

An Inquiry into the Causes of “Green Growth” in the United States (1970–2001)

Wang Shangqi

Fujian Normal University, Fuzhou, 350177, China

Abstract: This article examines the causes and limitations of U.S. “green growth” between 1970 and 2001. It argues that the relative decoupling of economic growth from greenhouse gas emissions resulted from two main factors: the growing political importance of environmental protection and major changes in the economic structure. The expansion of the service sector and decline of traditional manufacturing reduced the energy intensity of the U.S. economy. However, some polluting industries were relocated abroad, meaning that pollution was partly transferred rather than eliminated. The U.S. experience shows that economic growth and environmental protection can coexist, but global sustainable development remains a major challenge.

Keywords: Environmental History; Sustainable Development; American Green Growth; Economic Restructuring; Emission Decoupling

1. Introduction

“Green growth” is a concept of sustainable development that refers to achieving both economic growth and environmental protection in the process of development. It is generally closely associated with greenhouse gas emissions. The Industrial Revolution initiated a new stage of economic growth. Industrial machinery greatly increased social productivity, but large-scale industrial production generally relied on energy sources such as petroleum and coal, whose use released substantial amounts of greenhouse gases. Since the Second World War, global industrialization has deepened further, while environmental problems have become increasingly serious. International cooperation agreements like the Kyoto Protocol have also generally sought to protect the environment by controlling countries’ greenhouse gas emissions.

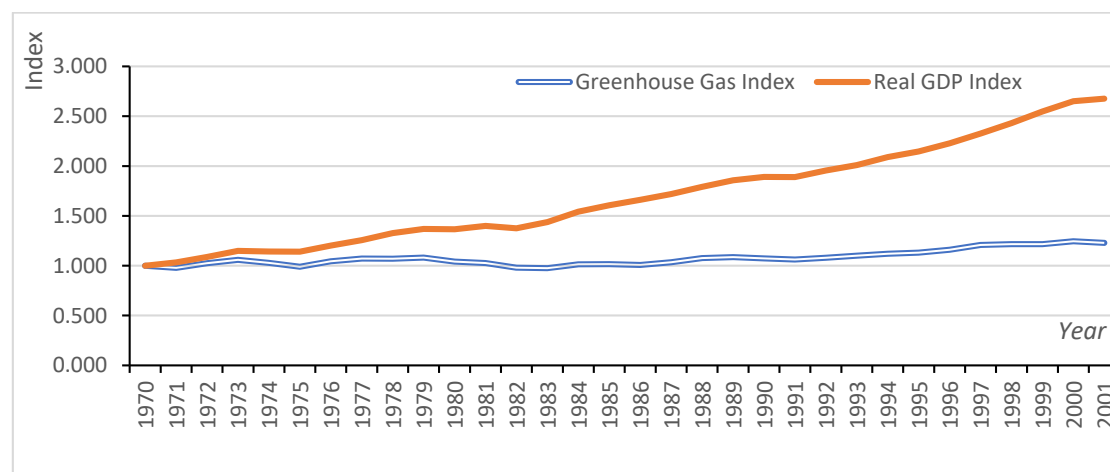


Figure 1: Growth Indices of U.S. Greenhouse Gas Emissions and Real GDP. [Note: The greenhouse gas growth index takes U.S. greenhouse gas emissions in 1970 as the base value. The annual U.S. greenhouse gas emissions from 1970 to 2001 are divided by this base value. The real GDP growth index is calculated in the same way. To eliminate the influence of inflation, real GDP is calculated using the 2017 Chained dollar. Sources: Greenhouse gas emissions: Crippie M. Guizzardi et al., GHG emissions of all world countries, Luxembourg: Publications Office of the European Union, 2024, DOI: 10.2760/4002897, JRC138862; Real GDP: U.S. Bureau of Economic Analysis, Table 1.1.6, Real Gross Domestic Product, Chained Dollars. <https://www.bea.gov/data/gdp/gross-domestic-product> (2026.6.16).]

