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Energy strategy of Barak Obama

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Abstract: Providing energy in a clean method not creating environmental problems for human being was always one of the important concerns of the countries in 21th century. America by importing about 20million oil barrel per day is very dependent on Middle East as a region with about 60% of the oil in the world. This dependence on Middle East oil encountered USA with an extensive political and safety issues during the previous decades. Here Barak Obama administration in its strategy emphasized more on some policies such as "Diversification", "reserve" of fuel resources, increasing "energy efficiency" and investing on new energies to reduce USA dependency on Middle East oil by decreasing oil consumption. Besides, oil consumption reduction by increasing efficiency and using alternative energies decrease concerns especially in USA about environmental issues, the concern that was especially being emphasized in Obama presidential campaign.
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1. Introduction

Energy and providing it is one of the greatest concerns of the countries in 21th century. Beyond air pollution and influence factors, providing energy considering the increasing demand of the world demand to it and reduction of traditional fuels such as oil and gas are the most important concerns of the countries in 21th century. Here USA as the most developed country in the world and the first energy consumer is encountered with provided fuel resources. As oil is one of the most important energy sources for this country, USA dependency is increasing much on this vital substance.

Middle East, the world's most important oil region with the storage of about 2/3 of the world oil play a critical role on providing USA fuel and it is predicted that this dependency on Middle East oil will increase in future. According to the prediction of USA" Energy Information Administration"

Northern America oil imports from Middle East projected to grow from 3.3 million barrels per day in 2001 to 6.1 million barrels per day in 2025 and almost all the importing oil will be transferred to USA. "USA energy ministry" in one of its reports predicted that OPEC oil demand grows from 28 million barrels per day in 1998 to 60 million barrels per day in 2020 and a great amount will be provided by Middle east countries namely Saudi Arabia [1].

On the other hand the increasing dependency on Middle East oil causes many serious problems for USA. I t can be said that economical and strategically dependency of US on Middle East oil are carried out at the expense of military operations and threatening its safety. Permanent dependency of US on Middle East can potentially bring costly requirements for the freedom of action in this country in international relations and gradually the power of the country is decreasing. Due to this in the strategies of US presidents namely, in Clinton and George Bush, reduction of oil dependency on Middle East is emphasized more. In other words, experts and leaders of this country are mostly aware of their vulnerability in increasing oil dependency on Middle East, so in oil strategies more emphasize is on the fully-fledged control on Middle East and this region oil. On the other hand, they are looking for some choice and solutions to reduce the intensity of this dependency (table 1).

Table 1: Persian Gulf oil reserve

Country	Identified resources (Billion barrel)	Percentage (in the world)
Saudi Arabia	264	19.8
Iran	137	10.3
Iraq	115	8.6
UAE	97	7.3
Kuwait	101.5	7.6
Qatar	26.8	2
Oman	5.6	0.4
Yemen	2.7	0.2
Syria	2.5	0.2
Other countries	0.1	-
Sum	754.2	56.6

SOURCE: BP. Statistical Review of World Energy, 2010

As it was said before, there were some concerns about US dependency on Middle East oil from the past but September 11 was a benchmark in this regard. September 11 increased the concerns, because it showed that full control of Middle East and oil regions cannot easily guaranty oil transfer to world markets.

Terrorist groups by attacking oil installations and disruption of oil transfer process cause problem for US and west. Therefore, despite US control on Middle East oil, there are again more problems in this regard. In recent years, namely after September 11 there are different arguments in political and scientific community of this country about finding a solution to reduce US oil dependency on Middle East.

After the presidency of Barak Obama, these arguments were more prominent. Like other American presidents, Barak Obama in his oil strategy had a special emphasis on controlling Middle east, having close relationship with moderate countries, oil free transport and also all the issues being common between all the presidents in the oil strategy of America. But one thing make him more different from other US presidents strategies and its is his emphasis on reduction of US oil dependency on Middle East. Barak Obama beside emphasizing on the importance of middle east oil and the problems US is encountered in reducing this dependency, believes that despite all problems, US dependency should be reduced for the sake of "national interest" and "position of America" in the world. Due to this the main question in this paper is raised as the followings:

What is the most important goal of Barak Obama to propose the new energy strategy in US?

To answer the main question of the paper, the following hypothesis is raised:

The most important US strategic goal in the form of Obama energy strategy is attempting to reduce oil dependency on Middle East. These efforts are based more on three fields: 1-diversification of fuel sources and import fuels, 2- using new energies and 3- optimization of fuel consumption.

