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U.S.-China Conflict, Environmental Issues, and EV Policy Dichotomies**Top Priority, from Environment to Geopolitics**

The time has come to discuss the dichotomy between environmental issues and the U.S.-China conflict. Environmental issues are a historical challenge for humankind that has been ongoing even before the U.S.-China confrontation became serious. For the past 20 years, the developed countries have been pursuing a long-term, drastic reduction of CO₂ emissions to stop global warming. Numerical targets have been set through the Kyoto Protocol (1997), the Paris Agreement (2015), and COP27 held in Egypt last year. The new reality that has emerged here is the U.S.-China conflict. Not long ago, the top priority for humankind was the preservation of the global environment and the de-carbonization of the planet, but now the top priority for each country is geopolitics. Faced with the reality of Russia's invasion of Ukraine, which has caused some countries to change their borders by force, the most critical issue has become how to protect the security of each country, the lives of its people, and its land, rather than environmental conservation.

As a result, advanced democratic countries such as the U.S. and Japan are now faced with a major dilemma. The possibility that China's economy will be benefited by continuing with the same environmental measures as before has increased. If they must shift away from fossil fuels and toward solar power, they will have to buy from China, which produces 80% of the world's solar panels. The more we move forward with decarbonization, the more we will be dependent on China for supply. In addition, there has been a major trend among developed countries to phase out nuclear power generation from a safety standpoint. Except for France, other countries have significantly reduced their dependence on nuclear power, but China continues to aggressively build nuclear power plants in opposition to the trend away from nuclear power. As a result, China has come to hold an overwhelming share of the world's nuclear power construction, and China is trying to sell nuclear power plants to emerging countries.

China is building the world's strongest ecosystem on EVs

In addition, Chinese automakers are likely to benefit from the rapid shift to EVs. Anticipating that EVs would become the mainstream, China was quick to provide subsidies for electric vehicles and has been the most aggressive in promoting electric vehicles in the world. As a result, except for Tesla, China now accounts for most of the world's major EV manufacturers. China is launching a massive electric vehicle export offensive to ASEAN countries, and in 1Q2023, China surpassed Japan as the world's largest exporter of automobiles. This export surge is partly due to a threefold increase in exports to Russia, which has been cut off from Western imports, but it is also hard to overlook the fact that China is becoming a major exporter of EVs.

China's share of global EV exports was 25% in 2021 and 35% in 2022 (IEA = International Energy Agency). Not only Chinese companies such as SAIC and BYD, but also other foreign manufacturers such as Tesla and BMW are beginning to utilize China as a manufacturing base for export EVs. Tesla's Shanghai Gigafactory produced 710,000 vehicles in 2022, while VW has also announced that it will invest about 1 billion euros to build an EV development and procurement center in China. The cumulative amount of initial investment in EV production is now concentrated in China, and this is because the EV ecosystem is well-developed.

Against this scale advantage of China in EVs, there is a possibility that Japanese, German, and U.S. automakers will fall far behind. The reason why China has been able to become so competitive in EVs is that the government's proactive subsidies have been effective in creating

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demand for EVs in the early years, and the fact that CATL, a Chinese battery manufacturer established in 2011 (a company based on TDK technology), has rapidly increased its market share and is now the world's largest manufacturer of batteries. The Chinese government's clever regulatory and industrial policies, including the exclusion of foreign investment and subsidies, have contributed to CATL's rapid rise in market share to become the world's largest battery manufacturer.

The Need for Reconsideration of the Impatience to Convert to EVs

Before the developed countries had established that China was an opponent that they needed to suppress, China had already used environmental issues as a tailwind to guide its own industry to its advantage.

