# Carbon pricing could help Iran reduce greenhouse gas emission: *Expert*

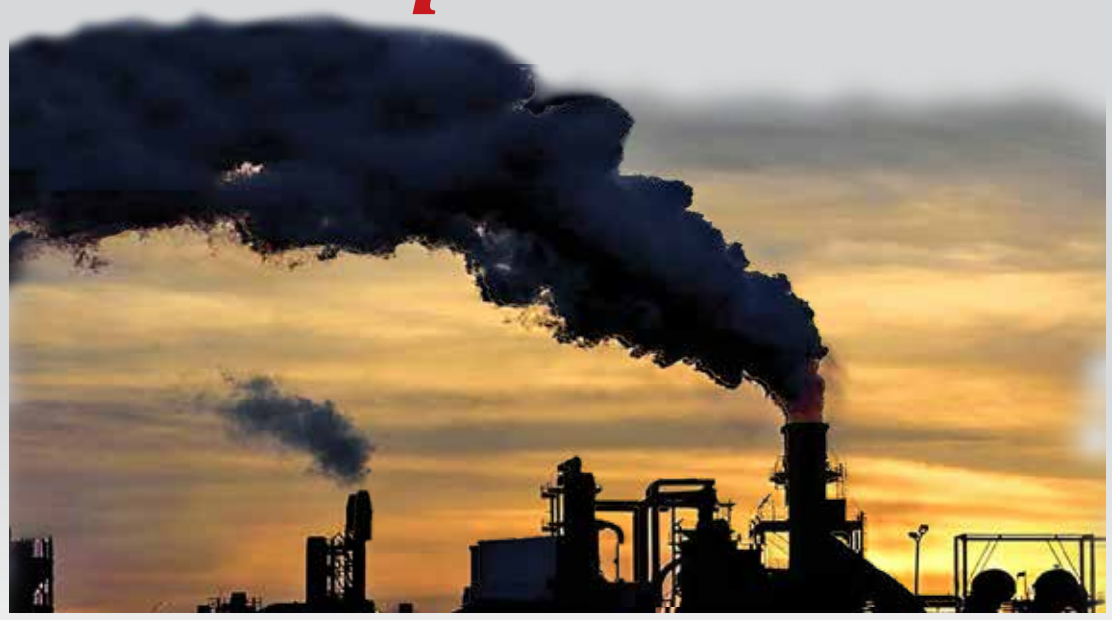
Social Desk

***In the past few decades, the surge in greenhouse gas emissions has triggered noticeable changes in our planet's climate. These changes have now emerged as one of the most pressing global challenges, as they pose severe threats to human life and the environment all over the globe.***

***Greenhouse gases are a collection of gases that trap heat within the Earth's atmosphere. The primary gases in this group are carbon dioxide, ozone, water vapor, and methane. Certain human activities, such as the burning of fossil fuels like oil and coal, industrial processes, transportation, and agricultural practices, contribute to the growing presence of these gases in our atmosphere.***

***Our country stands as a significant energy consumer and one of the leading contributors to global greenhouse gas emissions. According to Dariush Gol'alizadeh, director of the National Center for Weather and Climate Change at the Department of the Environment (DoE), our country witnessed an upward trajectory in greenhouse gas emissions from 1994 to 2010. This worrisome situation is further compounded by the continuous growth in both population and energy consumption, which are key contributing factors.***

***Iran is first in global energy intensity and ranks sixth in terms of carbon emissions. Also, when it comes to per capita emissions, we find ourselves positioned at the ninth spot worldwide. This situation calls for attention and action to address our carbon footprint and strive for a more favorable standing.***



## An ailing environment

In an online meeting titled 'Climate Change, Industries, and Greenhouse Gas Emission Policy in Iran,' Gol'alizadeh addressed the issue of climate change in Iran. He highlighted that while people may not fully comprehend the causes of climate change, they are experiencing its impacts in their daily lives.

"For instance, mismanagement and a lack of timely action have rendered forests in the northern part of the country less effective in preventing floods and soil erosion, despite their crucial role," he said.

