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### RISING LEVELS OF CONSUMPTION'S INFLUENCE ON THE ENVIRONMENT IN THE REAL ESTATE SECTOR

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### Abstract

This paper examines the influence of the increasing levels of consumption on the environment which increased pollution, specifically in the real estate sector in Lebanon. Demographic changes in population, immigration, and the middle class followed by competition and the increase of production are reasons for the increase in consumption levels. Based on a literature analysis, we first introduce the influence of consumption on the real estate sector globally and how the result of this increasing demand in the real estate sector has created challenges to supply the market with building material. In the literature review we also illustrate the effect of the rising consumption level on the environment. A desktop research methodology and a question and answer interview with a developer's personal experience background will be used. A case study on the Lebanese market will be illustrated, on issues of pollution, and climate change due to the increasing demand on construction which have created new challenges with supplying building material and maintaining a sustainable environment.

### Keywords

Consumption, Sustainability, Construction

# RISING LEVELS OF CONSUMPTION'S INFLUENCE ON THE ENVIRONMENT IN THE REAL ESTATE SECTOR

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**ABSTRACT:** *This paper examines the influence of the increasing levels of consumption on the environment which increased pollution, specifically in the real estate sector in Lebanon. Demographic changes in population, immigration, and the middle class followed by competition and the increase of production are reasons for the increase in consumption levels. Based on a literature analysis, we first introduce the influence of consumption on the real estate sector globally and how the result of this increasing demand in the real estate sector has created challenges to supply the market with building material. In the literature review we also illustrate the effect of the rising consumption level on the environment. A desktop research methodology and a question and answer interview with a developer's personal experience background will be used. A case study on the Lebanese market will be illustrated, on issues of pollution, and climate change due to the increasing demand on construction which have created new challenges with supplying building material and maintaining a sustainable environment.*

**KEYWORDS:** *Consumption, Sustainability, Construction*

## 1. INTRODUCTION

Disasters are happening worldwide and quadrupled in the past 50 years (The Economist, 2017), nature is fighting back. These disasters are a factor of climate change influenced by humans since the industrial revolution (UK Environmental Change Network). Rising levels of consumption is one of the main factors influencing the environment. In the book "Global Turning Points", by Mauro F. Guillen and Emilio Ontiveros, we find that the change in the demography and the rise of the global middle class will help in the rise of consumption levels. Consumption will also rise due to the increase in competition and the increase of production.

The size, structure, and distribution of human population are changing. It is estimated by the United Nations Population Division "world's population by the year 2100 is 10.8 billion" (Global Turning Points, p: 42). More people mean more consumption. In the book "People and the Planet" written by the members of the royal society, led by Sir Paul Nurse FRS, have argued how increase in population and consumption impact the planet. The book illustrates the challenges that face a sustainable life in the future which are caused by "rapid population growth" and "increase of per capita consumption" (People and the Planet, p: 11). Water consumption for example has increased "between 1960 and 2000 world water use has doubled from about 1800 to 3600Km<sup>3</sup> per year" due to the increase of demand by the growing population (People and the Planet, p: 49). This led water resources to drop and it is estimated in 2025 we will have water scarcity (People and the Planet, p: 50).

Demographic change is also influenced by international migration, in 2010 half of the population in the world lived in cities (Global Turning Points, p: 43). By 2025 the United Nations forecast that there will be a rise in the number of cities with population reaching around 20 million people, and new megacities will rise in areas such as Asia and Latin America. The increase in number of cities will have an impact on food, water, and natural resources. It is also projected that international immigration will increase developed countries population, and will account for 12 percent of their total population. It is important to note that immigrants will most probably settle in cities and not in the countryside. Since the start of 2017, "more than 100,000 migrants have made the journey across the Mediterranean seas to seek refuge in Europe" (U.S. News, 2017). The reallocation of

population may also increase consumption as well, and the need for new demands may be created. In the article “10 Countries That Take The Most Immigrants” EU nations such as Italy is facing a problem with the high costs of “housing thousands of refugees” (U.S. News, 2017).