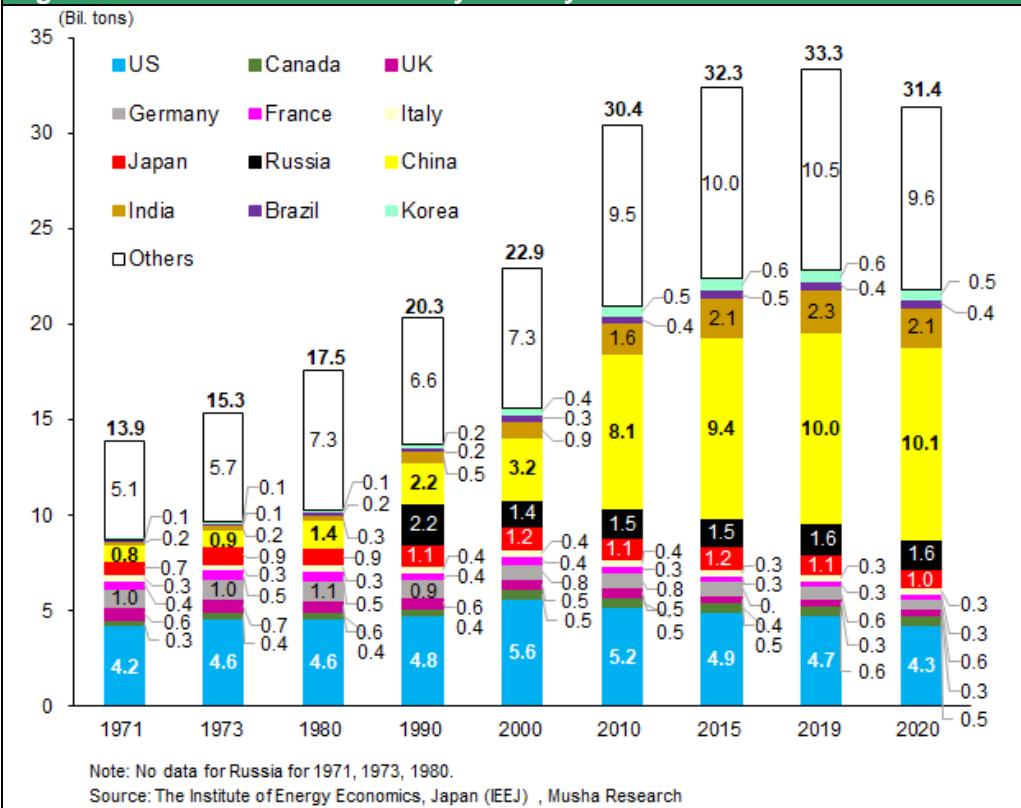
Is it appropriate for democracies to continue to pursue environmental policies as they have in the past? If the promotion of EVs, supported by government subsidies for EVs, unilaterally benefits China, then a rethink will be necessary.

The WSJ editorial praised Akio Toyoda's assertion that the West needs to rethink its hasty transition to EVs as a courageous and sound argument, saying, "Toyota needs to rethink its BEV (battery powered EVs) policy. Toyota is promoting HVs and plug-in hybrid vehicles (PHEVs) as alternatives to BEVs. HVs and PHEVs have internal combustion engines that can run when the battery runs low, reducing concerns about range. They are also cheaper than EVs. The problem of EVs is that (1) 1.2 million public charging facilities will be needed in the U.S. by 2030, and about 400 new charging facilities will need to be built every day, but this goal is far from being achieved, (2) more than 300 new lithium, cobalt, nickel, and graphite mines are needed to meet the expected battery demand by 2035, which will require decades of development, (3) The amount of raw materials in one long-range battery electric vehicle could instead be used to make 6 plug-in hybrid electric vehicles or 90 hybrid electric vehicles.(4) The overall carbon reduction of those 90 hybrids over their lifetimes is 37 times as much as a single battery electric vehicle. These inconvenient truths undermine the climate religion and government mandates. (WSJ June 4)

No environmental discussion can overlook China's uniqueness

Over the past 20 years (2000-2020), global CO₂ emissions increased by 8.46 billion tons, from 22.93 billion tons to 31.38 billion tons. Of that total, 38 OECD countries decreased by 2.18 billion tons, from 12.13 to 9.95 billion tons, while China increased by 6.86 billion tons, from 3.22 to 10.08 billion tons (the rest of the world increased by 3.77 billion tons, from 7.58 to 11.35 billion tons). China is responsible for 81% of the increase in global CO₂ emissions. Environmental debate that overlooks China's uniqueness is becoming untenable.

Figure 1: Global CO₂ emissions by country trends



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