is illustrated in Groen's position on new-generation nuclear reactors, small modular reactors (SMRs). Minister of Energy van Der Straeten states there might be a future for SMRs in Belgium under certain conditions. In contrast to pleading for complete abolishment and a 100% renewable future, the party now remains rather neutral on the topic of SMRs.

Ambiguity knows various causes. This research shows parties with strong reputations on the nuclear energy issue are the most consistent. The issue-owner in the policy-defending

role (Groen) has become more inconsistent in their issue-positioning in the aftermath of the Russian-Ukrainian war that coincided with rising energy prices and the need for an urgent decision in the nuclear phase-out negotiations. However, we can not overlook alternative explanations. Firstly, there could have been internal division within the party on the issue preceding the crisis. Although most politicians follow their parties' position on the issue. The Twitter analysis shows few dissenting statements from the party's position. The analysis shows politicians make more neutral statements rather than expressing opposite (positive or negative) attitudes compared to their party's position. The only exception being, Vooruit. Belgium is characterized by high party loyalty. In addition, we don't know if every politician expresses their own views or if tweets are co-written/influenced party cabinets, spokespersons, or guidelines. It's uncertain whether intern division within parties is reflected in this analysis.

Following the study of Latré (2022) on the Belgian nuclear energy debate, the issue-owning party in government holds the opposite position to the issue-owning party in opposition. This relates to the argument made by Tromborg (2021). Ambiguity of incumbents is dependable on the popularity of the party's position. It affects all dimensions of ambiguity: when the position on the issue is more popular, the party will emphasize it and be more consistent and precise about that issue. The latest public opinion data shows 71% of Belgian prefer a mix between renewables and nuclear energy. The study concludes the Belgian population has a predominantly positive view of nuclear energy. Tromborg states incumbents are likely to deviate from their parties' positions when it's unpopular among the electorate. This can explain why issue-owner N-VA is consistent on the nuclear energy issue. Firstly, they do not need to defend policies that do not correspond to their position.

Secondly their position is popular among the electorate. In Belgium's multi-party system, it's possible a party can defend an anti-nuclear position despite this position not being popular among the electorate, but popular in their part of the electorate. This can be the case for PVDA, who most clearly defends an anti-nuclear position.

In this research we view the party Groen as a policy defender. However, due to Belgium's political structure this distinction is not always accurate. Groen is in government at the federal level (where the nuclear energy issue is most relevant) but is in opposition on the regional level. Tromborg (2021) proposes non-incumbent politicians, in the case of Groen: members active in Flemish parliament or local politics, have an incentive to deviate from the 'unpopular' party position. Politicians can appeal more broadly and attract new voters while still maintaining the party's position by the unity of the party's incumbent politicians. The electorate becoming more positive towards nuclear energy can be a reason for increased inconsistency in party communication.

When researching ambiguity context of the political structure as well as current events are essential. Several authors point out the influence of campaigning or how close the next election will be (Lefevere, 2023). Increased ambiguity is expected close to the next elections compared to during the normal legislative period. Therefore, a great deal of studies examining ambiguity focus on campaign communication or issue statements made during campaigning.

This study provided various insights in the Flemish nuclear energy debate. Incumbent, issue-owners expressed more ambiguous statements than issue-owners not present in government. To make more robust conclusions about ambiguity and position in

government future studies could make a comparative analysis focussing on different cases rather than one (the Flemish) case. Including a broadening of the focus to include different kinds of issues. More insight and attention to related causes for ambiguity such as popularity of the position and internal division within parties could explain the often unexplored dynamics between, issue-positioning, events and incumbency status in political communication.

Bibliography

Alesina, A., & Cukierman, A. (1990). The politics of ambiguity. *The Quarterly Journal of Economics, 105*(4), 829-850.

Arlt, D., Rauchfleisch, A., & Schäfer, M. S. (2019). Between fragmentation and dialogue. Twitter communities and political debate about the Swiss "nuclear withdrawal initiative". *Environmental Communication, 13*(4), 440-456.

Asafu-Adjaye, J., Blomquist, L., Brand, S., Brook, B. W., DeFries, R., Ellis, E., . . . Lynas, M. (2015). An ecomodernist manifesto.

Baumgartner, F. R., & Jones, B. D. (2010). *Agendas and instability in American politics*: University of Chicago Press.

Benton, T. G., Froggatt, A., Wellesley, L., Grafham, O., King, R., Morisetti, N., . . . Schröder, P. (2022). The Ukraine war and threats to food and energy security. *Chatham House— International Affairs Think Tank*, 2022-2004.

Bickerstaff, K., Lorenzoni, I., Pidgeon, N. F., Poortinga, W., & Simmons, P. (2008). Reframing nuclear power in the UK energy debate: nuclear power, climate change mitigation and radioactive waste. *Public understanding of science, 17*(2), 145-169.