One of the key global turning points is the rise of the global middle class, it is forecasted that by the year of 2027, “more than half of the world’s population will be part of the middle class”. Poverty rates have gone down due to the rise of the middle class in countries such as Brazil, China, India, Indonesia, Mexico, and Thailand (Global Turning Points, p: 92). It is important to know that the middle class consumes the most in an economy, “demands more services, branded goods, and buy homes” (Global Turning Points, p: 93). It is also important to know that in 2009 the total consumption level of the middle class reached 21 trillion dollars and it is forecasted to reach 49 trillion in 2030 (Global Turning Points, p: 95). In the article “An Emerging Middle Class”, Mario Pezzini, Director of OECD Development Centre, stated that in 2009 the middle class accounted for “the highest number of people” and contributed to the increase of domestic consumption, giving an example on Ghana “car possession has increased 81% since 2006” (OECD Observer, 2012). As a result, the upcoming of the middle class will result in creating challenges in maintaining natural resources, and climate change.

Production is increasing, firms are getting bigger and new entrepreneurs are making their way into the market. Industries are producing more since they want to reach economies of scale, thus they are using more resources. China for example has raised its production rates to “12.35 percent from 1990 until 2017” (Trading Economics, 2017). However, companies that use economy of scale sometimes end up in producing so many products that they do not sell, in such a case the unsold products account for lack of control on waste. PepsiCo introduced Crystal Pepsi in 1992 but the new product did not sell, customers said that the new product tasted like the original Pepsi, this led PepsiCo to remove the product from the market (Time, 2014). Production failure is another aspect, whereby some companies go with mass production without efficiently testing their product, and in doing so their product might not work as needed contributing to the loss of resources allocated. Toyota is an example of such a case, where the company recalled 2.9 million vehicles globally because of a defect in airbag inflators (CNBC, 2017). Samsung’s galaxy note 7 was also a failure where the smart phone would explode or catch on fire that led Samsung to recall the entire production line of their smart phone (Business Insider, 2016).

Competition is another factor that contributes to the rising level of consumption. Competition influences prices; in the case where prices go down this might lead to an increase in consumption. In the article “How to Fight a Price War” the author gives an example on the airline industry in the United States which occurred in 1992, where airline companies reduced the prices of airline tickets which led to a record volume in high sales (Harvard Business Review, 2000). But competition on the other hand has both positive effects and negative effects on the environment. Innovation will be a positive attribute since cost of producing products and services will decrease and more resources can be allocated for different use. In the automotive industry Mechatronics helps the company in manufacturing, detecting problems, and improving reliability which drives costs down (Industry Week, 2010).

The purpose of this article is to show how the rising level of consumption in the real estate sector in Lebanon has influenced the environment and increased pollution. A case study on the Lebanese market will illustrate the impact of the rising level of consumption on the environment, and how some real estate companies are tackling the issue of consumption stress on the environment. A literature review will be done on more than one area recently studied on the causes of rising levels of consumption in the real estate industry globally, and its negative impact on the environment.

## 2. LITERATURE REVIEW:

### 2.1 Consumption and Real Estate Globally:

All the above mentioned factors contribute to the rise of consumption levels. In the real estate market consumption is changing. The need for housing is increasing and more demand on apartments has emerged. The reasons for this change are many but are also related to the factors discussed which led consumption to rise. When we talk about demographic changes we find that the increase in population size has increased the demand on the real estate sector, since more people are born the need for shelter will rise. International immigration will also raise the demand for more housing and new cities will emerge. The growth of the global middle class will also reflect on the real estate sector since more people move outside of poverty the need for new houses will be created. These factors will increase production in the real estate sector and in doing so; consumption will raise the demand for building material and land.

Another aspect for the rising level of consumption in the real estate sector comes from the housing loans programs created by banks. Zhan McIntyre and Kim Mckee have reported in their article "Governance and Sustainability in Glasgow" about how the government in the UK mainly the City Council produced a local housing strategy to help citizens in getting hold of apartments and their efforts to promoting "middle market" homes (Governance and Sustainability, 2008). The article elaborates on two strategies, one which focuses on increasing the amount and opportunities of houses to be available, and the second by changing the social trend of renting to encouraging ownership instead (Governance and Sustainability, 2008). Diana Olick a writer in CNBC shows how demand for new houses is still increasing in the United States, she said "Homes are not only selling faster than last July, but faster than last year's peak months" (CNBC, 2017). She explains that there is a big demand for houses and she bases her assumption from the online listings of potential buyers.

