THE CLIMATE CHANGE AND ENERGY SECURITY NEXUS IN THE U.S.*

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Abstract: Today, more than ever before, the changing global climate is defined as a new direct and multifaceted issue threatening the national security of all countries. Considering the effects of climate change, especially through extreme weather events, the situation seems quite serious. The future of humankind and our planet may be in jeopardy due to it. Thunders, droughts, forest fires and floods have caused environmental impairments and longer-lasting drought not recycled and this situation has adversely affected the food, water and sanitation security of millions of people and mass migration has happened for more than a decade. The worst and devastating effects of these problems that are belonged to largely the responsibility of developed countries, mostly are seen, or will see, developing countries which have scarce natural resources and limited facilities to adapt to these challenges caused by climate change. They are state’s most costly and destructive natural disaster. Conversely, there are possibility which the problems created by climate change can lead to conflicts and tensions among the states and communities, especially on the world’s most unstable regions, as well as threatening economic and political stability, that is, peace and tranquility.

This study is both to emphasize the close relationship between energy and climate security and put clearly forward to what extend does national security affect by climate change. Both policies are carried out over the world together. The U.S. climate security politics based on energy demand, in this framework, is to discussed and analyzed on this basis of at present in this study.

Keywords: Climate Change, Energy Security, the U.S.

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I. Introduction: The Borders Which Are Losing Importance

The changing global climate, today, is defined as a new, direct and multifaceted issue threatening the national security of all the countries. Considering the effects of climate change, especially the extreme weather events, the situation seems quite serious as it may put the future of humankind and our planet in jeopardy. Hurricanes, droughts, forest fires and floods have caused environmental impairments and also this situation has adversely affected the food, water and sanitation security of millions of people and mass migration, has occurred for more than a decade. The terrible and devastating effects of climate change that are largely the responsibility of developed countries, mostly are seen, or will see, developing countries the most which have scarce natural resources and limited facilities to adapt to these challenges. Also, there is the possibility that problems created by climate change can lead to conflicts and tensions among states and communities, especially in the world's most unstable regions, as well as threatening economic and political stability, that is, peace and tranquility.

The common opinion published recently in reports and other documentations (The White House, 06.23.2010; CNA Analysis & Solutions, 06.23.2010) that are a roadmap for the national security, is that climate change will directly affect the U.S. national security and its overseas interests in the near future, and will create a serious security problem with the predicted effects of it including extreme weather events, drought, flooding, sea level rise, retreating glaciers, habitat shifts, and the increased spread of life-threading diseases. It is likely to add a further complex dynamic to the drivers of social, economic and political crisis and therefore, the U.S. may experience mounting pressure to accept large numbers of immigrant and refugee populations due to these problems i.e. food shortages, water crisis and catastrophic flooding from many so-called “failed states” (“The term ‘failed state’ entered the U.S. diplomatic lexicon and gained wide currency in the aftermath of the Cold War.
The Clinton Administration identified failed states as one of four categories in its typology of countries comprising the post-Cold War international system—the other three being advanced industrial democracies, emerging democracies with market economies, and “rogue states”. The administration established the State Failure Task in 1994 to examine the causes of state failure, as well as measures to ameliorate its consequences and forestall its occurrence (Craig, 2003: 33) or “fragile states”, especially in Latin America and Africa. All of the U.S. is likely to warm during the century, especially the western, central and eastern regions of North America (U.S. EPA, ibid.: 123). After Hurricane Katrina, which occurred in 2005, in the past year, 14 hurricanes occurred in the U.S. (Cumhuriyet Bilim Teknik, 2006: 4).

But this issue would be a threat that leads to further increasing and trigger of economic and political instability in some regions of the world such as in Asia, Africa and Middle East, due to their unique. It is claimed that existing problems such as poverty, social tensions, environmental degradation and the weakness of political institutions will grow deeper with climate change. These changes, according to Homer-Dixon, will affect especially agricultural production in both the developed and developing countries, especially if they increase the incidence of extreme events, i.e. droughts, floods, and heat waves (Homer-Dixon, 1999: 61). People in Mexico are already leaving the state of Oaxaca due to drought and soil erosion. Mexican rainfed maize production has decreased up to 40 percent to date. This situation also could respectively cause consistent land degradation, free trade, and the privatization of communal peasant lands, all of which could lead to grave internal conflict (Homer-Dixon, 1998: 289).

