

ENV007 Adventures in the Environment
Dr. Lisa Simpson; TA Kermit T. Frog

Memorandum for President Erdoğan

Date: November 18th, 2019
From: A. Student 123456789
Special Climate Change Envoy
Subject: Restoring Turkey's reputation through
mitigating energy production impacts on climate change

Issue

President Erdoğan: next year's G20 summit in Riyadh will mark the five-year anniversary of the first and only summit hosted by Turkey. Ahead of this, it is imperative that you review the progress of the environmental pledges we made in Ankara in 2015. You must then determine additional short- and long-term public environmental ambitions in preparation of the summit and the 2020 UN Climate Change Conference. Given our nation's increasing air pollution, this report will outline a recommended course of corrective action, the funds and tools required to implement these recommendations, and an analysis on how these will improve your current domestic and international standing. Critically, if Turkey makes a strong public commitment to environmental and social issues on these fronts, we will earn a much-needed lifeline in our negotiations of accession to the European Union. Additionally, decisive action provides the perfect opportunity to ease the tumultuous impacts of last year's domestic financial crisis and mend your party's public reputation among Turkish citizens.

Background

Air pollution is Turkey's most pressing environmental concern: nearly 50,000 Turkish people died in 2018 from air pollution-related illnesses, while 45 of our 81 provinces — including Ankara and Istanbul — breathe polluted air. Beyond this, average national temperatures are expected to increase between 5 and 10°C by the end of the century. Nationwide coal production is a key contributor to air pollution and temperature change. It accounts for over one-third of our greenhouse gas (GHG) emissions and we hold the unwelcome distinction of having Europe's two most dangerous power plants, both of which are coal-fired. We provide over ₺947 million (\$276 million USD) in fiscal support and subsidies for the coal sector annually. We are a

signatory to the Convention on Biological Diversity and, as per Aichi Target 3, we have made a commitment to phasing out coal subsidies by 2020.

With respect to energy production, coal accounts for 37% of our total, natural gas is 30%, hydropower is 20%, and other renewable energies comprise the remaining 13%. However, as Ministers Fatih Dönmez and Veysel Eroğlu have previously briefed you, our hydropower sector's output is at risk of decreasing due to more frequent droughts. Additionally, despite our ability to meet own energy needs, our flexible import restrictions mean that we spent ₺246 billion (\$43 billion USD) on energy imports in 2018, which accounted for 19.2% of total import expenditure. This coincided with the financial crisis, a drop in your government's popularity, and large gains by the Republican People's Party and the İyi Party in this year's local elections. Over 99% of our population has access to energy, although displaced persons' access is limited. At this year's G20 summit in Osaka, Minister Dönmez stressed the importance of "continuity, follow up, and monitoring." This built upon our leadership and commitment to advocating and supporting global energy access talks during the Ankara 2015 summit.

Considerations

President Erdoğan: the below considerations are designed to ultimately achieve three ambitions:

- **Restore local goodwill and trust amid political unrest.**
- **Progress negotiations of accession to the European Union.**
- **Protect and safeguard the health of citizens and displaced persons in Turkey.**

Reduce coal reliance

As Turkey already produces excess energy for our own needs, you must issue an official memo blocking any newly submitted permits for coal-fired plants until 2023 at minimum, effective immediately. Renewable energy is a cheaper alternative to ensuring energy security than more coal plants. The ₺9.8 billion (\$1.7 billion USD) Chinese-funded coal plant currently being constructed in the Yumurtalik biodiversity protection zone is causing unwelcome uproar among citizens and the press and this must be the last example of negligent energy policy and governance. The energy this plant is set to produce will be exported since it is not needed within Turkey, even in worst-case projections of hydropower reductions due to possible drought. Additionally, in these worst-case drought scenarios, water shortages greatly diminish operating efficiency and reliability of coal plants since large volumes of water are needed to both ensure

safety and to process and clean coal. The government's profit margins from any new coal plants will be lower than those of solar and wind energy, particularly owing to our expenditure on coal subsidies.