High economic growth followed by rising income will increase the demand in the housing market. The Malaysian construction industry is a good example for explaining how the economic growth of a country is a factor that affects the housing market. In the book "Building Maintenance Processes and Practices: The Case of a Fast Developing Country" the authors describe the construction industry as an economic investment. They reported that Malaysia is trying to achieve high income status by 2020, and that its government is trying to transform the country into a developed nation. From 2009 to 2013 the growth of the construction industry is on the increase. In 2013 the economic growth reached "4.7%" which was mainly supported by the construction market growth that was "10.9%" (Building Maintenance Processes..., 2015). It is important to know that the high levels of growth in the construction sector are due to residential projects, and the sector also contributed to the rise in employment levels. In 2012, the employment rate in the construction industry was "8%" of the total employed workforce, with approximately 1.02 million people (Building Maintenance Processes..., 2015).

In the article "Energy consumption patterns in the process of China's urbanization" the author and his colleagues talk about the development of the construction sector between 1991 and 2005. During these years the construction sector increased its growth rate by "16.6% annually, floor space under construction was 410.5 million square meters and has increased to 3527.4 million square meters" (Energy consumption patterns, 2012). This led to the increase of production in steel, cement, aluminum, and glass. "The output of these industries expanded, with an annual growth rate ranging from 10.9% to 17.6%" as shown in table 1 (Energy consumption patterns, 2012). Southeast Asia and the Middle East witnessed a boom in the construction industry; cement availability for example fluctuated globally, due to large projects in infrastructure and in the residential area. Cost of building material and labor increased since more demand was created and because most of the building materials are scarce resources, which made it harder to control (Social Influence and Sustainable Consumption, 2015).

Table (1): Consumption of constructing materials in China  
 Reference: State Statistical Bureau, China Statistical Yearbook 2006, online version,  
<http://www.stats.gov.cn/tjsj/ndsj/2006/indexeh.htm>

Popul Environ (2012)								
Table 1 Output of cement, steel, aluminum, and glass								
Year	1991	1992	1993	1994	1995	1996	1997	1998
Cement (Million Tons)	252.6	308.2	367.9	421.2	475.6	491.2	511.7	536.0
Steel (million tons)	71.0	80.9	89.6	92.6	95.4	101.2	108.9	115.6
Aluminum (million tons)	0.8	1.0	1.3	1.5	1.9	1.9	2.2	2.4
Class (million tons)	87.1	93.6	110.9	119.3	157.3	160.7	166.3	171.9
Year	1999	2000	2001	2002	2003	2004	2005	
Cement (Million Tons)	573.0	597.0	661.0	725.0	862.1	966.8	1,068.8	
Steel (million tons)	124.3	128.5	151.6	182.4	222.3	282.9	353.2	
Aluminum (million tons)	2.8	3.0	3.6	4.5	5.6	6.7	7.8	
Class (million tons)	174.2	183.5	209.6	234.5	277.0	370.3	402.1	

From table 1 we notice how China has been increasing its supply on natural resources used in building material. Cement output has quadrupled from "1991 to 2005 to reach a high of 1068.8 million tons". Steel output has gone up five times from "1991 to 2005 and reached 353.2 million tons". Aluminum output

increased 10 times and reached in “2005 7.8 million tons”. And finally glass output increased to a high of “402.1 million tons”. This rapid increase in the development of these industries resulted in the increase of industrial energy consumption (Energy consumption patterns, 2012).

To summarize this section the increasing level of consumption in the real estate sector is due to demographic change, the rise of the middle class, international migration, banking programs, governmental influence, and economic growth. The result of this increasing demand in the real estate sector has created challenges to supply the market with building material and maintaining the environment.

## 2.2 Consumption and the Environment:

The environment provides natural resources, which production and consumption use in order to form material and nonmaterial goods and services needed for human wellbeing. In this section I will be stressing on the influence of rising levels of consumption on the environment and specifically the real estate sector, which led to the increase of pollution and land degradation. Global warming and climate change has been discussed over the years as a factor of human pollution and the increase of consumption globally. Air pollution has grown 8% globally during the last five years, fast growing cities such as in the Middle East, and south-east Asia have reached five to ten times above the WHO recommended levels (The Guardian, 2016). Due to these factors climate change is taking places and more challenges are rising worldwide.