In the followings after referring to the importance of new energies, we explain about the energy situation in USA and then, we investigate the policies of Obama administration about energy and reduction of US oil dependency on Middle East and reduction of environmental problems.

Table 2: The amount of USA oil reserve (billion barrels)

Country	Reserved oil level	Rank (in the world)
Saudi Arabia	266,800,000,000	1
Canada	178,800,000,000	2
Iran	132,500,000,000	3
Iraq	115,000,000,000	4
Kuwait	104,000,000,000	5
UAE	97,800,000,000	6
Venezuela	79,730,000,000	7
Russia	60,000,000,000	8
Libya	39,130,000,000	9
Nigeria	35,880,000,000	10
USA	21,760,000,000	11

SOURCE: BP. Statistical Review of world energy, 2009

Table 3: Caspian Sea oil reserve

Country	Identified resources (Billion barrel)	Percentage (in the world)
Russia	74.2	5.5
Qazaqistan	39.8	3.0
Azerbaijan	7	0.5
Uzbekistan	0.6	-
Turkmenistan	0.6	-
Other countries	2.2	0.2
Sum	122.4	11.393

SOURCE: BP. Statistical Review of world energy, 2010

Table 4: Africa continent oil reserve

Country	Identified resources (Billion barrel)	Percentage (in the world)
Libya	44.3	3.3
Nigeria	37.2	2.8
Algeria	12.2	0.9
Angola	13.5	1.0
Egypt	4.4	0.3
Chad	0.9	0.1
Guinea	1.7	0.1
Congo	1.9	0.1
Gabon	3.7	0.3
Tunisia	0.6	-
Other countries	0.6	-
Sum	127.7	9.6

SOURCE: BP. Statistical Review of world energy, 2010

Table 5: America continent reserve

Country	Identified resources	Percentage (in the world)
USA	28.4	2.1
Venezuela	172.3	12.9
Brazil	12.9	1.0
Canada	33.2	2.5
Mexico	11.7	0.9
Argentina	2.5	0.2
Columbia	1.4	0.1
Ecuador	6.5	0.5
Peru	1.1	0.1
Trinidad Tobago	0.8	0.1
Other countries	1.4	0.1
Sum	198.9	14.9

SOURCE: BP. Statistical Review of world energy, 2010

2. The importance of new energies

The reality is that today world is facing with a great challenge and it's a view of climate condition in this planet and if this continues, fossil fuels consumption will face a big crisis. In spite of the benefit of the consumption of fossil energies and releasing hidden energies of these fuels, they are encountering so many problems. A part of these problems is referred to the green gas house that is acting as a thermal trap. Gases like carbon dioxide and methane have surrounded earth like a glass and trap a great part of solar energy inside and create a great green house in the space. The increase in solar energy inside the earth atmosphere has secondary outcomes. The disorder of climate systems is one the problems causing disasters such as big torrents and drought. Another disaster occurring following the increase in earth temperature is the glacial retreat and glaciers melting in both poles can make low height deserts and islands in a near future catastrophic [2]. This process at first increases the unduly consumption of fossil fuels by the industrial world and developing countries. So, an energy issue is very important in coping with this great challenge in the third millennium and early 21th century. Currently, fossil fuels including oil, natural gas and coal are the main energy sources and 90% of the energy is provided by these resources. Some solutions to remove this problem can be a shift to clean and alternative energies. Generally, all energy resources except fossil fuels are called "alternative energies" [3]. Energy sources are of two types: nonrenewable and renewable. Nuclear energy and geothermal powers are nonrenewable alternative energies and solar energy, water power, wind power and energy obtained from Biomass are renewable energy sources. Resources of alternative nonrenewable and renewable consist of a small share but increasing growth of the total energy consumption of human being. The most important alternative energy sources are water power and nuclear energy providing about 12% of the world energy consumption. Its alternative energies and different resources are of importance from environmental issues because fossil energy resources are finished finally and we don't have any alternative to resort to other resources. Therefore, it is necessary to move toward new energy resources [4].

