

Chapter 27: Talking Points: Narrative Strategies to Promote Nuclear Power in Turkey

Avino Niphi¹ and M. V. Ramana²

¹Indian Institute of Technology, Madras & ²University of British Columbia, Vancouver

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1. Introduction

Akkuyu, on the southern coast of Turkey, is the site of a massive construction project. Starting in April 2018, the Russian state-owned company Rosatom has been building a series of nuclear reactors. The site has a long history. Akkuyu was selected in 1976 to host a nuclear power plant, in the second of six attempts to introduce nuclear power to Turkey [1,2].

Turkey's nuclear ambitions go back to at least 1955, when the country became the first to conclude an agreement for cooperation with the United States under the Atoms for Peace program [3]. Earlier attempts to start nuclear power generation in Turkey were unsuccessful, until the Justice and Development Party (AKP) consolidated political power. However, a small research reactor called TR-1 was built by a U.S. company called American Machine and Foundry between 1959 and 1962 [4]. This reactor has been shut down but Turkey continues to operate two research reactors that started functioning in 1979 and 1982.

Despite this long-standing interest, there are good reasons for Turkey to not proceed with nuclear construction. The Akkuyu site is located in a seismically active region [5], and could be vulnerable to Tsunamis [6], raising the possibility of a severe nuclear accident. For decades, there has been strong opposition to nuclear reactor construction at Akkuyu and elsewhere [4,7]. Multiple surveys have shown very high percentages of citizens being opposed to nuclear power [8–12]. In contrast, there are high levels of support for solar and wind energy (somewhat analogous to the case in Japan as discussed by Setsuko Matsuzawa [73]).

There have also been problems with the construction of the plant [13], which has led to concerns in neighbouring countries [14]. In 2015, the Chamber of Turkish Engineers and Architects (TMMOB) sued the Environment Ministry when the latter approved the environmental report on Akkuyu [15], and has shown that electricity from the plant will be much more expensive than alternatives [16].

Given this opposition and the multiple problems associated with nuclear power, how does the current government publicly justify continuing with its nuclear program? We outline the discursive elements at play in the Turkish government's promotion of a pro-nuclear agenda. The narrative strategies utilized involve over-estimating Turkey's energy demand and positing nuclear power as the main solution; downplaying the risks associated with nuclear energy; discrediting renewables and belittling their capacity; highlighting nuclear power as a marker of Turkey's strength and prestige; and promising jobs and opportunities. While many of these are demonstrably wrong, such narratives have implications for material investments in infrastructure and energy policy, and pose environmental and financial risks.

2. Discursive Elements

There is a long history of discursive strategies being used to justify the inclusion and prioritization of nuclear energy in Turkey's energy mix [17,18]. The use of such strategies to promote nuclear power is by no means restricted to Turkey [19–22], and they are effective in gaining support from elites in different countries for nuclear power. Below we outline some of the key themes utilized in Turkey.

2.1 Scarcity and growth

Turkey's efforts to build nuclear power plants, going back to the 1960s, have involved a staple argument: Turkey's growing energy needs cannot be met without nuclear power. A study from that period carried out by the Nuclear Energy Institute of the Technical University of Istanbul, on behalf of the Electric Power Resources and Survey Administration concluded that "after 1982 national energy resources would be insufficient for the supply of rapidly increasing electricity demand, and the first nuclear power plant should start operating in 1977" [23]. By the 1970s, Turkey featured in market surveys for nuclear power plants carried out by the International Atomic Energy Agency and one such survey projected Turkey having between 1200 MW and 3200 MW of nuclear capacity by 1989 [24].

These projections for nuclear power did not materialize, nor did Turkey run out of energy. Nevertheless, the same trope continues to figure prominently in arguments for nuclear power. In 2000, for example, the Turkish Electricity Generation-Transmission Corporation projected that "Total electrical energy consumption...is estimated to reach 200 billion kWh in 2005, 290 billion kWh in 2010, and 547 billion kWh in 2020...Nuclear energy is therefore necessary for the diversification of Turkey's electric power resources" [25].

Writing in 2020, it is evident that nuclear energy was unnecessary and the prediction for energy demand utilized to argue for nuclear power was grossly inaccurate: Turkey's electricity consumption in 2019 was 272 billion kWh [26], half of what was expected in 2000. In other words, the projection used to justify the acquisition of nuclear power was wrong by 100 percent. That these inflated projections of energy demand and nuclear power capacities don't ever seem to materialize seems to be unimportant to advocates, who continue to invoke the notion of scarcity to justify the acquisition of nuclear power.

