



# Benefits given to entrepreneurs and citizens in the introduction of renewable energy sources in foreign countries: the case of China and European countries

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**Annotation:** *This article describes, first of all, one of the biggest risks for the world community is the use of an energy source, the end of energy sources at its core. This, of course, is causing enormous harm to the environment, human health and the economy. That is why many countries are abandoning the use of non-renewable energy sources and implementing the use of renewable energy sources. These include solar and wind energy. Including, we can clearly see this on the example of the United States, China and European countries. They provide citizens and entrepreneurs around the world with the greatest opportunities and benefits in using renewable energy sources. The research of scientists, research and effective methods are covered in this article.*

**Keywords:** *energy source, non-renewable energy, renewable energy, solar energy, wind energy.*

## INTRODUCTION

At the same time, the use of energy sources around the world is growing rapidly. Energy consumption is an integral part of modern society, providing economic growth, technological progress and improvement of the quality of life. However, the rapid increase in energy use has raised concerns about sustainability, environmental impact, and resource depletion. Today, the countries of the world use more energy than ever before. While the use of energy improves our lives, its impact on the environment, ecology and human health is seriously increasing:

**Environmental Impact:** The growing demand for energy has had a significant impact on the environment. Energy sources based on fossil fuels such as coal, oil and natural gas have been the main drivers of global energy consumption. However, the burning of these fuels releases greenhouse gases, which contribute to climate change, air pollution and adverse health effects. In addition, the extraction and processing of these resources pose environmental risks, including habitat destruction and water pollution.

**Effects on human health:** Energy consumption affects human health through various mechanisms, including air and water pollution, climate change, and direct occupational health hazards. First, burning fossil fuels to produce energy releases particulate matter and other pollutants into the air. These pollutants can aggravate respiratory diseases such as asthma and chronic obstructive pulmonary disease and increase the risk of respiratory infections. In addition, the possibility of ozone formation at ground level increases. Emissions from power plants contribute to the formation of ground-level ozone, which can trigger asthma attacks and cause breathing problems.

**Economic implications:** Energy consumption is closely related to economic development. The availability of affordable and reliable energy is essential for industrial processes, transportation, agriculture, and household operations. Thus, changes in energy prices can have a significant impact on global markets, trade balances, and the overall cost of living. Development of energy-saving technologies and diversification of energy sources are important for increasing energy security, reducing dependence on certain regions for energy supply, and increasing economic stability [1].