3. Energy condition in America

America is the greatest energy consumer in the world. In 2008, this country alone consummated 99.3 Quadrillion energy and by this surprising figure, America is located far from other countries in terms of energy consumption. Of this amount, 37% oil, 24% gas, 23% coal, 9% nuclear energy and renewable energies with 7% are consisting American energy recourses [5]. In addition to this, America is one of the greatest countries in energy reserve and also one of the biggest producers in this regard. In 2008, America produced about 77 Quadrillion energy. The share of each mentioned energy resources is including, coal 23.9, crude oil 10.5, Nuclear Electric 8.5, Biomass [6] 3.9, hydroelectric 2.5 and other energies as 3.4 [7].

USA by having 21.760.000.000 billion barrels oil as the most important and the cheapest energy is in the eleventh country. In 2008, USA had 8.457.000 million barrels per day that is the third country after Saudi Arabia and Russia. America by importing about 13.15000 million barrels is the first oil importer in the world. After America, there are countries as Japan with 5.425, china 3.190 and Germany 2.953 million barrels per day. Also it should be said that USA consume about 20800000 million barrels per day that is very much in comparison with China as the second consumer (china with 6.930000 million barrels per day).

USA has about 5.977T cu m natural gas reserve, so, it is ranked sixth after Russia, Iran, Qatar, Saudi Arabia and Emirate. America by producing 490.800000000 billion cu m gas ranked second after Russia. But his country is the first gas consumer with consuming 117.900 billion cu m per day. Germany, Japan, Italy and Ukraine are in the next ranks.

4. Diversification of oil resources

Oil shocks in 70 decade showed that America and west industrial economies to provide energy shouldn't rely on only one region. Thus, this policy especially in 80 decade increased the production of non Middle East countries swiftly and oil production increased in the west of America, Europe and Latin

America. This policy continued by USSR collapse and Washington continued to help production increase in Russia and central Asia and Caspian Sea.
Although Middle East keeps its position in providing US oil, Washington is inclined to reduce this dependency based on "diversification strategy". In recent years in "US energy strategy", Caspian Sea regions and central Asia are taken into attention [8]. Encouraging oil production strategy in Soviet Azerbaijan, Kazakhstan and Torkamanestan, which was designed at Bush administration and is followed seriously in Obama administration, prove this fact.
According to "US energy ministry", this region has between 17 to 33 billion barrels oil and the probable reserve amount is exceeding 233 billion barrels. When these figures are proved, we can say that Middle East and Caspian Sea in terms of energy resources are in the second rank after Persian Gulf [9].
Besides, the emphasis on Africa and its oil-rich countries including Nigeria, Angola and Guinea Gulf countries which were started from Bush administration are of importance in Obama policy. At Bush administration millions of dollars were given to oil-producing countries in Africa and America tried to construct some military basis to maintain security of these regions. By 2003, American oil companies invested 10 billion dollars in oil industry of African countries and this figure increased in Obama administration. Political attempts of Obama administration to have a close relationship with oil-rich countries including Gabon, Angola, Guinea, Chad, Cameron and Congo can be analyzed. Obama trip to Africa and various trips of Mrs. Clinton to oil-rich countries of this continent is done with the aim of attracting these countries, investment and maintaining oil security. America's purpose in these policies is that by 2015, Africa oil provide at least one fourth of US demand. The important point is that this amount of consumption in America in 2015 is about 5 million barrels [10].
Besides Caspian Sea and central Asia countries and also Africa, Obama efforts to develop relations with America continent oil-rich countries including Venezuela and Mexico can be taken into attention. Now, three countries, Canada, Mexico and Venezuela are the most important providers of US oil and Obama administration is trying to guaranty this trend. Detente policy of Obama administration in Latin America and improving the image of this country and even symbolic actions of Obama in strengthening the relations with Venezuela is in this ground.
On the other hand, one of Obama policies is to identify Alaska oil and gas reserve and transferring them to US via pipe. Obama believes that considering the execution tasks done in Alaska; it can provide a part of US energy. According to estimations the produced gas in Alaska alone can provide 7% of US gas demand [11].