On the other hand, the close relationship between energy security - defined as “access to secure, adequate, reliable, and affordable energy supplies” (Jason Bardoff, 2010: 214) - and climate change and the U.S. national energy interests based on some regions. Until recently, climate change had actually been a relatively low priority (Revkin, 2010). In particular, they, show in detail, how climate change and energy dependence (especially on oil) (“In the U.S., energy consumption increased 1.7 percent per year on the average over the 10 years.”; Fay and Golomb, 2002: 15) create threats to its national security—military, diplomatically and economically, and why energy and climate change should not be considered separate and independent issues and instead are closely linked. That is why climate and energy security have come to be synonymous with energy independence.

This study attempts to shed light on the argument that the essence of the U.S. climate policy is based on its energy policies. This analysis formed on the basis of this idea is to explain how the U.S. energy policies have affected and determined its climate security both international and national levels. Climate security today is used as a tool on describing and explaining all the countries’ foreign policy based on energy.
II. The Climate Security’s Politics Based on Energy Demand

The U.S. is the world’s largest energy consumer and the second largest emitter of greenhouse gases. Its share approximately corresponds to 20 percent of total consumption, and it is coming after China (“China leads the world in coal production and consumption and relies on coal for approximately 70 percent of its energy. As a result, China emits an enormous amount of carbon dioxide, and in 2007, it overtook the United States as the largest carbon emitter of the world.”; Ma, 2010: 29) which has one-fifth of the world’s population. It releases the greenhouse gas equivalent of over 7 billion metric tons of carbon dioxide that nearly 90 percent of these emissions are related to the production and use of petroleum, coal, and natural gas. Currently, over 77 percent of the U.S.’s electric generating capacity is based on fossil fuels and coal plants alone meet almost 50 percent of its electricity demand. (Committee on Energy and Natural Resources United States Senate, ibid.: 34) Moreover on one hand fuel prices increase and energy demands grow, while on the other hand available energy resources deplete. The demand for oil, for example, is expected to increase 15 percent by 2030 (The BESAC Subcommittee on Facing Our Energy Challenges in a New Era of Science, 2008: 2). If half the heavy oil and bitumen deposits in the U.S. are brought to market, they would alone satisfy the current demand for crude oil for more than 150 years (Herron and King, 08.02.2010).

Therefore, the U.S. must decrease its dependency on imported oil, use energy in the most efficient ways possible, and more importantly decrease its carbon emissions, for its “energy security” (Committee on Energy and Natural Resources United States Senate, ibid.: 27). Overcoming these struggles will require both a sustained commitment for the long-term and quick action in the near-term. The Obama Administration (2009-Present) has shown and reiterated his commitment in this regard by reducing the U.S. dependence on oil and sharply cutting greenhouse gas emissions. During his presidential campaign, he already declared his goal is to reduce the U.S. greenhouse gas emissions 80 percent by 2050, increase the share of renewable energies to 25 percent of total energy consumption by 2025, and install emissions trading system in an entire country (Mildner and Richert, 2010: 5).

On the other hand, the U.S. requires new policies and strategies and to develop the next-generation sustainable energy technologies, such as carbon capture and sequestration; high-efficiency coal and nuclear electricity; renewable solar, wind and geothermal power generation; solar fuels and biofuels; solid state lighting; energy storage for plug-in hybrid and battery electric cars, and high-temperature superconductivity for a 21st century electric grid (Committee on Energy and Natural Resources United States Senate, ibid.: 27; the BESAC Subcommittee on Facing Our Energy Challenges in a New Era of Science, ibid.:2) that will break the U.S.’s dependence on fossil fuels. That for, it estimates that, by the year 2050, the U.S. needs to the transforming economy from one that’s based on fossil fuels to one that’s based on clean, low-
carbon, energy will require significant investment in the range of about $45 trillion (Committee on Energy and Natural Resources United States Senate, 2008: 2).