The pattern of arguing for nuclear power on the basis of exaggerated projections of future energy demand continues. In April 2018, while speaking at the ground breaking ceremony of the first power unit of the Akkuyu Nuclear Power Plant, President Recep Tayyip Erdoğan stated:

"The Turkish economy has been growing by 5.8 percent on average from 2003 to 2017. In 2017, our economy grew by 7.4 percent. By 2023, when we celebrate the 100th anniversary of our country as a republic, we have set ourselves the task of becoming one of the top 10 largest economies in the world. This means we will need more energy – oil and natural gas, as well as renewable energy sources. Over the past 15 years, we have carried out previously unthinkable major projects...This nuclear power plant is of great importance for our future in this regard" [27].

Note how energy is posited as a significant anchor for this vision of rapid growth and development, to the exclusion of many other elements.

The argument offered by nuclear advocates is simple – nuclear power is an absolute necessity if Turkey is not to run out of energy – even though, as we have shown, these demand projections typically do not hold in reality.

2.2 Modernity and recognition

Officials often portray nuclear power as a marker of modernity or development, allowing others to see Turkey as a great power. Conversely, lack of nuclear power is seen as indicating an inferior status. Thus, in 2015, at one of the launch functions for the Akkuyu plant, Turkish Energy Minister Taner Yıldız proclaimed, “Development cannot take place in a country without nuclear energy” [28]. And in 2007, a AKP parliament member Mustafa Ozturk stated:

“Nuclear power plants reflect the strength, the level of development, and the prestige of a country. We have been late for 40 years in shifting to nuclear technology, thus, we have to be successful in bringing this high-tech to our country” [17].

Nuclear power has also played into President Erdoğan’s attempts at positioning himself as the leader of a great state. While talking about Turkey, he consistently draws upon Turkey’s Ottoman legacy and uses phrases such as “thousands of years old state experience”, “magnificent civilizational history” and “a-thousand-year-long dominance in its region” [29]. Nuclear power has been roped into this portrayal. In recent years, this has in large part been through including nuclear plants into Turkey’s Vision 2023. Vision 2023 is a set of goals laid out for the centennial of the formation of the Turkish Republic. The leading goal is to make Turkey into one of the top 10 economies in the world.

The linkage between nuclear power and the occasion in Turkey’s history was made clear by President Erdoğan while speaking at the ground breaking ceremony of the first power unit of the Akkuyu Nuclear Power Plant: “In 2023, we will commission the first reactor at this plant, and Turkey will thus join the countries that use atomic energy. In 2023, we will mark the 100th anniversary of our republic with the successful completion of this project” [27]. Note also the invocation of “countries that use atomic energy” as a special category and the implicit celebration of Turkey joining that group.

As with the narrative around scarcity and growth, proponents of Vision 2023 posit a requirement for a large increase in the amount of energy used by Turkey (for example, [30]) and position nuclear power as a major element in this growth. Because nuclear power projects are, by their nature, designed to produce large amounts of electricity, they fit well within this picture.

This “mega” nature of nuclear power also ties into the Vision 2023 narrative. The Investment Office of the Presidency of the Republic of Turkey states that “mega projects” are what are going to “propel the country towards 2023 targets” and the pride of place on that list of mega projects goes to the Akkuyu nuclear plant [31]. Such “mega projects” have “provided an effective avenue for building patronage networks... [and] served to fulfill Erdogan’s promises of a new and powerful Turkey reminiscent of the golden days of the Ottoman imperial era” [32].

Nuclear projects have been financed using different arrangements. The Akkuyu Nuclear Power Plant, on the other hand, uses a build-own-operate (BOO) model where Russia’s state-owned Rosatom finances the construction but has an agreement to sell 50 percent of the power produced at a guaranteed price, with the rest sold on the electricity market. The proposed Sinop Nuclear Power Plant in northern Turkey, on the other hand, was to be funded through a mixture of capital from France and Japan and Turkey’s state-run power producer Elektrik Üretim AŞ. Such financing mechanisms were partly due to the country’s economy being restructured along neoliberal lines, allowing private investments to flow into public undertakings, including energy related mega projects, and extracting profits.

During the early years of Akkuyu’s construction, there was the hope that the plant would be ready well ahead of time as would be the ones at the Sinop and at the İğneada sites. Thus, in 2015, the

government projected, as part of Vision 2023, “Turkey plans to have three operational nuclear power plants by 2023” [31].