In the article “Global Warming” the author states that greenhouse gases are the main environmental issue, which is created from fossil fuel combustion and biomass burning, this led to the increase of CO<sub>2</sub> in air (Global Warming, 2006). The author also addresses about the composition of the “Brown Cloud” and that aircraft, ships, and surface stations that use fossil fuel combustion have contributed to “75% of its creation” (Global Warming, 2006). In the book “Climate Change, Energy, Sustainability and Pavements” the authors explain that climate change will be reflected with high temperatures, more energy in the atmosphere and warmer seas (Climate Change, 2014). They argue that the global increase in temperature will lead to climate redistribution, giving an example on coastal Californian winters are expected to be warmer and higher in rain levels, and the summer will be cooler (Climate Change, 2014). The authors also illustrate the changes in the environment, starting with the water level, higher temperatures will lead the ice to melt in the equator thus sea levels will rise around 0.6 m, many countries will witness intense rainfall, and flooding inland (Climate Change, 2014). For example recently the United States has witnessed a big hurricane in Texas County which flooded the entire country in august 2017 (The Guardian, 2017). Drought will also rise due to the lack of rain, many countries will lose crops and the high temperatures will make it harder to live in such countries (Climate Change, 2014).

Environmental pollution began to escalate after the industrial revolution, the increase in production by many industries have contributed to this rise, transportation has also increased environmental pollution with the high number of cars driven every day, agricultural activities contaminated water sources and soil because of the increasing use of pesticides, ecosystems are being destroyed to make space for the increase in population, and finally residential areas have destroyed the wildlife and ecosystems where they are being developed (Environmental Pollution, 2017). The effects of pollution are negative on the planet and humankind for sustaining life in the future. Effects on human health maybe respiratory for example, there is an increase in people who have allergies, Asthma, and irritation in the eyes, pollution has also been a major factor for cancer development. On animal’s life maybe extinction as an example, acid rain will affect rivers in toxicity which will make it hard for fish to live (Environmental Pollution, 2017).

The boom of the real estate sector is facing challenges of maintaining the environment. Throughout decades the main sources used for the construction industry are steel, wood, cement, glass, and aluminum. The process of producing building material and the rising level of residential and commercial areas being built are the main influence on the natural environment. In cement manufacturing not only do we produce high numbers of CO<sub>2</sub> emissions while producing cement but we also destroy beautiful mountains and land to get the raw material. It is important to know that cement manufacturing has negative effects on the workforce employed in the industry as well. In the article “Airway inflammation in cement production workers” the authors argue how the polluted air from the manufacturing in cement is considered dangerous on the workforce. They illustrate the percentage neutrophil that was found in the blood tests of the workers, and its affect on their health and well being (Airway inflammation in cement production workers, 2017). Cement production is the third ranking producer of man-made CO<sub>2</sub>, it has two stages: first stage the burning of fossil fuels to generate cement production, and second stage thermal decomposition of calcium carbonate

in the production process (The Environmental Impacts of Concrete, 2017). Cement manufacturing results in “landscape degradation, dust and noise, visual impact on some areas of outstanding natural beauty, loss of agricultural land, and the use of portable water to wash aggregates” (The Environmental Impacts of Concrete, 2017). An example of the hazardous production of cement is the Boston cement factory explosion. An explosion in a concrete plant in Boston in 2006 caused major problems for the neighboring areas; it coated a whole neighborhood with cement dust, thousands of pounds of slag dust covered a close by school bus yard, and contaminating a number of school buses, 61 people were admitted to hospitals. Symptoms included: “shortness of breath, poisoning, and burning sensation in eyes, nose, and throat” (Cement Production, Hazards, and Recycling, 2011).

Steel production has a number of impacts on the environment, which include the emission of greenhouse gases, water contamination, and hazardous waste. The biggest producer of steel is China with “1607 million metric tons in 2013, EU is second with 165, Japan 110, and USA with 87” (Steel production and environmental impact, 2017). China is the biggest greenhouse gas emitter; in 2017 the concentration of greenhouse gas was almost twice as much as the same period in 2016, due to the increase in steel production (The New York Times, 2017). The production of marble is one of the most important sectors in Italy specifically Sicily. Italy alone accounts for “18%” of the world's output in marble tile production (Marble quarrying: An Energy and Waste intensive activity, 2008). But as steel production, the marble industry causes several environmental issues such as the disposal of scraps and sludge, and also contributes to the emission of air pollution. Results have shown in the article “Marble Quarry: An Energy and Waste intensive activity” that the major impact of this industry is on the Ecosystem, and its contribution on the climate change (Marble Quarrying, 2008). Wood production is also used in the construction industry; it has remained the most predominant material used for construction (The Impacts of Forest Industries, 2003). But also wood production has many draw backs on the environment such as: Loss of Biodiversity (population of plants and animal species), Soil Erosion, and Desert Encroachment. In Nigeria because of the high production of wood, forests are disappearing, in areas such as Ondo, Ogun, and Lagos states and have reported air emission of toxic gases and solid waste deposal (The Impacts of Forest Industries, 2003). Aluminum is the second most used metal after iron in the world, the construction industry account for “24%” of the demand on aluminum, and like steel China is the largest producer of aluminum (Aluminum production & environmental impact, 2017). The negative effects on the environment are: air pollution, the damage of the ecosystem, and polluting the water (Aluminum production & environmental impact, 2017).