Despite setting a target to reduce our current energy consumption levels by half by the end of the Sixth Development Plan, we have unfortunately fallen short of achieving this goal. Over the course of the Fourth to Seventh Development Plans, the country established various environmental objectives. The 20-Year Vision Document aimed to create a favorable environment by 2025. However, our current trajectory is leading us in a different direction, resulting in an unsatisfactory state of the environment.

## Challenges abound

Climate change in our country presents numerous challenges, as emphasized by Gol'alizadeh. One significant hurdle is the absence of a cohesive database concerning the sources and quantities of greenhouse gas emissions.

"Regrettably, climate change has not received adequate attention in our nation's Development Plans and policies. Furthermore, our macro plans and policies have yet to adapt to the realities of climate change," he said, adding, "Compounding these difficulties, the imposition of sanctions and limited access to technology diminishes our ability to effectively reduce greenhouse gas emissions and implement necessary adaptations."

As per Gol'alizadeh, the deterioration of infrastructure and an alarming surge in energy consumption within our country are among an abundance of challenges related to climate change. Additionally, the legal, technical, and operational frameworks required to facilitate private sector involvement are lacking.

"To tackle some of these challenges head-on, we are diligently working towards the approval of a comprehensive climate change management plan as part of the Seventh Development Plan Bill," he said.

He went on, "Simultaneously, we are revising our national strategy plan, compiling an inventory of greenhouse gas emissions, and formulating a robust national plan to adapt to the effects of climate change. These efforts are aimed at addressing the pressing issues we face and charting a more sustainable and resilient path forward."

## Accumulation of unimplemented laws

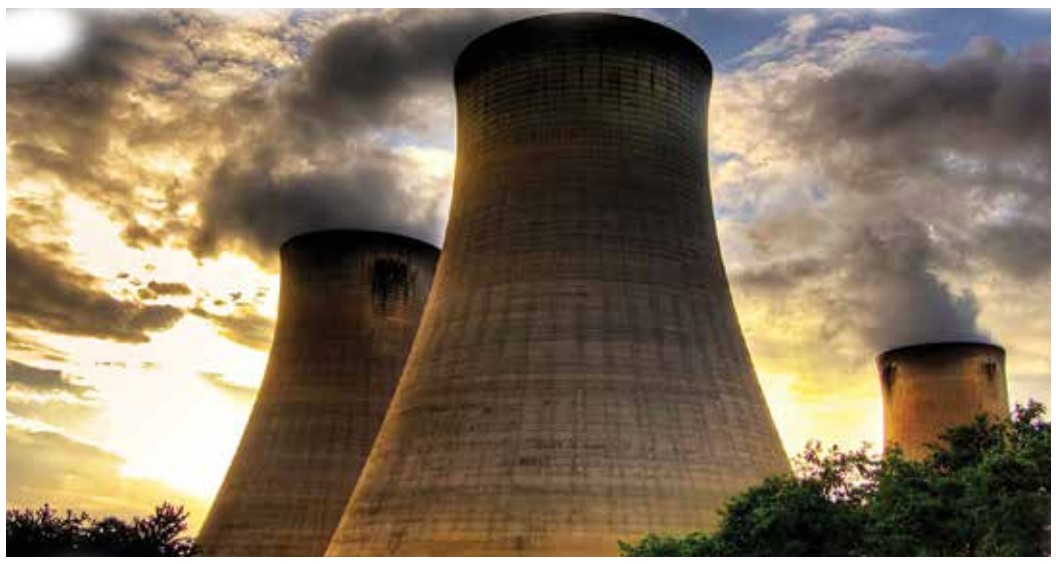
Gol'alizadeh brought attention to the issue of unfulfilled tasks despite the existence of numerous climate change laws. Notably, the Leader's general policies on reforming consumption patterns, which aim to save energy and reduce energy intensity, have not been fully realized. The target is to achieve at least two-thirds reduction by the end of the Fifth Development Plan and one-half reduction by the end of the Sixth.