Binder, A. R. (2012). Figuring out# Fukushima: An initial look at functions and content of US Twitter commentary about nuclear risk. *Environmental Communication: A Journal of Nature and Culture, 6*(2), 268-277.

Birkland, T. A. (1998). Focusing events, mobilization, and agenda setting. *Journal of public policy, 18*(1), 53-74.

Bishop, B. H. (2014). Focusing events and public opinion: Evidence from the deepwater horizon disaster. *Political Behavior, 36*, 1-22.

bp. (2022). *bp Statistical Review of World Energy 2022 | 71st edition*. Retrieved from

Budge, I., & Farlie, D. (1983). *Explaining and predicting elections: Issue effects and party strategies in twenty-three democracies*: Taylor & Francis.

CD&V. Verstandig groen: een energiepact voor de toekomst Retrieved from https://www.cdenv.be/verstandig-groen/

Chapp, C., Roback, P., Johnson-Tesch, K., Rossing, A., & Werner, J. (2019). Going vague: Ambiguity and avoidance in online political messaging. *Social science computer review, 37*(5), 591-610.

Coosto. Retrieved from https://www.coosto.com/nl/platform/social-media-monitoring

De Tijd. (2022). Groen en N-VA spelen Oekraïnecrisis uit in gevecht over kernuitstap. Retrieved from tijd.be website: https://www.tijd.be/politiek-economie/belgie/federaal/groen-en-n-va-spelen-oekrainecrisis-uit-in-gevecht-over-kernuitstap/10371384.html

Dekker, P., De Goede, I., & Van der Pligt, J. (2011). Kernenergie in de publieke opinie. *Ontwikkelingen in het marktonderzoek: jaarboek MarktOnderzoekAssociatie, 36*, 207-221.

Dewachter, W. (2014). De trukendoos van de Belgische particratie. Een Europese schande.

Djerf-Pierre, M., & Shehata, A. (2017). Still an agenda setter: Traditional news media and public opinion during the transition from low to high choice media environments. *Journal of Communication, 67*(5), 733-757.

Downs, A. (1957). An economic theory of political action in a democracy. *Journal of political economy, 65*(2), 135-150.

Doyle, J. (2011). Acclimatizing nuclear? Climate change, nuclear power and the reframing of risk in the UK news media. *International Communication Gazette, 73*(1-2), 107-125.

Duffy, R. (2011). Déjà vu all over again: climate change and the prospects for a nuclear power renaissance. *Environmental Politics, 20*(5), 668-686.

Eichorst, J., & Lin, N. C. (2019). Resist to commit: concrete campaign statements and the need to clarify a partisan reputation. *The Journal of Politics, 81*(1), 15-32.

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication, 43*(4), 51-58.

Esteve Del Valle, M., Broersma, M., & Ponsioen, A. (2022). Political interaction beyond party lines: Communication ties and party polarization in parliamentary twitter networks. *Social science computer review, 40*(3), 736-755.

Gamson, W. A., & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American journal of sociology, 95*(1), 1-37.

Gayle, D. (2023). A long overdue moment? The UK greens pushing for the nuclear option. *The Guardian* Retrieved from https://www.theguardian.com/environment/2023/mar/09/a-long-overdue-moment-the-uk-greens-pushing-for-the-nuclear-option

Groen. Energie. Retrieved from https://www.groen.be/energie

Gruzd, A., & Roy, J. (2014). Investigating political polarization on Twitter: A Canadian perspective. *Policy & internet, 6*(1), 28-45.

Hill, S. J., Lo, J., Vavreck, L., & Zaller, J. (2013). How quickly we forget: The duration of persuasion effects from mass communication. *Political Communication, 30*(4), 521-547.

HLN. (2018, 22-09-18). Winter tegemoet met één kerncentrale. *Het Laatste Niews* Retrieved from https://www.hln.be/binnenland/winter-tegemoet-met-een-kerncentrale~abe3bfd7/

HLN. (2022). Hoge energiefacturen: CREG waarschuwt voor stijging sociaal tarief richting commerciële prijzen en pleit onder meer voor standaardcontracten. *Het Laatste Nieuws*. Retrieved from https://www.hln.be/energieprijzen/hoge-energiefacturen-creg-waarschuwt-voor-stijging-sociaal-tarief-richting-commerciele-prijzen-en-pleit-onder-meer-voor-standaardcontracten~a4819c60/

Ho, S. S., & Kristiansen, S. (2019). Environmental debates over nuclear energy: Media, communication, and the public. In (Vol. 13, pp. 431-439): Taylor & Francis.