Aside from reductions to subsidies for new coal plants, the remainder of our coal subsidization should remain constant relative to reduced output. Other G20 nations are continuing to increase their own coal subsidies, so our minor reductions will be considered a monumental victory. While failure to completely phase out subsidies means we will fail Aichi Target 3, maintaining them will soften the short-term economic burden placed on consumers. Finally, you must implement a local carbon trading system for coal emissions. Saudi Arabia recently announced its own carbon trading scheme and, given the similarities in the sizes of our economies, GDPs, and geographical locations, we must follow suit. This will be an invaluable boon to our standing during the G20 summit in their capital.

Implement solar and wind energy infrastructure

To effectively increase our energy security and export profits, we must vastly add to our solar and wind power infrastructure. The OECD has rightfully criticized us for failing to take advantage of renewable energy potential and relying too heavily on imported energy. In particular, climatic conditions in our nation's south are ideal for solar panel infrastructure, particularly in semi-desert provinces such as Şırnak, which have low population densities and plenty of space. Our silicon mines in Niğde mean that we can internalize the production of solar panels, making them cheaper than importing from Chinese firms, which dominate the market. Solar panels using our silicon have an efficiency rate of 23.5%, which exceeds the average 17.5% market efficiency. Turkish solar power capacity is set to increase to 6 gigawatts by 2026.

We have 170 wind farms in Turkey, which provide a power capacity of 7.4 gigawatts. This makes us one of the top wind energy producers in Europe, and continuing to expand this trend will cement our position as renewable energy leaders. Due to public and private sector incentives, investments in our wind energy sector totaled ₺3.8 billion (\$650 million USD) in 2018. Climatic conditions in the west and north west of Turkey are very windy, due in part to southwesterly winds and wind from the Mediterranean and Aegean Seas. Constructing and improving wind infrastructure in these regions would allow us to capitalize on the windy temperatures and improve livelihoods in nearby coastal towns by reducing the impact of strong winds.

With a £2.5 billion (\$430 million USD) investment in solar and wind grid improvements, these energies can reach 40 gigawatts by 2026, compared to current projections of 14 gigawatts. Financing from wind investments, carbon trading schemes, and reducing energy imports make this a highly feasible minimum target for Turkey. This increase will also more than compensate for losses from coal energy reductions. Costs for retraining coal workers to solar or wind will be negligible, meaning unemployment will not drastically increase. If approved by December, this investment in solar and wind energy will begin increasing national energy production within a year, and increase incrementally year-on-year. By 2023, this would provide a reliable benchmark to confirm actual growth against projections. Domestically, the sooner Turkey is able to implement these, the more likely we are to maintain the non-polluted air in 36 provinces. Further, we can ensure our rich tourism sector does not suffer from air pollution like New Delhi is. Overall, reducing reliance on coal and increasing renewable energy use will curb air pollution increases.

Reduce coal and fossil fuel imports

Turkey must also amend our import policy for coal and fossil fuels by establishing and enforcing stricter limits. Given our current turbulent financial standing, our ability to self-produce excess energy, and greater provisions from the above considerations, our expenditure on coal and fossil fuel imports is illogical. It ignores both the potential of renewable energy and your responsibility to protect Turkish citizens' wellbeing. Additionally, you have regularly stated your desire to ease import reliance on Russia, so gradually reducing our annual £75.5 billion (\$13.1 billion USD) expenditure on Russian coal and fossil fuels — which account for 59% of our imports from Russia— is a practical solution of achieving this. Our relationship with Russia will likely not worsen, thanks to your successful improvement of political ties with President Vladimir Putin in recent years. Turkey should aim to maintain total 2019 energy import expenditure in 2020 before incrementally decreasing this total value year-on-year until 2026.

Recommendations

- Immediately block granting of permits for new coal-fired plants until at least 2023.
- Establish carbon trading scheme for coal and fossil fuel plants ASAP.
- Invest at least £2.5 billion (\$430 million USD) in solar and wind energy.
- Reduce coal and fossil fuel imports gradually until 2026.