In addition, the Leader announced general environmental policies in 2015, emphasizing the development of a green economy. This includes promoting low-carbon industries, utilizing clean energy, enhancing public transportation systems, and encouraging green and non-fossil fuel transportation.

Iran has also implemented the low-carbon economy program, a national strategic energy document approved in 2017. This program aims to increase productivity, reduce energy intensity, decrease greenhouse gas emissions, and promote a culture of energy conservation. It also seeks to expand the use of clean and renewable energies, aligning with Article 19 of the Clean Air Law.

Gol'alizadeh highlighted Iran's international commitments, such as its membership in the Climate Change Convention since 1996. Over the years, Iran has taken significant measures, including developing methodologies for calculating greenhouse gas emissions, establishing the Green Climate Fund secretariat, improving fuel and vehicle production standards, reorganizing waste disposal centers, and promoting combined cycle power generation.

"However, while these actions are noteworthy, they are still considered insufficient, necessitating continued and expanded efforts," he noted.



## Weak performance

Climate change and sustainability expert, Seyyed Shayan Seif, emphasizes the importance of addressing the environment and climate change within the framework of sustainable development. These two interconnected sectors necessitate the formulation of sound policies, enactment of appropriate laws, allocation of sufficient resources, and implementation of effective actions.

"While numerous countries have made commendable strides in these domains, Iran has yet to take decisive action, resulting in a backlog of unfinished tasks that demand immediate attention," he said.

Seif highlights the disconcerting fact that Iran is among the top 10 countries worldwide in terms of carbon dioxide emissions.

"It is arguable that our industrial activities, encompassing sectors such as iron, steel, oil, and gas, significantly contribute to these alarming emissions. However, it is crucial to note that when considering emissions per GDP dollar, our nation is ranked first globally," he said, adding, "This imbalance leaves much to be desired, and it is unlikely that the global community will remain indifferent to our predicament. Even if they were to do so, it is our moral obligation to fulfill our duty."

With regards to emissions, Seif raises pertinent questions regarding the annual emissions amount, which continues to rise. He elucidates that the industry accounts for approximately 20 percent of emissions, the domestic and commercial sectors contribute roughly 25 percent, transportation constitutes around 21 percent, while power plants responsible for electricity production contribute to approximately 30 percent of greenhouse gas emissions.

"Notably, the agricultural sector exhibits relatively low emissions in comparison," he said.

## Consequences of climate change

Addressing the future trajectory of climate change in Iran, the head of the National Center for Weather and Climate Change of the DoE shed light on several potential outcomes.

"Looking ahead, Iran is poised to witness a shift in weather patterns, characterized by hotter and drier summers, fluctuating rainfall during colder seasons, prolonged periods of aridity, and a gradual decrease in annual precipitation as time progresses," said Gol'alizadeh, adding, "Furthermore, in the wake of global warming, the southern coasts of Iran may undergo rising water levels and temperatures."

In light of this situation, a pertinent question arises: What can we anticipate in the near future?

According to environmental expert, anticipated effects include an upsurge in summer heatwaves and record-breaking temperatures, more frequent and intense droughts, an elevated occurrence of heavy rainfall leading to potential floods, a decline in the number of freezing days and snowfall, and diminished snow reserves in mountainous regions. These outcomes are direct manifestations of the climate change that is already underway in the country.

## Solutions

To reduce greenhouse gas emissions globally, various policy tools can be employed, including economic and regulatory measures. Economic tools include carbon pricing, financial incentives, and the reduction of fossil fuel subsidies. Carbon pricing tools include emission trading systems, carbon markets, and carbon taxes.

"Most countries use one or both of these tools. The carbon market provides incentives, while the carbon tax serves as a penalty and deterrent," Seif said.

According to him, it is essential to remember that the decision on which tools to use should involve consultation at the national level, considering the input of all relevant stakeholders.

"Failure to do so will likely result in ineffective actions. This is not my opinion, but rather the experience of the world," he said.

"Currently, nearly 60 percent of the world's economy operates under the carbon pricing mechanism, which is a significant number. In 2021, the turnover of the emissions trading system and carbon tax reached $84 billion," he said.