As of 2020, it is unlikely that even the first unit of Akkuyu will be generating electricity by 2023 [33]. An agreement between the governments of Turkey and Japan to construct a nuclear plant at Sinop has fallen through, largely for financial reasons, as have efforts to find a builder for the İğneada site. However, in what can be best described as a farce, the environmental impact assessment process for the Sinop site is moving forward *without* a reference reactor [34].

2.3 Environmental desirability

Official discourse about nuclear energy in Turkey also justifies it on environmental grounds, especially by invoking the climate crisis. This idea is illustrated by President Erdoğan’s remarks at the ground-breaking ceremony of the Akkuyu nuclear plant: “Nuclear power plants do not emit carbon dioxide; they produce clean and environmentally safe energy. This nuclear power plant will...play a big role in combating climate change” [27]. Opponents of nuclear power in Turkey and elsewhere reject this framing [18,35]. Nevertheless, framing nuclear energy as an alternative to fossil fuels has been an important discursive strategy [25,36].

Alongside promoting nuclear energy, officials often belittle renewable energy sources. For instance, Party officials often cite how Turkey’s great economic goals until 2023 cannot be met with renewables alone [17,37]. Energy Minister Taner Yıldız argued: “They ask why there is no investment in solar energy or wind energy? This is because when the wind does not blow or the sun does not shine you cannot produce energy. This is what we call energy diversification” [38].

These statements frame intermittency in renewable fuel supply as undesirable and pass off renewables as not adequate to Turkey’s increased energy demands. Despite a fairly rapid increase in the capacity of wind and solar energy sources in Turkey [39], government policies have often favoured and publicly legitimized large, established and centralized technologies [40]. Once again, this is not unique to Turkey, and there is a long history of renewables being dismissed as unreliable [41,42].

2.4 Job creation

Advocates for nuclear power also emphasize the project’s potential for job creation. For example, in 2017, Energy and Natural Resources Ministry Undersecretary, Fatih Dönmez told Turkish pro-government Sabah newspaper that “About 10,000 people will be employed while the Akkuyu NPP’s construction is most intensive, and about 3,500 jobs will be provided during operation. The majority will consist of Turkish citizens” [43]. These jobs are framed as desirable, by highlighting the technical training involved. President Erdoğan articulated this during the ground-breaking ceremony for the Akkuyu project: “This experience will undoubtedly lead to a greater number of employees with innovative skill sets. Importantly, hundreds of our students are currently studying at Russian universities. They will return home upon completion of their studies and start working here” [27]. In June 2018, during a social media broadcast, President Erdoğan again brought up the nearly 300 students who have been sent to Russia for nuclear education and announced plans to send students to France, Japan and China as well [44].

For their part, Rosatom officials paint a picture of Turkey becoming involved in the global nuclear export business by promising “Thousands of professionals will be involved in the Akkuyu Nuclear Power Plant project in Turkey and Turkish companies will gain relevant experience to participate in tenders for the construction of nuclear power plants in different countries” [45].

2.5 Downplaying risk

Alongside these positive framings of nuclear power has been the official downplaying of risks attached to nuclear power. The risk that is of greatest concern to groups in Turkey is that of severe accidents [35], such as the ones in Chernobyl in 1986 or Fukushima in 2011. The likelihood of such accidents is increased by the construction of the Akkuyu nuclear power plant in close proximity to an area prone to earthquakes [25,46]. The Akkuyu project has also drawn criticism from its neighbours, particularly Cyprus and Greece, and from the European Parliament [47]. The transboundary risks of nuclear power have been widely acknowledged since the Chernobyl accident.

Turkey's government has downplayed these risks, often by using inapplicable examples. For instance, dismissing public concerns following Fukushima, President Erdoğan said, "In that case, let's not bring gas canisters to our homes, let's not install natural gas, let's not stream crude oil through our country" [48]. Likewise, in 2017, the Minister for Energy and Natural Resources tried to trivialize the risks to health by claiming that the "amount of radiation one can absorb from an x-ray machine exceeds by far the amount of radiation that one will receive by living nearby a plant for one year" [49].

Such tendencies are not unique to Turkey, and there is a long history of dismissing concerns about the safety of nuclear plants or the risks of radiation [50–52].

3. Hidden factors?

A number of other factors might also play into the decision to build nuclear power in Turkey.