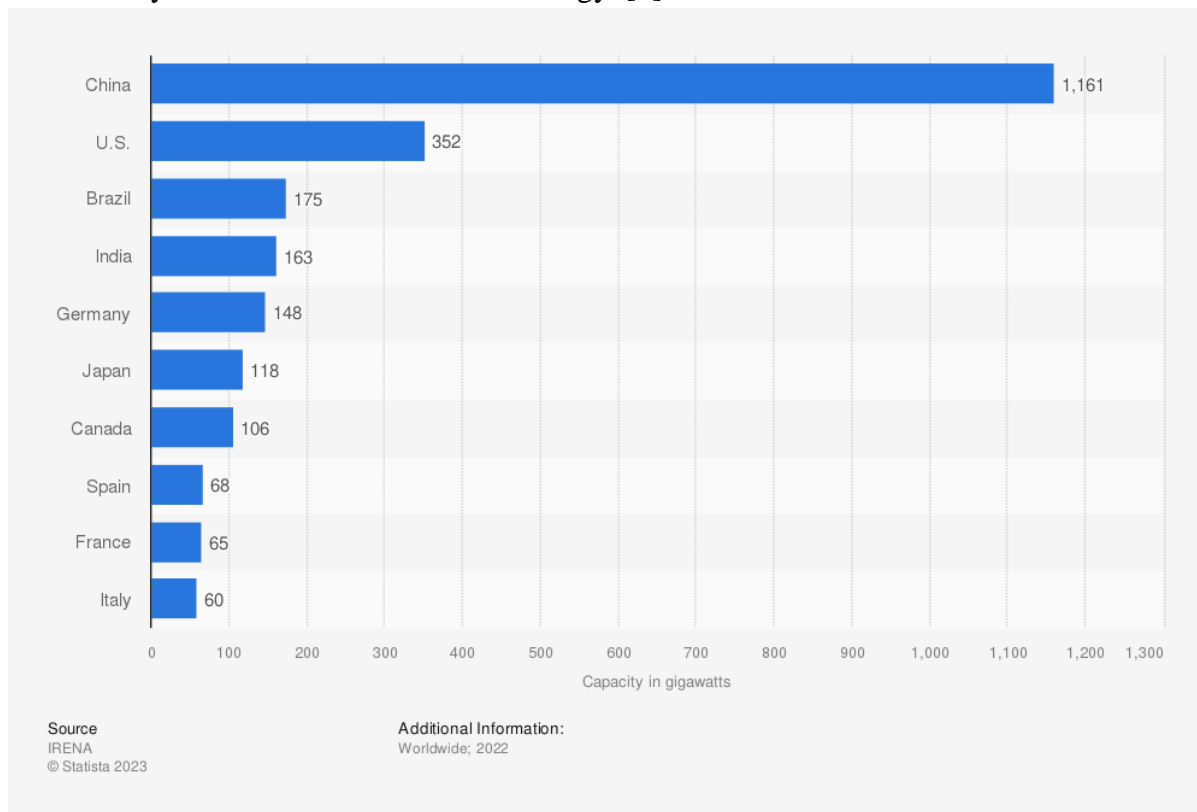


**DISCUSSION AND ANALYSIS:**

Here, energy is divided into renewable and non-renewable types. When energy sources are decreasing, the benefits given to entrepreneurs and citizens play an important role in the introduction of renewable energy sources. For example, obtaining an energy source from wind or light. Wind or light is a renewable energy source. Increasing their use and implementation will certainly help to preserve non-renewable energy sources such as coal and natural gas. That is why a number of developed countries have paid serious attention to this issue and introduced a system of incentives for entrepreneurs and citizens in the implementation of renewable energy sources.

Among the leading scientists of our country in this field, J.K. Mannaopov, R.A. Kocharov, R.R. Shukurov, K. Shodimetov, practical manuals written by H.K. Ganiyeva include heating devices for houses using alternative energy sources, guidelines for meeting the demand for electricity, using renewable energy sources in our country and to the prospects of increasing its share in total energy production, solar drying of agricultural products, efficient use of solar energy in farms, and placement of crops relative to the sun in the provision of soil radiation and heat in the placement of agricultural crops explained their opinions in detail.

At the same time, the use of renewable energy by the world's population is rapidly increasing, says Evangelos Mytilineos in his article. [2] As we can see in the graph below, the difference is huge in countries that have introduced renewable energy sources in their country. That is, China is in first place with 1,161 gigawatts, while the USA is in second place with 352 gigawatts. The size of the difference shows that countries today use a lot of non-renewable energy. [3]



Let's take a look at the benefits and experiences provided to citizens and entrepreneurs of a number of countries:

**The Chinese experience**

Promoting renewable energy has been a major focus for China as it seeks to encourage citizens to adopt clean energy sources. Here is an analysis of the various initiatives and offers that China offers to its



citizens using renewable energy sources. promoted. Today, the country has implemented various incentives and offers, including financial subsidies, feed-in tariffs and supportive policies, to encourage citizens to invest in renewable energy:

**1. Financial Subsidies:** The Chinese government offers financial support to individuals and companies investing in renewable energy systems. This includes subsidies for solar photovoltaic (PV) installations, wind power projects and other renewable energy facilities. Through financial incentives, the government aims to reduce the financial burden on citizens and facilitate the widespread adoption of clean energy technologies.

**2. Feed-in Tariffs:** In addition to financial subsidies, China has established feed-in tariffs for renewable energy producers. This mechanism guarantees a fixed rate of payment for electricity from renewable sources, providing a stable and predictable income for those who contribute to the supply of renewable energy. Such tariffs encourage investment in renewable energy infrastructure for citizens, as they offer long-term financial benefits.

**3. Net Metering Policy:** China has also implemented a net metering policy that allows individuals with renewable energy systems such as rooftop solar panels to feed excess electricity back into the grid. This encourages citizens to invest in renewable energy, as they can profit from the sale of excess power and thus offset their electricity costs.

**4. Policies to support solar energy:** China has been a global leader in solar energy capacity and has implemented policies aimed at encouraging solar energy adoption. This includes solar installation capacity targets, concessional loans for solar projects and supporting regulations that ensure grid connection for solar power systems.

While these initiatives demonstrate significant progress in encouraging citizens to use renewable energy sources, a critical analysis reveals areas that require further attention.

**1. Subsidy Reduction Challenges:** China's decision to gradually reduce renewable energy subsidies has raised concerns about the long-term sustainability of the renewable energy sector. Reduced subsidies could lead to lower investment in new projects, which could hinder the growth of renewable energy adoption.

**2. Implementation Challenges:** Despite ambitious targets and supportive policies, challenges to effective implementation of renewable energy incentives persist. This includes issues such as grid curtailment, administrative hurdles and delays in subsidy payments, which may affect the smooth operation of renewable energy projects.

**3. Transition to market mechanisms:** As China transitions to market-oriented mechanisms to support renewable energy, it is necessary to ensure a smooth transition that balances market activities with continued support for renewable energy projects. Maintaining this balance is critical to maintaining investor confidence and ensuring growth in the sector. [4]

In summary, China's efforts to encourage citizen adoption of renewable energy are significant, with a number of incentives and policies aimed at encouraging the adoption of clean energy. However, challenges related to subsidy reduction, implementation, and transition to market mechanisms underscore the need for continued vigilance and strategic planning. By addressing these challenges, China can continue its sustainable renewable energy transition by offering citizens the support they need to adopt clean energy technologies.