III. Combat Climate Change and Energy at Home

The development of environmental management in the U.S. demonstrates that the combination of fragmentation of power at the federal level with federalism. It, that is, comprise not “in any integrated or coherent whole, but in a heterogeneous patchwork of statues, purposes, instruments, agencies, and levels of government” (Andrews, 2006: 11). In this management, the U.S. federal government, on one hand, has taken on a powerful role in environmental policymaking; on the other hand, the state governments have delegated most policy implementation (Kelemen, 2004: 54). Even the EPA has no unique overall statue authorizing it to protect the environment (Andrews, ibid.: 11). This, naturally, reflects climate politics. Accordingly, while the states (According to data from the year 1999, for example, “Texas exceeds the United Kingdom and France in annual emissions, just as Ohio exceeds Taiwan, Illinois exceeds Thailand, Georgia exceeds Argentina, New Jersey exceeds Egypt, Wisconsin exceeds Pakistan, Colorado exceeds Iraq, and Massachusetts exceeds Norway.”; Rabe, 2004: 4), in particular the states of California, Washington, D.C. and New York, is significant players in interpreting, applying, enforcing, and regulating beyond the scope of federal law, the U.S. federal government mostly calls the shots by establishing main environmental quality standards and influencing conditions on the delegation of permit programs to the state governments (Engel, 2006: 1015).

Till today, the state governments have actively applied and pursued programs, and legal and policy measures to reduce emissions of greenhouse gas emissions, with mostly 80 percent below current levels by 2050 (Snyder and Binder, 2009: 242) in the long term. For this, in particular since 1998, states laws which require formal commitments in nearly every sector that generates greenhouse gas emissions and which establish specific state-based strategies, have been enacted (Rabe, 2004: 3). State initiatives to regulate greenhouse gas emissions substantially have affected the development of a federal program. They, more clearly, have facilitated compliance with a federal program by reducing the overall cost of a given level of nationwide emissions reduction and the demand for carbon-intensive energy (Snyder and Binder, 2009: 251). They include renewable electricity portfolio standards, energy efficiency portfolio standards, net metering, energy efficiency provisions in building codes, public funding or benefit programs for efficiency and renewable energy, tax incentives, and registries for early greenhouse gas reductions (Dernbach and Kakade, 2008: 15-18). As an example, the State of California which is dependent on imported power for approximately 30 percent of its needs and has a commitment to a 25 percent cut in greenhouse gas emissions by 2020 (Ersheimer and Sprenkel,
08.18.2010), based on the state’s Global Warming Solutions Act of 2006, known as AB 32, has applied an effective market-based program to implement the statewide cap (Engel, 2006: 1016). The impetus behind the ballot initiative, the greenhouse gas emissions law that is the strictest in the nation (Roosevelt, 2010a: AA4), is the oil industry, which has contributed more than three-quarters of the $3.1 million to getting it passed and it requires establishment a state-wide cap on emissions of greenhouse gas emissions (Hiltzik, 2010: B; Roosevelt, 2010b: AA4). Compared to the other states, the State of California, especially, is recognized as a driving force and a leader in state, regional and federal climate change policy making (Carlarne, 2008: 1372). It, for instance, signed a cooperative arrangement with the U.K. to share information and markets in greenhouse gas credits (Office of the Governor, 2010). It seems to be quite stable on climate change which its program related to electricity supply and demand has a particularly 33 percent target by 2011 (Farber, 2008).

