

# Iran's measures to fight air pollution



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## PERSPECTIVE

Upon the approval of Iran's Clean Air Law in 2017, hopes were high that the era of polluted skies and smoggy cities would become a thing of the past. Many envisioned a future where blue skies and clean air would become the norm, eliminating the need to long for fresh air. Yet, seven years later, air pollution remains a pressing issue for major cities like Tehran, as grey skies persist despite regulatory efforts.

While the Clean Air Law's approval seemed promising, its implementation has encountered stumbling blocks, such as coordination challenges among multiple governing bodies and inadequate funding. As a result, the law has yet to significantly mitigate the detrimental effects of air pollution. Despite these hurdles, the current administration is forging ahead with critical measures aimed at alleviating the situation, though progress is gradual.

In recent years, the government has enforced various strategies to curb air pollution, including requiring domestic automakers to provide scrapping authorization for old vehicles, promoting cleaner energy sources, and enhancing emission standards for vehicles and fuel types. Additional initiatives include formulating national fuel standards, integrating the Clean Air Law into budgetary considerations, and crafting a comprehensive climate change management plan.

Darioush Gol-Alizadeh, the head of the National Weather and Climate Change Center which operates under Iran's Department of Environment, sheds light on the government's ongoing endeavors to fulfill its commitment to enhancing air quality and boosting the number of healthy days. Although challenges remain, the administration's continued focus on this vital issue signals a de-



A dog walks over the Aradkooh landfill in Tehran Province, Iran, looking for food.  
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termination to bring about a positive change and ensure cleaner air for Iranian citizens.

### Mandating carmakers to provide scrapping permits

Under the current administration, considerable efforts have been devoted to upholding the Clean Air Law, with a particular focus on reducing air pollution in affected cities. A significant discussion point is the requirement for domestic car manufacturers to present scrapping permits to decommission used vehicles, as outlined in Article 10 of the Automobile Industry Organization Law. As this regulation takes effect, a substantial opportunity arises for modernizing public transportation fleets, particularly in metropolises such as Tehran. With local car manufacturers supplying the necessary resources, Tehran's aging taxi fleet, consisting of vehicles over 12 years old, can be renovated within two years while minimizing reliance on government funds. Article 10 ensures that a portion of the cost will be covered by the scrapping permit obtained from the previous vehicle owner.

Iran currently faces an urgent need to address its vehicle emissions, as approximately 37 million vehicles are in

operation nationwide, including 25 million cars and 12 million registered motorcycles. Among these, 6.5 million cars have surpassed their expected lifespan, while nearly 90% of motorcycles are either carbureted or in a state of disrepair. In Tehran alone, approximately 60% of air pollution stems from traffic, with older vehicles playing a significant role. Motorcycles emit up to 12 times more pollutants than passenger cars, making the removal of worn-out vehicles a critical priority.

Stressing the significance of Article 10 in the Automobile Industry Organization Law, it has been highlighted that the legislation was approved by parliament and enacted two years ago. This law prohibits the operation of worn-out vehicles for transporting goods and passengers in metropolitan areas. One of the clauses mandates that 25% of newly registered vehicles must involve scrapping an older vehicle, ensuring that one worn-out vehicle is removed for every four new vehicles registered. This measure is expected to considerably impact both the reduction of air pollution and the removal of aging vehicles from the roads.

Despite the importance of public transportation in improving air quality, efforts to replace worn-out vehicles

and revamp the public transport system have been insufficient in the past. While progress is being made, it is crucial to expedite the renovation process. Last year, about 70,000 used cars were scrapped, a notable increase from the 20,800 scrapped the previous year, indicating that efforts are moving in the right direction.

### Cutting down on fossil fuel dependence

A key concern for the current administration is the reduction of reliance on fossil fuels through renewable energy development for power generation. Article 19 of the Clean Air Law mandates that the Ministry of Energy allocate 30% of annual electricity expansion to renewables. However, this target has yet to be met, with renewable energy accounting for less than 1% of the nation's energy mix. Despite the slow progress, promising programs initiated by the Ministry of Energy have begun to make strides. These programs aim to add 10,000 megawatts of renewable energy to the country's energy capacity by next year's end, demonstrating that renewable energy development is no longer optional but necessary.

Expanding renewable energy sources is essential for meeting the nation's electricity needs and fostering sustainable growth in public transportation. As current public transport policies prioritize hybrid and electric vehicles, it is crucial to embrace renewable energy to power these initiatives.

### Boosting vehicle, fuel standards

Another critical aspect under focus is the enhancement of emission standards for all types of vehicles. Progress has been made, with domestically manufactured cars now meeting Euro 5 standards, and imported cars adhering to Euro 5 and 6. Moreover, the production of carbureted motorcycles has been halted, and they are no longer licensed for use.

Recognizing the link between fuel quality and air pollution, efforts have been directed towards refining all fuel types. Notably, Euro 5 diesel is now produced at the Isfahan Refinery, with a low sulfur content of about 10 parts per million (PPM). Daily diesel production stands at 114 million liters, meeting Euro 4 and 5 standards. However, gasoline con-

sumption remains a concern as daily production reaches 108 million liters of Euro 4 and 5 gasoline, necessitating improved nationwide fuel standards.

Approximately 30% of gasoline produced meets Euro 4 and 5 standards, while the remainder consists of standard production gasoline. To optimize air quality, aligning fuel and vehicle compatibility is essential. The large number of aging vehicles necessitates renovation as they contribute to high fuel consumption and highlight the pressing need to bolster public transportation.

Investing in both surface-level and underground public transport options, particularly the metro, can significantly reduce private car usage. Although Tehran's current bus fleet requires expansion, ground-level infrastructure has limitations. As such, prioritizing metro development will effectively combat air pollution while circumventing surface-level constraints.

### Rolling out fuel quality plans in refineries

Previously, a unified national standard for various fuels, including gasoline, gas oil, and fuel oil, was lacking. This gap was addressed under the current administration, leading to the establishment of an improved fuel oil standard. Sulfur content was reduced from 3.5% by volume weight (equivalent to 35,000 ppm) to 0.8%. Although not yet in production, the Ministry of Petroleum's plan aims to bring all domestically produced fuels up to national standards by March 2028 through refinery upgrades. Several refineries, such as those in Isfahan, Shiraz, and Tabriz, have received approval from the Board of Ministers for these upgrades. However, certain considerations must be addressed before granting permission for project implementation. The Isfahan Refinery, in particular, has been greenlit for 50 artificial intelligence projects, signaling a commitment to modernizing and improving operations.

### Allocating funds for Clean Air Law

One significant accomplishment of the current administration is the allocation of funds specifically for implementing the Clean Air Law in the national budget. This precedent-setting move provides financial support for address-



A man looks at the polluted sky of the Iranian capital of Tehran.  
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