Relevant studies indicate that the decoupling of economic growth from greenhouse gas emissions has become increasingly common since the nineteenth century. However, such decoupling has generally been limited in scale and has sometimes resulted from economic recession. Genuine large-scale economic growth accompanied by environmental improvement remains relatively rare[1].

Since the Second World War, the United States has been the world's leading economic power. As shown in Figure 1, the U.S. economy generally grew steadily after 1970, while greenhouse gas emissions remained relatively stable. This pattern of economic growth is consistent with the concept of "green growth" and sustainable development.

This article examines the "green growth" that emerged in the United States between 1970 and 2001 from political and economic perspectives, with the aim of drawing lessons from this historical experience and applying it to practice society.

2. The Growing Political Importance of Environmental Protection

Environmental protection has a long history in the United States. Before the Second World War, however, environmental protection was primarily intended to serve economic growth. Relevant studies have shown that Americans had been concerned with land and resource development since the colonial period. In 1872, the United States established the world's first national park. During the New Deal, afforestation and similar programs were used to alleviate unemployment. Yet these measures were mainly intended to serve economic development, and little attention was paid to the environmental side effects of economic growth.[2] Before the Second World War, the U.S. government generally followed a laissez-faire approach in economic affairs and rarely adopted legislation or administrative measures that restricted economic development specifically for environmental purposes.

In June 1962, Rachel Carson published *Silent Spring*. The book sharply criticized the ecological disasters caused by the large-scale use of pesticides in the United States; Carson wrote:

For the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death. In the less than two decades of their use, the synthetic pesticides have been so thoroughly distributed throughout the animate and inanimate world that they occur virtually everywhere.[3]

The book generated enormous public attention. After reading it, President John F. Kennedy instructed the President's Science Advisory Committee to investigate pesticides, at a press conference on August 29, 1962, Kennedy was asked whether the increasing concern among scientists about the long-term dangers of pesticides had led the relevant government departments to conduct further investigations. He replied:

Yes, and I know that they already are. I think particularly, of course, since Miss Carson's book, but they are examining the matter.[4]

In May 1963, the President's Science Advisory Committee issued the report *Use of Pesticides*, recommending that federal agencies take the lead in restricting the widespread use of pesticides.[5]

In 1965, the Science Advisory Committee issued *Restoring the Quality of Our Environment*, which recommended:

The pervasive nature of pollution, its disregard of political boundaries including state lines, the national character of the technical, economic and political problems involved, and the recognized Federal responsibilities for administering vast public lands which can be changed by pollution, for carrying out large enterprises which can produce pollutants, for preserving and improving the nation's natural resources, all make it mandatory that the Federal Government assume leadership and exert its influence in pollution abatement on a national scale.[6]

The report emphasized the federal government's responsibility to manage public lands, regulate major polluters, and protect natural resources. These responsibilities required federal leadership in reducing pollution nationwide.

The publication of *Silent Spring* marked the beginning of the "environmental revolution" in the United States during the second half of the twentieth century. Environmental organizations first expanded rapidly. Most major environmental groups continued to expand throughout the 1980s. The ten largest mainstream groups grew from fewer than 500,000 members and a combined annual budget of less than \$10 million in 1965 to 3.3 million members and \$218 million in 1985, and 7.2 million members and \$514

million in 1990. By 1992, major groups such as the Sierra Club and the League of Conservation Voters had doubled their combined spending to \$1 billion, while the Environmental Defense Fund's annual revenue rose from \$3.4 million to \$20.2 million between 1985 and 1992. Other organizations also gained financial strength and influence, and by the end of 1992 the US had an estimated 10,000 environmental organizations, much of this growth reflected concerns over environmental policy during the Reagan-Bush years. Earth Day 1990, the first nationwide celebration since 1970, was less confrontational and sparked a wave of corporate green marketing. Although it was seen as the beginning of a new "green decade," some environmentalists argued that the movement had become increasingly popular and commercialized, losing the more confrontational character of the 1970s.[7] More importantly, environmental awareness among the American public increased substantially. By 1995, environmental protection had become one of the "core values" of American society.[8]

As environmental awareness increased significantly, environmental protection also became a political priority. Environmental legislation and political activity expanded rapidly. One of the most representative developments was the passage of the National Environmental Policy Act of 1969, which marked the formal incorporation of environmental protection into U.S. law.