### **The US experience**

Apex Renewable Energy takes energy from concept to reality to the need for profit and sustainability across infrastructure. As of today, we can see that this country's rate of using renewable energy sources has increased from 21% to 32%. [5] Apex leverages its proprietary database and distributed products across its



industry-leading portfolio of thousands of data sets and millions of data points from its own analytics. The strongest and most effective measures in the market are the wind and the sun. Apex is managing the construction of the largest and most complex renewable energy facility in the country. With a fully integrated construction team within our company, Apex management has developed accounting, community-based design and permitting guidelines, said Apex CEO Peter Hughes. [6]

Our geotechnical, environmental and manufacturing to load vehicles. While practice-based, Apex always provides comprehensive management services based on the movement's core enterprise tools and industry achievements. Apex CEO says we've been able to scale quickly. Apex is a provider of new energy solutions for energy procurement companies with cost-effective deals for partners in any situation, with a range of terms and qualities.

In short, this company invests in entrepreneurs in the US if they use renewable energy sources wisely. Of course, finding a large investor like Apex is quite difficult, but also rewarding. Today, it is no exaggeration to say that this company has enabled more than 300,000 entrepreneurs to use renewable energy sources.

### **The Swedish experience**

Sweden has established a strong framework of incentive projects and policies to encourage entrepreneurship in renewable energy. These measures aim to stimulate innovation, accelerate the transition to a sustainable energy system, and ensure economic growth while addressing environmental challenges. Interestingly, Sweden, which offers few opportunities for entrepreneurs, saw a 35 percent increase in the use of renewable energy. [7] At the same time, by 2050, this indicator will increase to 100%, according to the Swedish Prime Minister of Energy. This is certainly a huge achievement in one year. The following is a critical analysis of the incentives available to renewable energy entrepreneurs in Sweden.

**1. Financial support and assistance:** Entrepreneurs investing in renewable energy projects in Sweden can benefit from various forms of financial support. These include grants, low-interest loans, and financial assistance programs aimed at reducing initial investment costs. Such support provides significant support to entrepreneurs, allowing them to pursue green energy projects and develop innovation in the sector.

**2. Renewable Energy Subsidies:** Sweden's renewable energy sector benefits from government subsidies and feed-in tariffs designed to encourage clean energy production. These subsidies provide a steady stream of income for entrepreneurs, further strengthen the economic feasibility of renewable energy projects and attract investment to this important sector.

**3. Tax incentives:** Sweden offers tax incentives to encourage the development and use of renewable energy sources. Entrepreneurs can take advantage of tax credits, incentives and reduced tax rates, creating an enabling environment for investment in green technology innovation and renewable energy solutions.

**4. Funding for research and development:** entrepreneurs in the field of renewable energy can use special funds and grants for research and development projects. This includes supporting technological innovation, pilot projects and collaborations, and promoting advanced solutions in the field of clean energy.

While Sweden's efforts to encourage entrepreneurs to adopt renewable energy are commendable, a critical analysis reveals potential areas for improvement.

**1. Barriers to market entry:** Despite existing incentives, regulatory complexity, administrative barriers, and high initial investment costs can pose challenges for entrepreneurs seeking to enter the renewable energy sector. Efforts to simplify administrative procedures and reduce barriers to entry are essential for the development of entrepreneurship in this area.

**2. Technology transition and integration:** Supporting the transition to new renewable energy technologies and facilitating their integration into existing infrastructure requires comprehensive planning.



Ensuring continued adoption and grid connectivity for innovative renewable energy solutions is critical to scale and practical implementation. [8]

Sweden's string of incentives for entrepreneurs embracing renewable energy demonstrates its commitment to green innovation and sustainability. Removing barriers to market entry and fostering the integration of new technologies are critical to developing a dynamic ecosystem for renewable energy entrepreneurship in Sweden. By continuously strengthening and adapting these incentives, Sweden can further strengthen its position as a leader in clean energy innovation.

### Summary:

In conclusion, countries cannot ban the use of non-renewable energy sources. Because this means going against the rules of the state's own law. But opportunities for residents and businesses to use renewable energy sources can gradually reduce the use of non-renewable energy sources. As we have considered in this article, the countries of China, the USA and Sweden have provided citizens and entrepreneurs with a wide range of opportunities in this matter. At the same time, we cannot turn a blind eye to a number of problems here. For Uzbekistan, it is necessary to use the experience of China first of all. That is, if residents use solar panels, they can be exempted from taxes for a certain period of time, or they can transfer energy from one house to another and cover their costs. Also, long-term loans in the Swedish experience are a good choice. Considering that many residents of Uzbekistan have financial difficulties in this matter, these incentive loans encourage citizens and entrepreneurs to use renewable energy sources.

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