Conversely, these initiatives, also, are carried out at regional level. The Regional Greenhouse Gas Initiative (RGGI), which showing the mechanics of developing a cap-and-trade program for carbon dioxide, is one of them. It is formed by ten northern states - the states of Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, Vermont, Massachusetts, Rhode Island, and Maryland -, has developed a model rule to establish a cap and trade program for electric utilities. Thus and so, it is to succeed a 10 percent reduction in carbon dioxide emissions from covered facilities from 2015 to 2018. (Dernbach and Kakade, 2008: 119) The State of New York, hereof, has the programs that have the effect of reducing greenhouse gas emissions from the power sector include RGGI, a direct emission reduction program and non-regulatory efforts such as the renewable performance standard of 25 percent by 2013 and the state’s goal of achieving a 15 percent reduction in electricity use by 2015 (Snyder and Binder, 2009: 242). It aims to reduce greenhouse gas emissions by 30 percent below 1990 levels by the year 2030 (Hildreth et all., 2009: 82). The other examples of multistate cooperation include The West Coast Governors’ Global Warming Initiative (the states of California, Oregon and Washington, D.C.), Southwest Climate Change Initiative (the states of Arizona and New Mexico), Powering the Plains Initiative (the states of North and South Dakota, Iowa, Minnesota, Wisconsin and Manitoba) and Western Regional Climate Action Initiative (the state of Arizona, New Mexico, Oregon, Washington, D.C. and California). The seven U.S. states, with Canadian provinces, that comprise the Western Climate Initiative reflect diverse geographies, industries, climates, populations, and energy and transportation infrastructure, (Western Climate Initiative, 2010) with an agreement to collectively reduce their emissions through a regional cap-and-trade program similar to the Kyoto Protocol’s framework (Long, 2008: 187). These programs generate little in terms of technology development or adoption, and they obtain
only symbolic reductions in greenhouse gas emissions concerning even a modest federal program (Adelman, 2010: 216).

Given looking of how climate change is taken addressing at the federal level, the U.S. does not lean towards, particularly due to the energy crisis. Of course, the federal government has an official climate change policy. It, particularly, is remarkable that many states have taken direct regulatory action to fill the vacuum left by the U.S.’s refusal to participate in the Kyoto Protocol (Ferrey and Queen, 2008: 211). To date, in the U.S., almost every state, and also local governments, had taken steps of some kind to address this issue. The State of California, for example, as noted, is profoundly considering a market-based cap-and-trade program to reduce greenhouse gases, which could potentially be linked to the EU’s Emissions Trading Scheme or to other carbon markets outside the U.S. (Chamerinsky et all., 2008: 57). But, climate policies at state level, as noted above, solemnly is implemented, although there are no take any responsibility concerning this issue on international level. According to Holland, generally, the conflict over environmental policies and practices does not arise from the struggle for power between federal and state governments in their constitutionally assigned sphere. On the contrary, to him, in many disputes, the provinces are substitutes for locally based economic interests and the federal government is a surrogate for those associations willing to put environmental protection ahead of economic growth and development. (Holland, 1996: 15) As it is, given thinking in respect to the federal-state relations, the following questions come to mind: “What is the extend of federal power over the climate change?”, or it may be asked “What is the power of the federal constitutional limits?” Overall, there can have trouble with three issues in terms of this issue: The Commerce Clause, the treaty power, and the Congress’s power under Art. IV-3(2) to “make all needful rules and regulations” governing the U.S. property (Lieberman, 1999: 168).