IEA. (28/10/22). Retrieved from https://twitter.com/IEA/status/1585908231762739202?ref_src=twsrc%5Etfw

IEA. (2019). *Nuclear Power in a Clean Energy System*. Retrieved from https://www.iea.org/reports/nuclear-power-in-a-clean-energy-system

IEA. (2022a). *Belgium 2022*. Retrieved from https://www.iea.org/reports/belgium-2022

IEA. (2022b). *Energy Fact Sheet: Why does Russian oil and gas matter?* Retrieved from https://www.iea.org/articles/energy-fact-sheet-why-does-russian-oil-and-gas-matter

IEA. (2022c). *World Energy Outlook 2022*. Retrieved from https://www.iea.org/reports/world-energy-outlook-2022

Kim, H.-M., Li, P., & Lee, Y. R. (2020). Observations of deglobalization against globalization and impacts on global business. *International Trade, Politics and Development*.

Koedam, J. (2021). Avoidance, ambiguity, alternation: Position blurring strategies in multidimensional party competition. *European Union Politics, 22*(4), 655-675.

Kristiansen, S. (2017). Characteristics of the mass media's coverage of nuclear energy and its risk: A literature review. *Sociology Compass, 11*(7), e12490.

Kuzemko, C., Blondeel, M., Dupont, C., & Brisbois, M. C. (2022). Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations. *Energy Research & Social Science, 93*, 102842.

Kwak, H., Lee, C., Park, H., & Moon, S. (2010). *What is Twitter, a social network or a news media?* Paper presented at the Proceedings of the 19th international conference on World wide web.

Latré, E. (2022). *Public opinion and the politics of nuclear energy.* University of Antwerp,

Latré, E., Perko, T., & Thijssen, P. (2017). Public opinion change after the Fukushima nuclear accident: the role of national context revisited. *Energy Policy, 104*, 124-133.

Lefevere, J. (2023). Is there clarity in ambiguity? A literature review of party's positional ambiguity. *Party Politics*, 13540688231151906.

Lehrer, R., & Lin, N. (2020). Everything to everyone? Not when you are internally divided. *Party Politics, 26*(6), 783-794.

Li, N., Akin, H., Su, L. Y.-F., Brossard, D., Xenos, M. A., & Scheufele, D. (2016). Tweeting disaster: An analysis of online discourse about nuclear power in the wake of the Fukushima Daiichi nuclear accident. *Journal of Science Communication, 15*(5), A02.

Milita, K., Simas, E. N., Ryan, J. B., & Krupnikov, Y. (2017). The effects of ambiguous rhetoric in congressional elections. *Electoral Studies, 46*, 48-63.

Müller, W. C., & Thurner, P. W. (2017). *The politics of nuclear energy in Western Europe*: Oxford University Press.

N-VA. (21/09/2022). 15 veelgestelde vragen over kernenergie. Retrieved from https://www.n-va.be/kernenergie

N-VA. (2019, 21/05/2019). Ecorealisme verzoent ecologie met economie. Retrieved from https://www.n-va.be/nieuws/ecorealisme-verzoent-ecologie-met-economie

Nyhuis, D., & Stoetzer, L. F. (2021). The two faces of party ambiguity: A comprehensive model of ambiguous party position perceptions. *British Journal of Political Science, 51*(4), 1421-1438.

Open Vld. Klimaat & energie Retrieved from https://www.openvld.be/klimaat_energie

Osička, J., & Černoch, F. (2022). European energy politics after Ukraine: The road ahead. *Energy Research & Social Science, 91*, 102757.

Page, B. I. (1976). The theory of political ambiguity. *American Political Science Review, 70*(3), 742-752.

Perko, T., Mays, C., Valuch, J., & Nagy, A. (2015). Mass and new media: review of framing, treatment and sources in reporting on Fukushima. *Journal of mass communication & journalism, 5*(3), 252.

Perko, T., Turcanu, C., & Geenen, D. (2012). Media reporting and changes in public opinion after Fukushima nuclear accident: Belgium as case study. *International journal of nuclear governance, economy and ecology, 3*(4), 291-307.

Pilet, J.-B. (2021). Hard times for governing parties: The 2019 federal elections in Belgium. *West European Politics, 44*(2), 439-449.

Pralle, S., & Boscarino, J. (2011). Framing trade-offs: The politics of nuclear power and wind energy in the age of global climate change. *Review of Policy Research, 28*(4), 323-346.

Prati, G., & Zani, B. (2013). The effect of the Fukushima nuclear accident on risk perception, antinuclear behavioral intentions, attitude, trust, environmental beliefs, and values. *Environment and behavior, 45*(6), 782-798.