5. Moving toward alternative energy

As it was said before, the efforts made with the aim of oil resources diversification in countries other than Middle Eastern could not reduce US dependency on Middle East oil, so, America is still concerned about this issue. Considering the increasing demand of US to energy, it is predicated that not only US dependency is reduced on Middle East oil, but also, it will increase more and more. Therefore, it is necessary to consider other energies in US administration strategy and by increasing the amount of non fossil fuels energies, the dependency on oil and Middle East is reduced and air pollution resulting from the consumption of this produce is reduced in America [12].
Thus, in Obama energy strategy, the emphasis is more on other energies. Obama in his campaign had serious attention to environmental issues and after winning the election, tried to improve environmental standards in America. Besides, he is going to sign Kyoto protocol in which US should reduce its greenhouse gases considerably [13]. If Kyoto agreement is approved finally or new agreements are signed in future summit, America has no choice except improving standards of fuels and reduction of oil consumption and also moving toward less polluting energies. Thus, in Obama energy strategy more emphasis is on using other fuels that are called mostly clean fuels.
In the previous American governments important actions were done in this field but one of the most important issues in Obama strategies is developing the application of non- fossil fuels. The followings are the main contents of Obama energy strategy:

- Invest $150 billion to develop and deploy clean energy economy and create 5 millions of new jobs.
- Implement an economy-wide cap-and-trade program to reduce greenhouse gas emissions 80 percent by 2050
- Ensure 10 percent of our electricity comes from renewable sources by 2012, and 25 percent by 2025 [14]
- Reduction of the federal Production Tax Credit (PTC) for 5 years to encourage the production of renewable energy
- Reduction of electricity consumption in America as 20% by 2020 by creating strict standards in building and the buildings should have the best standards in terms of energy loss.
- Increasing the efficiency of new buildings to 50%, also increasing the efficiency and quality of the

previously-built buildings to 25% during 10 years. Thus, energy loss in housing sector is prevented considerably by 2030.

- Review and creation of new standards in energy field by energy ministry of America and providing budget for this ministry to make the standards feasible.
- Making incentives for reducing energy consumption in private sector including tax credit for companies reducing their energy by improving the efficiency and quality. In contrast the companies with high energy consumption should be fined.
- Establishing a new efficient digital electricity grid by advanced technologies with the least amount of energy loss during electrification.
- National commitment for annual construction of 1 million low consumption houses within 10 years.
- Commitment to establish economical and commercial structure that produce green gas houses 80 percent below 1990 levels by 2050
- Investing 150$ billion over 10 years in new energies, increasing the efficiency and saving.
- Investing on increasing the energy efficiency, saving motivations and advance the next generation of bio-fuels and establishment of energy transfer as digitalized in which the least energy loss is seen.
- Establishment of Federal Investment Program with the aim of supervision and encouragement of modernization of manufacturing centers.
- Investing in developing advanced vehicles and put 1 million plug-in electric vehicles on the road by 2015
- Increase fuel economy standards 4 percent per each year while protecting the automakers financial future of domestic
- Giving $7,000 tax credit for the purchase of advanced technology vehicles as well as conversion tax credit, this policy is done with the aim of reduction of high-consuming cars production
- Provide $4 billion retooling tax credits and loan guarantees for domestic auto plants and parts manufacturers, so that the new fuel-efficient cars can be built in the U.S. by American workers rather than overseas.
- Working with congress and auto companies with the aim of solving the problems and making the goals into practice.
- Full efforts with the aim of entering the cars working with new fuels into the market
- Producing at least 60 billion gallons of advanced bio-fuels by 2030. They will invest federal resources and government contracts into developing the most promising technologies and building the infrastructure to support them.
- Establish a National Low Carbon Fuel Standard. Here the aim is to encourage other fuels in which carbon is less than in fossil fuels and avoiding the use of fuels in which carbon is higher than national standard. This standard should reduce the carbon of their fuel by 1 percent and 10 percent by 2020
- Trying to encourage people to use bicycle and public transportation and walk and also extensive investment in public transportation especially in bus system and subway in America [15].

As it is seen in Obama energy strategies, America emphasizes more on clean fuels [16]. So, the followings are dedicated to the investigation of the most important goals of America and Obama administration investments in new energy field.

Hydrogen production

Hydrogen as a clean fuel is one the new fuels emphasized more in Obama strategy and billions budgets are considered for its economization. Hydrogen is obtained from other fuel resources such as nuclear resources, solar, water, wind, organic wastages, water waves, wood, geographical heat and biological resources. When we burn hydrogen, water is produced, so it is one of clean fuels. Therefore, this cased is considered very much in USA and a great part of investments are done on fuels [17]. In America Hydrogen is obtained from gas but hydrogen production is not very economical to compete with hydrogen. It is predicted that in future by surging oil price and new technologies, using hydrogen will be more economical to meet the demands of US. Currently, clean energy or renewable energies consist only 75 of the total consumption of America including hydrogen, wind power, water and geothermal. Producing hydrogen in USA is one-third of the total world production of which 95% is obtained from natural gas [18]. It is predicted that considering the big budget Obama allocates in future, this figure will increase. Despite all these actions, it is predicted that by 2030, hydrogen cannot be a serious rival for oil because; its production cost is very high in comparison with oil [19]. So, to use more of hydrogen, in energy bill, the government is required to do his best to produce 2.5 million hydrogen vehicles by 2020 [20].