### 3. METHODOLOGY:

This paper will consist of a case study on the Lebanese market that will show how the rising level of consumption in the real estate sector have increased the damage on the local environment and how some real estate companies are trying to minimize the damage (Study Design). A desktop research methodology will be followed in which all the data will be collected from online websites, and e-business magazines. Based on the case I will reflect on the issue of environment sustainability and a question and answer (Q&A) interview conducted with a prime developer in the field of construction sector.

### 4. CASE STUDY:

#### 4.1 Real Estate Consumption in Lebanon:

The Real Estate industry in Lebanon is a very promising business which has been growing in the past years. It is important to understand the nature of the Lebanese market, and what makes it so unique. In brief, Lebanon is a small country, it has a growing population, land is scarce, and the demand for residential apartments is increasing at a very high rate. The increase of demand in the real estate sector has led to increase in competition, increase in the price of apartments and land, and an increase of costs of the resources used in the construction industry.

The impact of the real estate sector in the Lebanese market is very important and beneficiary. Lebanon as a market is influenced with the real estate sector, where it accounts for “18% of the Lebanese GDP” as given from the Lebanese financial market (Chamber of Commerce Lebanon, 2017). So when real estate projects start to develop the market growth will increase, and society will have more jobs, better compensation, new infrastructure, and more investments that will be spread throughout the Lebanese market.

In my question and answer (Q&A) interview conducted with a prime developer in the field of construction sector who has more than 40 years of construction history in the Lebanese market, he explains that the business in the real estate development sector has been changing, he has learned to adapt to the changes that have affected his business. In his line of work his company usually buys prime locations which he develops depending on the area, if it's commercial or more luxurious, subcontracting the different construction parts to different firms that are of high quality performance, and his firm manages each project separately.

During the process of development in each project his firm constantly monitors the market anticipating any change that might occur on both: sales and the cost of resources needed for implementation. The fluctuation in prices of raw material affects costs which affects the price of apartments. When oil was on the rise steel prices and cement also increased and so did the firm's price of selling, but when oil prices decreased the costs decreased and so did prices on apartments. The rising level of consumption in the real estate sector in Lebanon was affected by housing loan programs that were targeted to the middle income level customers which increased the demand for residential apartments by "38%" (Business Opportunities in Lebanon, 2017). In Lebanon for example the central bank has allocated \$1.5 billion in 2017 for packaged loans in home purchases with relatively very low and attractive interest rates, thus encouraging the middle class segment to increase its demand on houses and apartments (Business Opportunities in Lebanon, 2017). This led to the increase of land degradation and the destruction of urban forests. Another major problem we face in Lebanon is the increase in the consumption of building raw material which also impacts the environment negatively. For example I would like to talk about the cement manufacturing in Lebanon, where the cement manufacturer Holcim in Chakka has contributed to landscape degradation, and the loss of outstanding natural beauty as illustrated in the photograph (1) (2).



Fig. 1 Chakka valley, source of cement  
Reference: Google maps, October 29, 2017



Fig. 2 Chakka valley, source of cement  
Reference: Google maps, October 29, 2017



Fig. 3 Bchamoun, Construction Site  
Reference: Bshamoun Plot 2065 October 29, 2017