PVDA. België onder groene stroom. Retrieved from https://www.pvda.be/belgie_onder_groene_stroom

Regeringsmaatregelen en energiepremie. (2023, 13/01/2023). Retrieved from https://economie.fgov.be/nl/themas/energie/energieprijzen/regeringsmaatregelen-en

Reuters. (2022a, 19/12/2023). EU countries agree gas price cap to contain energy crisis. Retrieved from https://www.reuters.com/business/energy/eu-countries-make-final-push-gas-price-cap-deal-this-year-2022-12-19/

Reuters. (2022b, 06/07/2022). EU parliament backs labelling gas and nuclear investments as green. Retrieved from https://www.reuters.com/business/sustainable-business/eu-parliament-vote-green-gas-nuclear-rules-2022-07-06/

Rovny, J. (2012). Who emphasizes and who blurs? Party strategies in multidimensional competition. *European Union Politics, 13*(2), 269-292.

Schneider, M., & Froggatt, A. (2014). 2012–2013 world nuclear industry status report. *Bulletin of the Atomic Scientists, 70*(1), 70-84.

Seeberg, H. B. (2017). How stable is political parties' issue ownership? A cross-time, cross-national analysis. *Political Studies, 65*(2), 475-492.

Shim, J., Park, C., & Wilding, M. (2015). Identifying policy frames through semantic network analysis: an examination of nuclear energy policy across six countries. *Policy Sciences, 48*(1), 51-83.

Sokol, K. (2023). Open VLD-voorzitter Lachaert: "Bekijken of kernreactor Tihange 1 nog 10 jaar langer kan openblijven". Retrieved from vrt.be website: https://www.vrt.be/vrtnws/nl/2023/02/04/ontbijtgesprek-egbert-lachaert/

Stoett, P. (2003). Toward renewed legitimacy? Nuclear power, global warming, and security. *Global Environmental Politics, 3*(1), 99-116.

tijd, d. (2022). Stijgende energieprijzen: 'Over komende winter spreken we over tien jaar nog'. *De Tijd*. Retrieved from https://www.tijd.be/ondernemen/milieu-energie/stijgende-energieprijzen-over-komende-winter-spreken-we-over-tien-jaar-nog/10407770.html

Tromborg, M. W. (2021). Appealing broadly while appearing unified: Resolving an electoral dilemma. *European Journal of Political Research, 60*(1), 131-152.

van de Belt, T. H., Engelen, L. J., Verhoef, L. M., van der Weide, M. J., Schoonhoven, L., & Kool, R. B. (2015). Using patient experiences on Dutch social media to supervise health care services: exploratory study. *Journal of medical Internet research, 17*(1), e3906.

Van Den Heijkant, L., Van Selm, M., Hellsten, I., & Vliegenthart, R. (2019). Intermedia agenda-setting in a policy reform debate. *International Journal of Communication, 13*, 23.

Van Gorp, B. (2007). Het reconstrueren van frames via inductieve inhoudsanalyse: uitgangspunten en procedures. *Kwalon, 12*(2).

Visschers, V. H., & Siegrist, M. (2013). How a nuclear power plant accident influences acceptance of nuclear power: Results of a longitudinal study before and after the Fukushima disaster. *Risk Analysis: An International Journal, 33*(2), 333-347.

Vlaams Belang. (2023, 06/02/2023). De wet op de kernuitstap moet nu verdwijnen Retrieved from https://www.vlaamsbelang.org/nieuws/de-wet-op-de-kernuitstap-moet-nu-verdwijnen

Vooruit. Alleen betalbare en duurzame energie laat niemand in de kou Retrieved from https://www.vooruit.org/standpunt_energie

Vossen, M. (2020). Nuclear Energy in the Context of Climate Change: A Frame Analysis of the Dutch Print Media. *Journalism Studies, 21*(10), 1439-1458. doi:10.1080/1461670X.2020.1760730

vrt nws. (2021). Federale regering bereikt "Belgisch compromis" over kernuitstap: pas op 18 maart wordt knoop doorgehakt. Retrieved from vrt.be/vrtnws website: https://www.vrt.be/vrtnws/nl/2021/12/23/kernuitstap/

Walgrave, S., Lefevere, J., & Tresch, A. (2012). The associative dimension of issue ownership. *Public opinion quarterly, 76*(4), 771-782.

Walgrave, S., Tresch, A., & Lefevere, J. (2015). The conceptualisation and measurement of issue ownership. *West European Politics, 38*(4), 778-796.

Walker, J. S. (1989). Nuclear power and the environment: The Atomic Energy Commission and thermal pollution, 1965-1971. *Technology and culture, 30*(4), 964-992.

Wallsten, K. (2007). Agenda setting and the blogosphere: An analysis of the relationship between mainstream media and political blogs. *Review of Policy Research, 24*(6), 567-587.