IV. The Commerce Clause Limits on State Action:
The Commerce-Power Doctrine

The U.S. Constitution empowers and provides the branches - the legislature, the executive and the judiciary - to place checks on each other’s exercise of these powers. This principle - separation of powers - has figured out environmental management, thereby climate change management. The separation of legislative and executive power has encouraged the U.S. Congress to draft detailed environmental legislations aimed at limiting executive discretion, while safeguarding judicial independence and encouraging courts to play an active role in the regulatory process. These dynamics, conversely, have limited the discretion of state governments in implementing federal laws. (Kelemen, ibid.: 55) Given looking to the U.S. Constitution, it will be seen that it originally did not mention environmental policy directly or indirectly. But, under the Tenth Amendment, the authority and responsibility to make
environmental policy, the state governments were entitled by the authority and responsibility to make environmental policy. (Kelemen, ibid.: 56) It, which is part of the Bill of Rights, explains that the federal government, only, is limited to the powers granted in the U.S. Constitution, by providing that powers not granted to the federal government nor prohibited to the states by the Constitution of the United States are reserved to the states or the people. Also, there are clauses related to taxing (art. I, sec. 8), spending (art. I, sec. 8), commerce (art. I, sec. 8), treaty making (art. II, sec. 2), federal property (art. IV, sec. 3) and federal supremacy (art. VI, sec. 2) among the federal constitutional powers. State power has been limited by these clauses which judicially figured out federalism doctrines derived from the U.S. Constitution (Hodas, 2009: 385). But, on the contrary, there is the commerce power versus state rights. The states, otherwise, have police power (power to protect the health, safety, welfare & morals of a state’s citizens), spending power and power to regulate land use. (Coenen, ibid., 178-196; Fitzgerald, ibid.: 20-21)

The primary constitutional basis for climate change management at federal level is the commerce clause. The so-called the dormant Commerce Clause grants that the U.S. Congress the power and the right to regulate interstate commerce, and it limits the power of the states to erect barriers against interstate trade (art. 1, sec. 8). The cooperation between the federal government and the executive branch individual states is based on this clause that is the foundation for all of the federal government’s powers to legislate and regulate and lists all of the areas that are under the unique judicial power of the U.S. Congress (Mildner and Richert, ibid.: 16). It is not grant of power to the federal courts or a restriction on state legislation. This was, basically, targeted at prohibiting discriminatory prices or exclusionary laws which would protect local business from competition by interstate firms (Andrews, ibid.: 60). The aim of this clause, according to Schultz et al., is to open the U.S. markets in order that the large nation would effectively become a solitary free-trade zone (2010: 178). In the area of environmental management, it is the most important of all of the U.S. Congress’s powers, out of virtually all federal environmental laws are adopted by the U.S. Congress under its authority (Hudson, 2010: 34). The NEPA and other major environmental laws, for instance, have been enacted under the Commerce Power and present no direct difficulties. But the U.S. Congress has no power more sweeping than that of regulating commerce. (Lieberman, ibid.: 168, 254)

Since 19th century, by the U.S. Supreme Court, it has constructed as preventing certain kinds of state legislation, even when the U.S. Congress has keep silent. Diverse doctrinal statements have been benefited in an effort to support legal intervention, while the restrictions have been subject to changing formulations. (Farber, ibid.) The court has long constrained state initiatives that both burden interstate commerce and discriminate against commerce that originates in another state. This has mostly caused federal preemption, through
state policy initiative is prevent by what in effect translates to a federal capture of the policy area said. (Rabe, ibid.: 163) It has been interpreted to prevent states from regulating interstate commerce, which is commonly known as the dormant Commerce Clause. As the U.S. Supreme Court put forward in Gibbons v. Ogden, “when a state proceeds to regulate commerce... among the several States, it is exercising the very power that is granted to Congress.” Under this clause, courts will invalidate state laws that discriminate against or unduly burden the interstate flow of commerce. This negative aspect of this clause forbids economic protectionism - that is, “regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors.” (Erspamer and Sprenkel, ibid.: 2; Gavit, 1932: 10-12) It, according to Chemerinsky et al., is an unwritten consistent extension of the U.S. Congress’s power that prevents states from usurping the U.S. Congress’s authority to regulate interstate commerce (2008: 53).