According to the Daily Star Lebanon, the production of cement has increased due to the increase of demand in the construction industry locally, whereby the production has tripled from "2 million tons in 2006 to 6 million tons in 2011" (Daily Star, 2011). Unfortunately, the loss and damage that occurred reshaped the ecosystem in the area of chakka valley. The effect of this increase will definitely have a

negative effect on the environment, especially air pollution as well. Another construction material used is marble and granite which consists of a market size "\$96.61M" in Lebanon, "having more than 400 factories, and more than 600 traders" as estimated by Lebanese Chamber of Commerce (Chamber of Commerce Lebanon, 2017). This high number of factories has also increased the level of pollution in Lebanon. Due to the increase of consumption in the real estate sector, more urban areas are being demolished close to the city of Beirut, such as Bshamoun, Aramoun, Chwaifat, etc. In my Q&A interview, the developer explains that these areas once filled with forests and beautiful natures are now being replaced with unorganized construction of buildings due to the lack of supervision and control from the Lebanese government and the high rate of bribes that this industry offers. These areas are not being managed correctly and have not been well structured since there is no control and government monitoring. In that sense you find many green areas that are near such projects being also destroyed since the concern for the environment is less than the return and profit of the entire project. For example: in bshamoun, once a developer starts working on his project, he disregards his surrounding as shown in picture (3).

Another major problem that we face is the pollution in the Lebanese water system and sea beside the factory of Holcim and the Lebanese harbor whereby many shipping cargo carrying construction raw material such as marble and steel have increased their activities during the last 12 years, and increased the import of raw material used in the construction process. This led to the increase of pollution of the Lebanese sea.

Another factor that is destroying the ecosystem and increasing pollution in the sea is the construction enlargement of the shipping harbor through sea dumping, and the waste dumping happening at Costa Brava, Burj Hamoud, and Zaytouna Bay which was transformed to a marina, and is more related to the increase in demand for construction of touristic retail shops.

In the article "Lebanon's National Strategy for Air Quality Management 2015" the authors indicate in their study that in Lebanon gas emissions from power plants and industrial companies such as Holcim have produced "73% sulphur dioxide, 62% PM10, 59% PM2.5" which are very dangerous to the environment and health (C. Chabarekh, 2017). The article also illustrates that "at least 50% increase of Asthma" is a factor of this air pollution in Lebanon (C. Chabarekh, 2017).

In another study that is concerned with climate change in Lebanon, declares that due to the increase of pollution the cost of damage from drought will be "\$320 million" and water shortage will be a very big problem in the coming years (UNDP, 2015). Alarmingly, forest fires have increased during the years due to the increased level of pollution, in 2016 total number of fires was "260 affecting a total area of 1870.54ha" approximately (Ministry of Environment, 2016).

The real estate industry is known to have a bad side on the environment. The resources used in the construction process have raised the pollution level on the environment. At the end of my Q&A interview the developer explains in response to the rising awareness of global warming his company has recently been adopting an eco-friendly way of thinking. In recent projects his company installed solar power energy which is a renewable source of energy. It is encouraging its customers to install such modifications to their apartments so that on the long run they will be participating in the sustainability of the environment. This solar power energy supports electricity and water boilers, and decreases the use of bad energy. Another approach he has started using is swage water recycling where his firm installs a recyclable system for water waste, and uses this new water in gardening. The company also has in every project it develops a green area which is a facility that is offered in all their projects.

## 5. CONCLUSION:

We should learn from our mistakes, climate change will be irreversible if we continue to neglect the challenges that face us. As the world population increase and more demands are created the more problems we will have to work on to insure a sustainable future for other generations to come. In the construction and real estate sector we should be more focused on innovation, which will lead cost on the environment to decline, and the use of environmental friendly strategies should be adopted.

### Recommendations:

- A. The use of clean energy in the production of building material will decrease the emission of greenhouse gases, and help in maintaining the ecosystem. Using solar and wind power energy to generate clean

energy should be adopted by the real estate sector. For example using solar panels to generate light inside apartments, and heat up the apartment's water boilers to increase the use of clean energy.

- B. Governments should declare new laws to protect forests and mountains, and spread awareness in all aspects of its economy on global warming and try to explain new ways to decrease the effect on the environment.
  - C. Governments should have more control and monitoring in the real estate sector, to insure that construction developers abide by environmental regulations in their projects.
  - D. The real estate sector should also focus on building sustainable cities, and prolong the life of built structures. If we renovate old building we will decrease the use of building material, and the use of new land.
  - E. Contractors should think about building smaller sized apartments since the cost for building material and land is high on the environment.
  - F. Contractors can also buy big sized apartments and break them into two smaller ones, thus helping in the increase of supply and decreasing the damage on the environment.
- We must always keep in mind that our home is not where we live now but it is much bigger, it's the Earth.

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