Yamasaki, S. (2007). *Policy change in nuclear energy: a comparative analysis of West European countries.* UCL-Université Catholique de Louvain,

Zakeri, B., Paulavets, K., Barreto-Gomez, L., Echeverri, L. G., Pachauri, S., Boza-Kiss, B., . . . Ürge-Vorsatz, D. (2022). Pandemic, War, and Global Energy Transitions. *Energies, 15*(17), 6114.

Zaller, J. (1994). Elite leadership of mass opinion. *Taken by storm: The media, public opinion, and US foreign policy in the Gulf War*, 186-209.

Appendix A: Codebook

Metadata

1) **Tweet ID** – Tweet identification number
2) **Date** – Date the tweet got posted.
3) **URL** – Link to the tweet
4) **Sentiment** – Neutral, positive or negative
5) **Type** – post or comment
6) **Discussion length** – Number of reactions to the tweet
7) **Author** – Full name
8) **Political party** – Political party of author
9) **Followers** – Number of followers of author
10) I**nfluence** – score starting from zero.
11) **Text** – Tweet text
12) **Relevance** – Relevant or not relevant

Each tweet gets assigned an identification number starting from 1000. The ranking of the **Tweet IDs** is based on the influence score. The tweet with the most influence is assigned Tweet ID 1000. The second most influential is assigned Tweet ID 1001. Using these digits, it's possible to identify each tweet easily. The **date** is noted in the format yyyy/mm/dd followed by the time of day noted digitally. The **URL** gives the address to the webpage where the tweet was posted at the moment the data was collected. When the Twitter handle (starting with @) of the author is changed or the author deletes the tweet, the tweet is no longer accessible through this URL. Coosto assigns a **sentiment** to every tweet in the query. The sentiment can be negative, positive, or neutral. The sentiment is based on the text of the tweet; words or parts of sentences that express a negative or positive feeling. A neutral sentiment is assigned when sentiments are mixed, there are no sentiments identified or there is too much uncertainty to assign another sentiment. Important to note is that not the whole tweet is analyzed. The sentiment is decided upon the words around the search words in the tweet. This is a fully automated process, so mistakes are possible. Especially tweets containing subjective properties (e.g., sarcasm, irony) are harder to categorize by artificial intelligence. Coosto doesn't give specifications on the accuracy of their tool. The **type** of tweet can either be a post or a comment. Posts are tweets that are not in reaction to other tweets. They start their own discussion. Comments include replies to tweets (including reacting to one's own tweet as part of a "thread"), retweets and quote retweets. The latter is a retweet where the author retweets a tweet and ads their own comment to it. Shortly put a post is the opening message in a twitter conversation, comments are reactions to a post. **Discussion length** counts the number of reactions to the tweet as well as reactions to these reactions. The **Author** shows the full name of the author of the tweet. This can be different from their screen name or twitter handle. **Political party** notes the political party the author belongs to during (or at the majority of) the analysed time period. **Followers** is the number of followers the author that made the tweet had at the moment of posting the tweet. The **influence** score is a number starting from zero measured by Coosto. The score represents the amount of discussion the twitter author initiates. Reactions, retweets as well as reactions on reactions (five layers deep) are taken into account. Tweets and their reactions are counted for every author daily. The score has no limit but a score higher than one thousand is rare. If an author initiates discussion the score will rise if they don't the score will drop. The **Text** represents the literal text of the tweet, including emojis and links. Finally, a code of zero or one is given to each tweet symbolizing the **Relevance**. A score of 0 is given when the tweet is not relevant. This research limits to tweets written in Dutch, a tweet written fully in another language is therefore not relevant and coded 0. When the tweet doesn't contain anything related to the research subject, code 0 is also assigned. The grounds for coding a tweet as "non-relevant" are mentioned in the section "Comments" in the coding document.

Mention of Russia/Ukraine conflict

1001 – Conflict is mentioned
1002 – Conflict isn't mentioned

Tweets that mention the conflict between Russia and Ukraine are coded 1, and tweets making no mention of the conflict are coded 0. The word conflict is used here because mentions include statements about the war as well as broader discussion. For example, the tweet below doesn't mention Ukraine directly, but it does discuss Putin and financial sanctions in Russia related to the war. Other examples of mentions include the use of hashtags (#Ukrainewar) or the use of the word 'war' (except when stated the tweet is about another conflict).

- "Putin's war is financed by oligarchs and by evading sanctions from Europe. Survival of nuclear power is important for Europe's freedom."
- "Regarding the #Ukrainewar: nuclear safety is of uttermost importance in these dangerous times. Our reactors aren't safe."