According to Lieberman, the U.S. Congress and the president, under the commerce clause, have considerable authority to provide for the national security, although their power has limits (1999: 314). Therefore, there are preponderant both of them on issues related to energy and climate security. Federal system in which the relationship have shaped in this framework, constrains on state greenhouse gas statutes might arise from the dormant commerce clause. It may limit a state’s suppleness to develop and promote renewable energy production, and many of mechanism to subsidize renewable energy generators, can conflict with this clause (Stiles, ibid.: 36, 68). This clause concerns might be serious when states are regulating electric utilities by favoring in-state electricity generators over in-state suppliers. Conversely, states may, de jure, use their traditional power to regulate natural electricity monopolies without violating it, even if out-of-state suppliers of electricity may incidentally be adversely affected. Thus, a state may impose an externality valuation in regulating utilities, just so the valuation does not discriminate against interstate commerce or out-of-state interests. Nor may state regulatory control of electric utilities be used to reduce trading of sulphur dioxide emissions permissions under the Clean Air Act, even if a downwind state believes that trades by in-state utilities to utilities in up-wind states will have a direct, reverse impact on air quality in the down-wind state. Therefore, unless state statutes, regulations, or executive orders that require consideration of greenhouse gas emissions effects (which may comprise outside the state’s borders) in integrated resource planning and rate-making are designed to discriminate against interstate commerce or unduly burden interstate commerce they would not appear to raise dormant commerce clause questions. (Hodas, ibid: 386)

V. Conclusions: The Challenge has to go on and on

The catastrophic consequences of climate change are already becoming national security threats to the U.S. and its overseas interests, especially from
extreme weather events that directly affect the U.S. homeland and countries of strategic concern. Because, as noted above, in the 20th century the U.S.’s driving force was powered by relatively inexpensive domestic fossil fuels; however, today, it is imports approximately 60 percent of its oil, draining financial resources from its economy and leaving it vulnerable to volatility in oil prices (Committee on Energy and Natural Resources United States Senate, ibid.: 6). Therefore, the U.S. is taking a hard look at the possible security implications resulting from it, which is one of the great challenges of our times, and accordingly, is trying to establish policies, the main objective of which is to create an effective, efficient, and economically beneficial climate change and clean energy strategy. Multilayered action and a comprehensive strategy are required, but they must be evaluated and integrated within a whole and along with national security documents.

Conversely, a question comes to mind at this point: “How willing is the U.S. to do this?” Because, the dilemma is compounded by differences in expectation between state and federal authorities. The U.S. states play an important role for the realization of concrete climate protection activities and initiatives. These climate and energy policies are to apply by complementing a federal program with programs and policies at the local, state and national levels. On the demand side, the U.S. as a nation state does not want to take a responsibility and an obligation, rather wanted to refrain from being part of any action which has binding and restrictive effects, particularly on the international stage, although the issue has a primary importance and showing the degree of U.S. leadership on this issue. For instance, even the U.S., in particular, refrains from signing the Kyoto Protocol which is an internationally stringent treaty. Although the U.S. has returned to the multilateral climate negotiations, the Obama Administration is not still willing to binding itself to a set of regulations (Mildner and Richert, ibid.: 5). Also, even if the U.S. Congress passed it, ratifying an internationally binding treaty will remain almost impossible, because this would require a majority of 67 percent vote in the U.S. Senate (Mildner and Richert, ibid.: 6). Moreover, the Democratic supporters of it in the U.S. Senate gradually have lost their supermajority, especially after the oil spill in the Gulf of Mexico (Gold and Casselman, 2010: A1; Martin and White, 2010: B2; CNN Politics, 2010; Mildner and Richert, ibid.: 6).

On the other hand, it is clear that the most probable threats to the U.S. in coming decade are climate change and energy security policies. From this aspect, its national interest goal set, the pursued strategy, and reorganization and integration of existing foreign affairs activities will be essential. But, these policies should not a more insecure atmosphere for those regions which have a higher probability of conflicts and tensions. Also, all regulations must become more effective especially for multinational companies which are only driven profit by a motive due to their very nature and only accept natural resources as economic goods (Colakoglu, 2008: 52). If the goal is a sustainable national
security, this issue should be comprehended as a multi-dimensional concept. The U.S., more clearly, should not pursue climate politics only on the basis of certain political and economical policies of lobbies, particularly in the Middle East. It must produce the solutions according to economic, political and economic realities of these regions which are shown in documents related to national security. At this point, the importance of bilateral and multilateral cooperatives is emerging between regional states, especially in the energy field.

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