Environmental protection also became a means of attracting voters amid competition between American political parties. Politicians increasingly presented themselves as environmentalists in order to win electoral support. During the 1968 presidential election, Richard Nixon stated:

Can we have the highest standard of living in the world and still have a land worth living in? Can we have technological progress and also have clean beaches and rivers, great stretches of natural beauty, and places where a man can go to find the silence and privacy he is unable to find in our increasingly urbanized daily life? Will future generations say of us that we were the richest nation and the ugliest land in all history?[9]

Jimmy Carter's victory in the 1976 presidential election was regarded as making the expansion of environmental policy within federal, state, and local bureaucracies difficult to reverse.[10] In the 1988 presidential election, 29 percent of registered voters said that George H. W. Bush needed to demonstrate that he could clean up the environment.[11] In 1991, the U.S. Greens established their political organization with environmental protection as one of its principal objectives. In 1992, Bill Clinton selected environmentalist politician Al Gore as his running mate.

Environmental protection also became a source of partisan conflict. During Ronald Reagan's first term, James Watt, Anne Gorsuch, and Rita Lavelle held key positions in environmental policy as Secretary of the Interior, EPA Administrator, and head of the "Superfund" program, respectively. All three took a negative stance toward environmental protection. Watt openly opposed environmentalists, Gorsuch sought to reduce the EPA, and Lavelle was slow to implement environmental measures. In 1983, both Democrats and Republicans called for their resignation. Facing growing political pressure, Reagan eventually replaced all three. Same year seems openly opposing environmental protection had become politically difficult.[12]

In its 1984 and 1988 platforms, the Democrats strongly criticized the Reagan administration's environmental policies. It argued that Reagan had failed to recognize the importance of environmental protection and that his environmental policies could cause lasting damage. The 1988 platform further described pollution and environmental degradation as threats to U.S. national security.[13]

Since 1970, environmental protection has ceased to be merely a secondary concern of economic development. Politically, it became an issue of broad public concern in American society, comparable in importance to welfare and foreign affairs. The government was expected to assume responsibility for environmental protection. The expansion of federal power since the New Deal also gave the federal government the capacity to fulfill these responsibilities. Failure to perform its environmental responsibilities effectively could carry significant political costs.

3. Changes in the Economic Structure

In 1894, the United States became the world leader in industrial output. During the Second World War, when the United States mobilized national resources for industrial production, it became directly known as the "arsenal of democracy." Industry therefore occupied an exceptionally important position in the American economy during the first half of the twentieth century.

However, the United States experienced a process of "deindustrialization" beginning in the 1960s,

Industrial economic development, particularly in manufacturing, stagnated. Factories closed, industrial equipment aged, and industrial employment declined. The phenomenon was particularly severe in the Great Lakes region, where the “Rust Belt” emerged, these areas mainly included these states Pennsylvania, Ohio, Michigan, Indiana, Illinois, New York. Between 1969 and 1996, employment in the Rust Belt declined by 32.9%.[14]

In the 1970s and 1980s, deindustrialization intensified due to the oil crises, changes in the energy system, and rising labor costs. At the same time, the United States faced “stagflation,” while the macroeconomic policies that had supported growth since the New Deal became less effective and contributed to economic stagnation and recession.

After taking office in 1981, the Reagan administration introduced a series of neoliberal reforms to address these problems. These policies helped accelerate the expansion of the service sector. In finance, for example, the ratio of U.S. stock-market capitalization to GDP rose from 39.3% in 1981 to 132.1% in 2001.[15] The U.S. economy consequently became increasingly “hollowing out,” as shown in Figure 2.