Geothermal energy

The earth center with the depth of approximately 6400 km with the temperature of 400

acts as a thermal source and highly viscous or partially molten rock at temperatures between 650 to 1,200 °C is postulated to exist everywhere beneath the Earth's surface at depths of 80 to 100 kilometers. The heat continuously flowing from the Earth’s

interior as 82MW in the surface and with considering the total earth area the total thermal loss is estimated to be equivalent to 42 million megawatts (MW). Indeed this abnormal thermal is the main factor of geology activities including volcanic activities, earthquake, mountains and also movement of earth plane that change earth to a dynamic system and it is continuously under change. Today by the existing technologies just a small part of this resource is harness and it can be used economically [21].

Considering the great amount of this kind of energy, investing on geothermal is another plan of US government in Barak Obama administration. According to the estimations, interior thermal energy or geographical energy are energies that can produce more than 12GW electricity at global level [22]. Currently, geographical heat energy is consisting a little part of consumption energy in America (about 1.10%). But by the government investment in this field it is hoped to used internal thermal energy as economical by creating super modern technologies.

Separating coal and carbon

Another choice of supplying US fuel in Obama administration is converting coal to gas as environment–friendly considered more in the previous administrations. In this method before coal is converted to electricity, it is changed into gas and separate its pollutant elements to produce clean fuel. At Bush administration, different things were done to support this kind of fuel including the 10-years project titled as "Future Gen". In this project gas conversion technology to coal is used for the production of 275MW electricity and it is tried to remain the pollutant elements.

These projects were favored more at Obama administration. Obama attempts to economize this method by financial supports. Currently, 35 to 80$ cost in one Ton coal to produce electricity is very expensive. It is aimed to decrease it to 20$ per ton coal by investing on new technologies to make this fuel more economical.

Nuclear energy

In 2008, nuclear energy supplied 9% of US energy [23]. US administration is aimed to increase this amount by constructing new plants. In America, 103 nuclear reactor produce 205 of electricity in this country but since 1979, due to environmental concerns and events which were occurred in "Pennsylvania nuclear plant", no new plant was constructed again. Also, concerns about nuclear wastages and removing them beside high plant costs are other problems of using nuclear energy. However, Obama administration hopes to get approval of congress for the construction of new plants.

Solar energy

Solar energy is a clean energy that is considered very seriously by US administration. Despite nuclear energy or coal fuels, solar energy doesn't have any wastage. However, in the past this kind of energy was ignored [24]. At Obama administration, a good investment was done on this energy and the researches and the government supports articles about this kind of energy. The main drawback of solar energy like other alternative fuels is its high production cost. Indeed, solar energy with the production cost of 20 to 30 cent per kilowatt hour cannot be a good rival for fossil energy with the cost of 2 to 3 cent. Anyway, considering the 150 billion $ investment of Obama during 10 years on renewable energies, it is hoped to reduce the electricity production cost from Solar energy [25]. Solar plants in addition to provide energy from a free and permanent source don't have the common problems in other plants (such as nuclear plants or fossil fuels). Other benefits of solar plants are as the followings:

Despite fossil plants (these fuels burn soil and the price of electricity is dependent upon the price of oil and it is varied), solar plants use free solar energy so; the price of the produced energy is a constant number. Also, fossil plants by consuming gas, oil or coal pollute the surround space very much. Nuclear plants despite having more benefits produce dangerous wastages and its disposal is very difficult and costly. But, solar plants are not very polluted and they are environment–friendly.

Common plants require high voltage power that is very costly due to the long route of these networks. But solar plants can supply electricity of the region and connect to the global electricity network. Besides fossil plants life are estimated as between 15 to 30 due to depreciation but solar plants due to technical reasons such as low depreciation, are durable. Finally, fossil and nuclear plants require professional experts to supervise them continuously, but solar plants don't require experts and they can work automatically.

In addition to above items, solar energy has non-plant applications such as building solar heaters, solar bathrooms, solar distillers, solar dryer, solar cookers and solar houses (heating and cooling and ventilation of buildings).