Attitude towards nuclear energy

2001 - Positive
2002 - Negative
2003 - Neutral
2004 - Doesn't say

Tweets coded with a **positive attitude (code 2001)** include pleas for extension of nuclear power plants, pleas for more nuclear power in the future, highlighting advantages of nuclear power (in comparison to renewables or fossil fuels), optimism about innovation concerning nuclear energy or content is showed with decisions in favor of nuclear energy. Tweets expressing a **negative attitude (code 2002)** can be pleas for phase-out, less nuclear power in the future, stating arguments against nuclear power (in comparison to renewables or fossil fuels), pessimism about nuclear innovation and discontent with decisions in favor of nuclear power. When attitudes in favor and attitudes against nuclear power are both discussed, the attitude assigned is neutral. Thus, showcasing a **neutral attitude (code 2003)** This is also the case when a tweet describes events (example: 'A decision on extension will be made the 18th of March') without expressing their opinion or emotion to these events. The last category is used for tweets where no attitude can be assigned. This category is labeled **Doesn't say (code 2004)**. Tweets that don't mention nuclear energy talking points or tweets where it's not clear the position is pro or contra nuclear energy. For example: tweets expressing attitudes about members of government solely without including statements on nuclear energy. A tweet where a politician reacts to an interview with Minister of Energy Tinne Van der Straeten with 'what a desperate person' does express a negative attitude about Tinne Van der Straeten but doesn't mention anything on (her) nuclear power policies. When a tweet doesn't provide enough content on itself to assign an attitude, we look at the tweet it responds to or media that is linked. The link or original tweet itself is not coded but we use the same process to assign an attitude to this link: being positive, negative or neutral. Then look again at what is made clear in the sample tweet. This is best shown with an example: A tweet stating 'read this' with an article linked in favor of nuclear energy is coded 'positive'. Although the tweet itself ('read this') doesn't express the attitude in itself it responds to a positive attitude about nuclear power, encouraging their followers to read the source, establishing the author agrees with the positive attitude. In this section, the main attitude towards nuclear energy is identified. Tweets coded with a positive attitude include pleas for extension of nuclear power plants, pleas for more nuclear power in the future, highlighting advantages of nuclear power (in comparison to renewables or fossil fuels), optimism about innovation concerning nuclear energy or content is showed with decisions in favor of nuclear energy. Tweets expressing a negative attitude can be pleas for phase-out, less

nuclear power in the future, stating arguments against nuclear power (in comparison to renewables or fossil fuels), pessimism about nuclear innovation and discontent with decisions in favor of nuclear power. When attitudes in favor and attitudes against nuclear power are both discussed, the attitude assigned is neutral. This is also the case when a tweet describes events (example: 'A decision on extension will be made the 18th of March') without expressing their opinion or emotion to these events. The last category is used for tweets where no attitude can be assigned. Tweets that don't mention nuclear energy talking points or tweets where it's not clear the position is pro or contra nuclear energy. For example: tweets expressing attitudes about members of government solely without including statements on nuclear energy. A tweet where a politician reacts to an interview with Tinne Van der Straeten with 'what a desperate person' does express a negative attitude about Tinne Van der Straeten but doesn't mention anything on (her) nuclear power policies. When a tweet doesn't provide enough content on itself to assign an attitude, we look at the tweet it responds to or media that is linked. The link or original tweet itself is not coded but we use the same process to assign an attitude to this link: being positive, negative or neutral. Then look again at what is made clear in the sample tweet. This is best shown with an example: A tweet stating 'read this' with an article linked in favor of nuclear energy is coded 'positive'. Although the tweet itself ('read this') doesn't express the attitude in itself it responds to a positive attitude about nuclear power, encouraging their followers to read the source, establishing the author agrees with the positive attitude.

Frames

1) Nuclear safety frame
2) Clean energy frame
3) Energy security frame
4) Acceptance of nuclear energy frame
5) Economic consequences of nuclear energy frame
6) Innovation frame
7) Nuclear energy is a politized issue.
8) Others – if it's not possible to determine what frame is most dominant.

The most dominant frame is coded 1. Only one frame can be coded 1.

1 Nuclear safety frame

This frame highlights the (un)safety of nuclear energy. Tweets that discuss the possibility of an accident, talk about the age of nuclear power plants, health risks for citizens, etc. Frame 1a argues nuclear energy is safe energy, the counter frame 1b argues the opposite.

- "Nuclear energy is the safest option."
- "Our nuclear reactors are safe according to international standards; they can last until the age of at least 80 years."
- "5 out of 7 Belgian reactors are too old, worn down and unreliable to keep open."
- "What is the lifespan of our nuclear reactors? Are they still safe?"