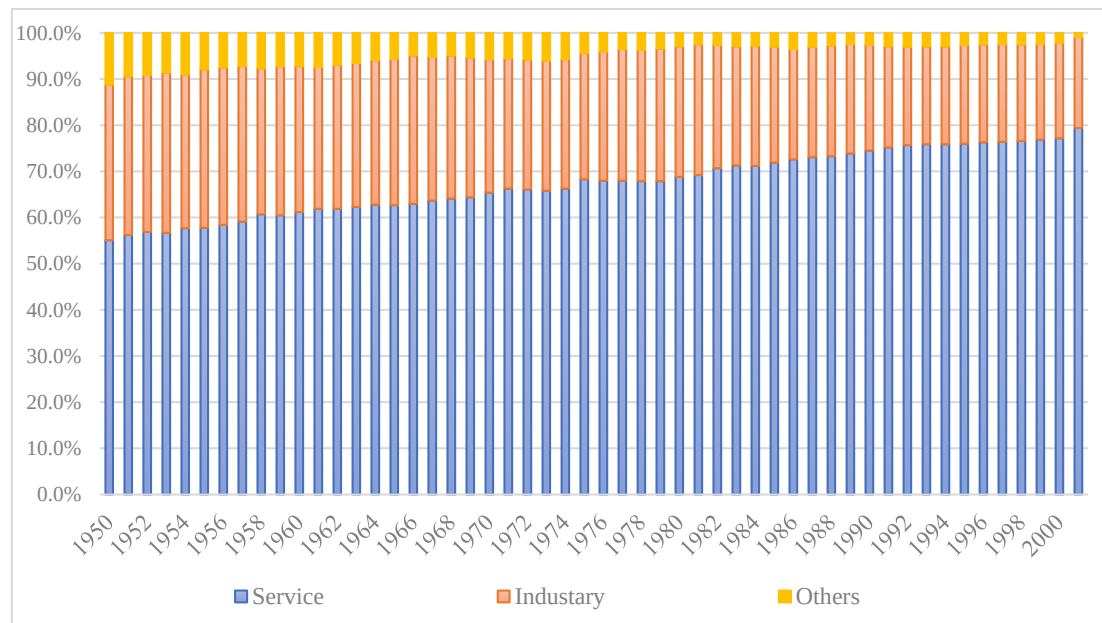


Figure 2: Shares of Services, Industry, and Other Sectors in U.S. GDP, 1950–2001. [Sources: Service data see Our World in Data, Share of workers employed in services vs. GDP per capita 1950 to 2001, [https://ourworldindata.org/grapher/gdp-vs-services-employment?time=1950..2001&country=~USA.\(2026.6.25\)](https://ourworldindata.org/grapher/gdp-vs-services-employment?time=1950..2001&country=~USA.(2026.6.25)); Industry data see Our World in Data, Industry as a share of GDP vs. GDP per capita 1950 to 2001, [https://ourworldindata.org/grapher/gdp-vs-manufacturing-gdp?time=1950..2001&country=~USA.\(2026.6.25\)](https://ourworldindata.org/grapher/gdp-vs-manufacturing-gdp?time=1950..2001&country=~USA.(2026.6.25))]

The economic structure created by this “hollowing-out” meant that American economic growth became increasingly dependent on the service sector. Compared with the early postwar period, the position of industrial production in the economy declined substantially. From the perspective of environmental protection, the production factors of service industries such as finance and the Internet consist primarily of knowledge, information, and technology. Their environmental impact is considerably smaller than that of traditional industrial production. We could wise up through Figure 3 The energy intensity of the U.S. economy—that is, energy consumption per unit of GDP—therefore declined. Economic growth in the United States during this period can consequently be regarded as a form of “low-emission growth”.