Natural gas

Oil and coal consist about two-third of the total energy consumption in the world and it is very important in global consumption pollution. In contrast, natural gas among fossil fuels is the least pollutants. Because of this all the countries try to use natural gas. US administration is aware of this issue and tries to take some actions toward increasing the amount of gas in total energy consumption of America. Currently, gas share in America is one-fifth

of total consumption [26]. US administration has an extensive plan for exploration of gas resources and increasing the share of this fuel in the consumption of America. Because of this oil and gas companies in America with a great investment are exploring new gas resources in some states that are more probable for exploration. Energy Information Administration predicted that this country has 1770 T cu m gas reservoir of which, 234 T cu m are proved [27]. Also, this administration predicted that considering the current consumption amount, America will have gas reserve for 90 years [28].

In addition, transportation section has a crucial role on energy consumption. For example, this section alone consumes 70% oil and due to this, it can be responsible about one-fifth of greenhouse gases produced in America [29].

As it was said Obama administration is trying to reduce the amount of importing oil to one-third. Here the increasing amount of replacing oil by gas and coal can be one of the best actions. In America, oil is mostly used in transportation sector and coal is mostly used in electricity sector.

In two cases gas can play an important role on reduction of greenhouse gases. And increasing amount of replacing oil by gas can reduce US dependency on Middle East oil and increasing the energy security. One of the important actions in this regard is converting heavy vehicles fuel from gasoline to oil. These vehicles are located in all over US. Due to high-gasoline consumption they are of the most important factors to increase oil and greenhouse gases. Thus, Obama administration has decided via new standards convince heavy vehicles manufacturers to change the consumption of these vehicles.

Approval of NAT

One of the most important actions of Obama in energy is proposal of NAT. This law aims to change heavy vehicles fuel with gas. Also, this law requires to give tax incentives to invest in infrastructural installations namely in gas pumps. Besides, this law orders to all the state offices in America to use only gas vehicles. When it is not possible, federal offices can used other vehicles. Also, in this law, it is ordered to America energy ministry to invest more on engines with gas fuel. This is done to make changes in vehicles engine to work in the best quality by gas [30].

Besides, urban fleet in America is one of the factors to increase oil consumption and greenhouse gases. Considering this fact, Obama decides to change urban fleet fuel from petroleum to gas. According to the researches in America, fuel consumption conversion from petroleum to gas is not very difficult. So, this plan will be successful in midterm. Also, using BRT can play an important role in this regard. Using BRT can provide diverse goals of America in energy and environment. Using BRT increase the use of public transportation among citizens, thus, the number of personal cars starting with petroleum decreases. Reduction of traffic and improving the condition of streets decreases energy consumption and greenhouse gases. Establishing BRT systems have decreases the cost 30% in comparison with Urban Metro system [31].

Electricity

In America coal share in electricity is 50%. The remaining electricity is produced by nuclear energy and gas (each 20%) and other renewable energies (10%). It is worth to mention that in America, electricity is traditionally produced from coal and this is very important in producing greenhouse gases. In contrast, replacing gas with coal is not very difficult, but by increasing efficiency it helps considerably to the reduction of greenhouse gases. Due to this, Obama administration dedicates one of his great plans to the reduction of greenhouse gases to replace gas in American industry. Despite all these, there are some problems in this regard. Most of power plants don't want to accept fuel conversion from coal to gas. Naturally to change the type of fuel, it is necessary to make some changes in the structure and plan installations. The initial costs of changes cause that there isn't a limited motivation for change. Due to this, US administration by giving helps and tax incentives convince the private sectors to create some changes. Changing the electricity plans fuels from coal to gas can provide a great part of US goals in this field [32].

6. Optimization of energy consumption

For a long time, cheap oil and petroleum in America formed an especial life style. The fact is that most of American industries due to the low consumption cost are not inclined to invest on energy efficiency with the aim of consumption reduction. American industries in comparison with Germany and Japan are having high consumption and consider less consumptive standards. American vehicles with high cylinder show this inconsideration to the modification of consumption model. The modification of this inconsideration is one of the most important cases of Obama strategies.

In Obama strategy, beside a good critic of this inconsideration, the government creates production standards to make the companies and institutions take action in the modification of consumption model.

For example, extensive assistances of Obama administration to 3 great auto manufacturers companies were made. One of these conditions is trying to make environment –friendly vehicles with

low consumption. Here in Obama strategy, some standards make the companies and institutions to pass fossil fuels and move toward new fuels or at least by creating new technologies decrease consumption amount.