2 Clean energy frame

The second frame presents the environmental impact of nuclear energy or discussions about nuclear waste. Often this frame is linked to a certain goal to reduce emissions or climate goals by the European Union. Comparisons are often made with renewable energy or fossil fuels.

- "Nuclear energy has the least effect on the environment in comparison to other forms of energy."

- "Nuclear waste stays radioactive for hundreds of thousands of years and will concern many generations after us."

3. Energy security frame

This frame is linked closely to energy supply and demand. Pleas for more nuclear energy in the mix to secure our energy supply. Statements stating we need (or don't need) nuclear power in order to have an ideal energy policy. (In)dependence on other countries or energy sources are also represented in this frame.

- "Anti-nuclear talks weakened our geopolitical position".
- "Energy supply should be central in the discussion of extension."
- "Nuclear energy will keep us dependent on bad regimes because of the raw materials the industry requires."

4. Acceptance of nuclear energy frame

This frame presents statements on the acceptability of nuclear energy. For example, mentions to research on public opinion, reported content or discontent of the public with (nuclear) energy policy, and statements that resemble 'the people want' or 'don't want' nuclear energy. It is not a necessity that the tweet expresses the agreement of 'all people'. A politician can for example speak for his voters, his constituency etc.

- "81% of Flemish people want to keep the nuclear reactors open after 2025. A clear sign!"
- "Yes, in Flanders there is a large majority in favor of nuclear power."

5. The economic consequences of nuclear energy frame

This frame is both applicable when direct costs or indirect costs are mentioned. Direct cost can mean the cost of energy production, decommissioning, or energy prices. More indirect costs can be about not the cost of nuclear energy itself but broader economic consequences. For example: taxes, wealth of nuclear power plant operators, effect on the BNP, …

- "They want to close the nuclear reactors? That way we'll never see a reduction in energy prices."
- "Because of the bad deal with Engie. Now the people will pay the price"

6. Innovation frame

Tweets that match this frame don't show an attitude about nuclear power today but speak of the so-called 'nuclear energy of the future'. Feelings about innovation can be both optimistic and pessimistic. Some examples of these new nuclear energy technologies are hydrogen nuclear plants and nuclear fusion.

- "New nuclear technology like fusion will be the savior in making nuclear energy hot again."
- "Nuclear energy is outdated. We shouldn't invest in new nuclear technologies."

7. Nuclear is a politized issue

Nuclear energy and by extension energy supply as a whole is a politicized issue, as a result this frame represents the purely political arguments and statements regarding nuclear energy. This includes blaming other parties for bad energy policy, referring to their own or their party's position on nuclear energy without any other dominant arguments.

- "How Open VLD, CD&V, and Vooruit have neglected our nuclear power plants for years is just as bad as the anti-nuclear dogmatism from the Green party"

Appendix B: List of Authors

Table B 1
List of Authors sorted by number of followers

Full Name	Authors Twitter Handle	#Tweets	#Followers
Alexander De Croo	alexanderdecroo	1	203290
Bart De Wever	Bart_DeWever	7	180965
Theo Francken	FranckenTheo	36	136218
Hilde Crevits	crevits	1	83103
Sophie Wilmès	Sophie_Wilmes	1	78262
Gwendolyn Rutten	RuttenGwendolyn	5	71688
Zuhal Demir	Zu_Demir	2	63227
Kristof Calvo	kristofcalvo	4	57538
Geert Bourgeois	GeertBourgeois	3	50911
Johan Van Overtveldt	jvanovertveldt	4	43116
Koen Geens	Koen_Geens1	1	40545
Maggie De Block	Maggie_DeBlock	4	37699
Tom Van Grieken	tomvangrieken	7	37129
Filip Dewinter	FDW_VB	1	36434
Georges-Louis Bouchez	GLBouchez	96	35078
Assita Kanko	Assita_Kanko	11	30363
Meyrem Almaci	MeyremAlmaci	7	28671
Sammy Mahdi	SammyMahdi	1	28631
Darya Safai	SafaiDarya	2	27877
Raoul Hedebouw	RaoulHedebouw	11	27189
Dries Van Langenhoven	DVanLangenhove	3	26866
Peter De Roover	PeterDeRoover1	5	25808
Sven Gatz	svengatz	1	24463
Annelies Verlinden	AnneliesVl	2	21262
Peter Mertens	peter_mertens	10	21190
Sam Van Rooy	SamvanRooy1	131	19913
Petra De Sutter	pdsutter	7	19556
Egbert Lachaert	egbertlachaert	9	19144
Gerolf Annemans	gannemans	2	18346
Annick De Ridder	AnnickDeRidder	9	16021
Wouter De Vriendt	WouterDeVriendt	4	15952
Kathleen Van Brempt	kvanbrempt	2	14538
Tinne Van der Straeten	TinneVdS	5	14524
Sander Loones	SanderLoones	3	13245
Barbara Pas	Barbara_Pas	1	12497
Hendrik Bogaert	hendrikbogaert	12	12383
Els Ampe	ElsAmpe	3	11456
Chris Janssens	chrisjanssensVB	3	9459
Jos D'Haese	JosDHaese	1	9075
Filip Watteeuw	filipwatteeuw	2	8709
Lorin Parys	lorinparys123	6	8449
Björn Rzoska	BjornRzoska	3	7644
Aurélie Czekalski	aurelieczeka	2	7073
Zakia Khattabi	KhattabiZakia	2	7046
Ben Segers	SegersBen	1	6874