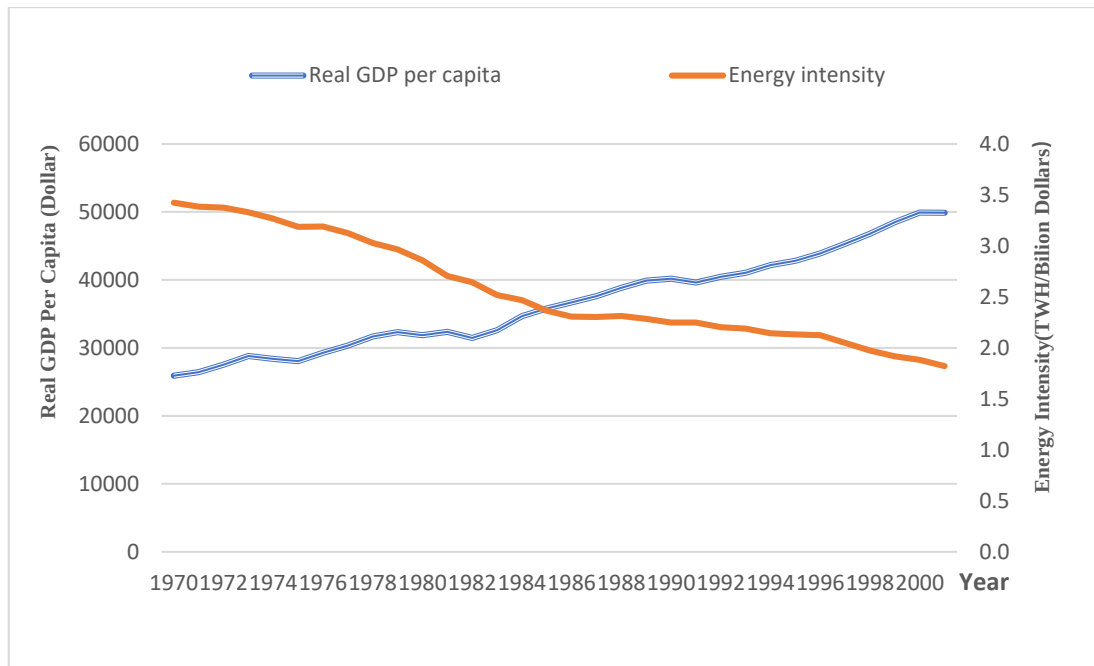


Figure 3: Changes in U.S. Real GDP per Capita and Energy Intensity, 1970–2001. [Note: Energy intensity refers to the amount of primary energy consumed for each unit of GDP growth. It is calculated by dividing annual primary energy consumption by annual real GDP. Primary energy refers to energy in its original resource form before conversion. Primary energy is used because it includes energy losses occurring during the production process. Sources: GDP, Population See U.S. Bureau Economic Analysis, Table 7.1. Selected Per Capita Product and Income Series in Current and Chained Dollars, <https://www.bea.gov/data/gdp/gross-domestic-product>.(2026.6.27); U.S. Bureau of Economic Analysis, Table 1.1.6. Real Gross Domestic Product, Chained Dollars, <https://www.bea.gov/data/gdp/gross-domestic-product>.(2026.6.16); Primary energy See Our World in Data, Primary Energy Consumption, <https://ourworldindata.org/grapher/primary-energy-cons?tab=line&time=1970..2001&country=~USA>.(2026.6.27)]

4. Conclusion and Assessment

The “green growth” of the US between 1970 and 2001 was driven by the growing political importance of environmental protection and changes in the economic structure.

The US experience shows that economic growth and environmental protection can coexist. The long-term environmental movement and growing public awareness pushed governments to respond to environmental concerns. Environmental policy therefore did not depend solely on a particular president or administration, but required continuous action through legislation, administration, and international cooperation. Public environmental awareness was thus an important foundation for “green growth”. Changes in the economic structure also helped reduce pollution. During this period, the US service sector expanded rapidly, while traditional energy-intensive industries declined, reducing energy consumption per unit of GDP. The growth of knowledge-intensive industries, such as finance and the Internet, therefore contributed to more sustainable economic development.

However, US “green growth” had clear limitations. Some polluting industries were relocated abroad rather than eliminated, transferring pollution to other countries. Between 1950 and 1982, manufacturing's share of US outward investment rose from 32.5% to 41%. [16]

Therefore, US “green growth” did not mean that pollution had been fully solved. It was partly the result of domestic economic restructuring and changes in the international division of labor under globalization. Achieving genuine global “green growth” remains a long-term challenge.

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