Also Obama administration approved "American Recovery and Reinvestment Act". According to this act, America administration should invest 20 billion $ on the research and development of highly–efficient engines, public transportation and rapid transition. This act requires investment on hybrid electric and hydrogen vehicles. In addition, Obama is going to invest on transportation system and vehicles using less fossil fuel. Hydrogen vehicles and solar or electric vehicles are such cars [33]. Also, Obama is in favor of increasing fuel efficiency. He asked auto manufactures take actions to increase efficiency and reduce fuel amount. For example, Obama on May 19, 2009 proposed that in 2016 personal cars and light truck fleet have only one gallon petroleum for every 36 miles. This proposal give auto manufacture companies to take the necessary actions, because in 2020 manufacturing below the stated standards vehicles will be forbidden. Currently American vehicles consume 305 more than Obama views and this amount should be decreased to 30% by 2020. According to the predictions, Obama order during the next 5years decrease 1.8billion oil consumption [34].

Most of the experts believe that Obama's strategy had a crucial role on the reduction of US dependency on oil and pollution reduction of environment. For example, based on the researches of Natural Resource Defense Council Recovery, Reinvestment Act, and other works of Obama, increases energy security of America. As it was said before, this act is emphasized more on the production of low-fuel vehicles. It is predicted that production of such vehicles in future decreases the consumption of America transportation dedicating a great part of oil consumption. According to the estimations by Union of Concerned Scientists decision of Obama to produce low-consumption fuels in 2020 save 1.4 million barrels per day. This saving equals the oil importing currently from Saudi Arabia [35]. So, Recovery and Reinvestment Act in2020 can leads into the production of 350 million barrels [36].

Barak Obama wants to apply some strategies and by increasing efficiency to 15% decreases the demand for electricity energy by 2020. Making this strategic goal practical is saving about 130 billion dollars. Besides, 15% reduction of electricity energy means avoiding 5 billion ton pollutants by 2030. Obama is going to ask energy ministry to make production and consumption of energy stricter. Currently, this ministry has 34 standards on efficiency that Obama tries to increase the number of these standards [37].

Another goal of Obama on reduction of energy consumption and optimization of fuel consumption is the reduction of Federal administration consumption. Federal administration consumption in 2008 was about 14.5 billion $ and in this regard, Federal administration is the first in the world. Obama is inclined by optimizing fuel consumption in buildings and federal administration installations and by 40% increase at efficiency level during 5 years, decreased this amount by 2025. According to predictions, America will face 15% reduction in fuel consumption by 2015 [38].

7. Conclusion

One of the most important concerns of human being in 21th century was clean energy supply. Supplying energy namely, the environment–friendly energy is one of human being desires in the new century. Here America as one of the biggest energy producers and consumers in the world is very important. Great part of (about 60%) America consumptive energy is supplied by oil and gas [39]. This case increases US dependency on Middle East considering its oil and gas capacity as America administration is forced to find solution to reduce oil dependency to this region. In other words, Americans are fully aware that without doing any serious action on energy and considering the unstable nature of Middle East policy beside daily importance of this region on supplying the world energy, there is no alternative except applying new policies in energy. These policies should guaranty cheap oil transfer from Middle East, this is the strategy of all presidents in America. On the other hand, optimization of fuel consumption and moving toward new fuels reduces oil dependency on Middle East. As it was investigated before, in Barak Obama strategies all the goals are gathered to reduce US oil dependency on Middle East and America is going to have less environmental problems. Barak Obama believes that:

"We have been encountering with this serious problem, this problem is our dependency on oil consumption that is a serious threat against "our security", "world health" and "national economy". During the previous decades, due to "the especial interests of leaders", "preferring short-term interests to long-term interest" and "the role of some of interest groups" we couldn't cope with this problem. But now, we have no choice but solving this problem and we can solve them" [40].

It should be said that conversion from fossil energies to alternative energies is not very easy. One of the main problems of all new energies is their high price that competing with cheap oil is problematic issue. Thus, when oil is available as a cheap fuel, it is unlikely to use alternative energies to compete with

fossil fuels. By increasing amount of oil consumption in the world especially in some countries as china and India increase the importance of Middle East oil and there is not such an easy way to reduce the importance of this region. In other words, at least in midterm the world economy despite all the efforts made and all planning will be dependent considerably on Persian Gulf oil.

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