3.1 Domestic capital

Although nuclear power production has been a long-standing goal of successive Turkish governments, what is different between these early attempts and today is the virtual domination of the Justice and Development Party (AKP) in domestic politics and the advent of neoliberalism. The AKP "committed itself to the liberalization of the energy sector and diversification of energy resources, including the use of nuclear power" [17], and this strategy has led to a massive accumulation of capital within the energy sector. Alongside finance and manufacturing, energy has consistently emerged as the highest foreign direct investment attracting sector in the Turkey [53].

The high cost of Akkuyu and other nuclear plants (preliminary estimates of more than \$20 billion) means that if even a fraction of this money were to flow to Turkish companies, it could result in great profits. And some companies have signed up contracts with Rosatom to provide services [27,54]. It is not a wonder, therefore, that big capital groups such as the Turkish Industry and Business Association (TUSIAD) and the Independent Industrialists and Businessmen's Association (MUSIAD) have strongly promoted nuclear energy [17,55]. There is also the possibility of corruption [56].

3.2 A possible weapons program?

Outside of Turkey, a common narrative has been to link the country's interest in nuclear power with a desire to acquire nuclear weapons (see for example [57–59]). This view is supported, at least in part, by various official statements. In September 2019, President Erdoğan's stated: "Some countries have missiles with nuclear warheads, not one or two. But (they tell us) we can't have them. This, I cannot accept... There is no developed nation in the world that doesn't have them" [60]. Likewise, at a speech in the same year at the United Nations General Assembly, he said "Nuclear [military] power should be forbidden for all or should be permissible for all" [61].

Such oblique statements notwithstanding, there is no evidence that Turkey is involved in acquiring nuclear weapons. However, the linkage between nuclear weapons and nuclear energy is a bonus, a positive argument, for groups supporting nuclear energy. There are many instances of this linkage being used to lobby for state support of nuclear energy programs in countries like the United States [62,63], and the United Kingdom [64]. While unlikely to be publicly articulated, the potential for nuclear energy infrastructure to be useful to acquiring nuclear weapons might well be an argument used within domestic policy circles.

4. Conclusion

The philosopher Randall Marlin defined propaganda as “the organized attempt through communication to affect belief or action or inculcate attitudes in a large audience in ways that circumvent or suppress an individual’s adequately informed, rational, reflective judgment” [65]. The narrative strategies underlying Turkey’s nuclear program illustrate such an attempt to affect public attitudes about nuclear technology.

An informed observer, on the other hand, would see that these narrative elements, for the most part, do not really have any basis in historical or contemporary fact. Projections for energy demand growth, and especially, the rate of nuclear power growth are unlikely to materialize, just as in the past. Many “modern countries” have no nuclear power plants or are phasing them out. Renewable energy sources such as wind and solar are much cheaper than nuclear power [33,66], and an important 2018 study from Sabancı University showed that a much larger capacity of renewables can be incorporated into the Turkish electricity grid with modest investments and planning [67]. Academic studies have also shown that renewables provide much greater number of jobs per unit of installed capacity than nuclear power [68]. And, finally, it is not possible to credibly and definitively assure the safety of nuclear plants [69,70]. All told, a nuclear-powered future will impose a high financial cost and is vulnerable to multiple safety risks and potential impacts on public health and the environment.

Democracy, too, has been a casualty in the quest for nuclear energy. Construction of the Akkuyu nuclear plant has gone on despite widespread opposition to nuclear power [4,7,11,9,10,8]. At Akkuyu, there was no public consultation during the decision-making process or policy implementation phase for the power plant [35]. Likewise, non-governmental organizations from Sinop were prevented from attending the Review and Evaluation Commission meeting held in Ankara for the nuclear plants to be built in Sinop [34]. What is happening in the nuclear sector is illustrative of what is happening in Turkey in general, but nuclear power plants have the “potential to adversely affect” large areas, perhaps even outside Turkey, “in the event of a disaster” [71].

Turkey’s plans for nuclear power are a manifestation of authoritarian energy governance described by Alevgül Şorman and Ethemcan Turhan [72], and the antithesis of the “energy as commons” approach recommended by Joohee Lee, John Byrne, and Jeongseok Seo [74]. Because of the overwhelming political power of the AKP government, there is little doubt that the nuclear program will proceed despite democratic opposition, albeit nowhere near as fast as the authorities might want. In the meanwhile, we are left with the question that political theorist Langdon Winner raised decades ago: “as society adapts to the more dangerous and apparently indelible features of nuclear power, what will be the long-range toll in human freedom?” [75].

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