Piet De Zaeger	PietDeZaeger	5	6614
David Clarnival	DavidClarinval	1	6595
Hilde Vautmans	hildevautmans	1	6499
Anneleen Van Bossuyt	anneleen_vb	2	6222
Servais Verherstraeten	ServaisV	3	5922
Bert Anciaux	bertanciaux	6	5784
Maurits Vande Reyde	Mauritsvdr	2	5723
Karl Vanlouwe	KarlVanlouwe	6	5678
Bert Wollants	BertWollants	39	5402
Koen Daniels	koendaniels	12	5176
Sophie De Wit	DeWitSophie	10	5061
Jasper Pillen	JasperPillen	14	4906
Lies Corneillie	liescorneillie	3	4804
Peter Van Rompuy	Petervanrompuy	2	4799
Gilles Vanden Burre	GillesVdBurre	3	4723
Bogdan Vanden Berghe	bogdanvdberghe	5	3790
Jeremie Vaneeckhout	JeremieVaneeckh	6	3719
Robrecht Bothuyne	RobrechtB	19	3711
Melissa Depraetere	MelissaDepr	1	3545
Stephanie D'Hose	stephaniedhose	2	3527
Sofie Merckx	Sofie_Merckx	3	3513
Hannelore Goeman	HanneloreGoeman	2	3454
Andries Gryffroy	gryffroy	6	3404
David Pestieau	davidpestieau	2	3381
Christian Leysen	ChristianLeysen	16	3289
Mieke Schauvliege	miekeschauv	4	2814

Appendix C: Intercoder Reliabilities

Table C 1
Intercoder reliabilities

Section	Variables	Comments	Cohen's kappa	Number of times disagreed
Metadata	Tweet ID			
	Date			
	Url			
	Sentiment			
	Type			
	Discussion Length			
	Author			
	Political Party			
	#Followers			
	Influence			
	Tweet Text			
	Relevance		1.00	0
Mention of war	Mention Of War		0.75	2
Attitude towards nuclear	Attitude		0.91	1
Frames	1-8		0.83	3

Appendix D: Verklaring op eer

Verklaring op Eer

Ik, ondergetekende, aanvaard de volgende voorwaarden en bepalingen van deze verklaring:

In het kader van het uitvoeren van mijn masterproef aan de Universiteit Antwerpen (UAntwerpen) binnen de faculteit Sociale Wetenschappen, zal ik toegang krijgen tot (technische en andere) informatie van UAntwerpen en/of derde partijen, in geschreven, elektronische, mondelinge, visuele of eender welke andere vorm, met inbegrip van (maar niet beperkt tot) documenten, kennis, data, tekeningen, foto's, filmmateriaal, modellen en materialen. Deze informatie wordt gezamenlijk met informatie voortkomend uit het door mij uitgevoerde onderzoek beschouwd als 'Vertrouwelijke Informatie'.

Ik zal de Vertrouwelijke Informatie uitsluitend aanwenden voor het uitvoeren van het onderzoek in kader van mijn studies binnen UAntwerpen. Ik zal:

a) de Vertrouwelijke Informatie voor geen enkele andere doelstelling gebruiken;

b) de Vertrouwelijke Informatie niet zonder voorafgaande schriftelijke toestemming van UAntwerpen op directe of indirecte wijze publiek maken of aan derden bekendmaken.

c) De Vertrouwelijke Informatie noch geheel noch gedeeltelijk reproduceren.

Voor de uitvoering van mijn werk verbind ik mij ertoe om alle onderzoeksdata en ideeën niet vrij te geven tenzij met uitdrukkelijke toestemming van mijn promotor(en).

Na de beëindiging van mijn masterproef zal ik alle verkregen Vertrouwelijke Informatie en kopieën daarvan, die nog in mijn bezit zouden zijn, aan UAntwerpen terugbezorgen.

Naam: Aline Janssens

Adres: Poorthoflaan 55 2180 Ekeren

Geboortedatum en –plaats :   26/06/1988 Antwerpen

Datum: 05/06/2023