

SERIAL KILLER WIND TURBINES?

Ayten Deniz YILMAZ

When Wimpy the bird flies through the sharp blades of the evil wind turbine, all the benefit which the turbine has for the environment loses its meaning. Since the wind turbines are high enough to interrupt birds' migration, they are able to kill the birds with their fast rotating blades. Between 140,000 and 328,000 birds die every year from collisions with wind turbines. If some solutions are not given, Wimpy the bird will go on dying. Imagine all the birds go without touching the turbines.

Planting wind turbines away from migration routes and changing the design of them with less dangerous ones are some of the solutions. Another solution is a new design for wind turbines which is known as vertical axis turbines. With this new design, turbines become visible to the birds when we compare these new turbines to the first versions of them. Also the blades of vertical axis turbines are close to each other which reduces the possibility of birds passing through them.

There is another factor called urbanization effect on birds' migration routes. Urbanization attracts birds to arrive in the city earlier rather than their main place due to heat, possible feeding by humans. Therefore, it is possible that birds can stop arriving in their first duration. Heat also gives place to earlier vegetation which is appealing for birds and changes the main routes of birds to follow. Don't be afraid, Wimpy, you will survive!

SHOP WITH A GRAIN OF SALT

Büşra YÜCEL

Presumably nobody wants to eat plastic, but today everyone unknowingly does, thanks to the growing consumption of plastic bags and it's time for the consumers to put an end to this with a simple, sustainable switch to reusable bags that they can actually make at home. The pollution that plastic bags create in the oceans are not limited to only seafood, but to salt as well, as plastic pollution doesn't completely degrade over time but breaks down into micro plastic, tiny grains of plastic that cannot be separated from salt. So even if one avoids seafood not to include plastic in their diet, the fact that plastic is now integrated in salt makes it very difficult to escape eating plastic. The dark sides of these innocent, free plastic grocery bags also extend from killing marine animals in increasingly large numbers every year, to wasting a billion liters of oil, 8% of the world's existing oil, and costing billions of dollars every year to produce and additional billions of dollars to clean up afterwards. Stopping this is only possible with the consumer, making the simple change of switching to environment friendly, reusable cotton bags instead of energy wasting, harmful and actually pricey single use plastic bags while grocery shopping can save the planet. The good news is you don't even have to go out and buy these reusable, eco-friendly, cotton bags, you can make it at home by recycling your old t-shirts without little to no effort which makes them not only eco-friendly but also washable, practical, free, long-lasting, creative and custom. Even if cotton also uses up a lot of water resources, recycling them eliminates this problem as well. All you need is some scissors, an old t-shirt and a little imagination to save the world. By grocery shopping responsibly, we might start living in a world where we don't have to eat plastic with our salty meals anymore, marine animals live a happy, long life and we save our energy resources and money. The world depends on our old t-shirts and imagination right now, so it's time for everyone to become a hero while grocery shopping!

NUCLEAR ENERGY: CAN IT BE TURKEY'S RESCUER?

Çağla SÖZER

Nuclear power is an important topic that some scientists are against building a nuclear plant because of the apprehension that claims nuclear power is dangerous. People have concerns about safety issues because of past incidents such as Chernobyl. Another concern is what to do with radioactive waste and its effects on climate change. Although nuclear energy is a debatable issue around the world and also in Turkey as well, it is a significant source of energy and is used by sixteen countries such as USA, France, China, and Russia for producing electricity. It is important to know that nuclear power plants emit no toxic gases and if it can be managed properly, it has no contribution to climate change.

Turkey wants to be independent from other countries for electricity and is planning to build three nuclear power plants (Akkuyu, Sinop and Igneada). These power plants help Turkey for economic growth.

In comparison with wind energy, nuclear power occupies smaller place for producing same amount of energy. When one nuclear power plant produces 1154 megawatts of energy, 2077 wind turbines are needed to produce same amount of energy.² This comparison shows that wind energy requires more space than nuclear energy. Also, it is important that wind energy is too variable because it takes weather conditions as a base. However, nuclear power plant can provide a constant output. Turkey needs more stable energy and nuclear power can answer the energy needs of Turkey.

NUCLEAR POWER IS NOT WANTED IN TURKEY

M. Mert ÖRSLER

According to recent research, almost two-thirds of Turkish people are opposed to nuclear energy in the country. Nearly 90 percent of the participants of research living in Akkuyu, Sinop, and İğneada are worried about the potential of a Chernobyl-like nuclear accident.

Based on Dr. Pınar Ertör-Akyazı and her colleagues' research from Boğaziçi University, 2422 residents from urban Turkey were surveyed face-to-face. Their findings indicate that Turkish citizens endorse renewable energies while their opposition to the nuclear energy in Turkey is strong. Although only 7.2 percent shows their endorsement regarding nuclear power, 62.5 percent of people state that they are strongly opposed to nuclear power in Turkey. On the other hand, renewable energies such as wind energy and solar energy are endorsed by the same participants of the research; 70.2 percent ranked renewables as their first or second choice while only 4 percent as opposed to renewables.

According to the research of Emrah Akyüz from University of Leeds Sustainability Research Institute, people live in the regions where the nuclear energy plants are constructing and will be built soon are explicitly opposed to the construction of a nuclear plant in their region. The research published in 2017, based on semi-structured interviews with 90 people of these locations, the local people are worried about the likelihood of an accident because, for instance, Akkuyu is an earthquake region. People living in Sinop, however, are concerned about the issues related to the problem of nuclear waste. Sinop's people are proud of the natural beauty of their region and worried about the unwanted potential of nuclear waste, which can be a serious threat to the touristic destinations of the city and the seacoasts.

The participant of both kinds of research is all worried about a nuclear future that Turkey has signed. For a country with a sorrowful past due to the Chernobyl accident whose devastating impacts on people living in Black Sea region had been covered by local authorities for decades poses a big question regarding nuclear power plants in Turkey.

TURKEY HAS NO NEED TO BUILD ENERGY PLANTS INSTANTLY. FORECASTS MOSTLY WRONG!

Orhun Ege CANSARAN

Turkey's energy politics has been changed contrary in order to make easier to build new energy plants since the beginning of the new millennium. Turkey was getting in an available environment to provide cheap and generous credits. On the other hand, global economy struggled with a huge crisis in 2008 and its effects is perceived whole around the world. Turkey's growth speed slowed down from around 7% to 3% so it affected the forecasts about the country's future. Electric consumption growth has a correlation with economical growth. Consequently, Turkey isn't growing as like last decade but the energy production policies still based on old forecasts. That's why the ratio between Peak Power Demand and Installed Capacity is 55,93%

Turkey has no need to build energy plants instantly, forecasts mostly wrong! Turkey can produce more energy than it needs but the plants should be off so it may call as public nuisance. The capacity is already higher than needs of Turkey at the rate of 1.7 times.

Does Turkey need that much energy plants? Forecasts say yes, results say no! Energy plants investment of Turkey has a consistently rise for a decade and approximately 5900 MV installed capacity codify the system every year. These investments cost over 6 billion dollars per year for over 1500 plants and most of the investment is met by foreign financing with foreign currency. Because of the exchange risk, the corporations must sell the outcome with a stable price in order to redress the balance. Otherwise, corporate ones will fail with unpaid credits. That's why, government authorities chose the private companies to buy energy despite the higher prices.

Official forecasts are mostly wrong to predict more than 2 years. Phases of construction and permissions takes years so forecast is cruxes to make right decisions. On the other hand, official forecast of Turkey doesn't accurate if forecast situates over two years so most of the new plants don't profitable businesses. Government tackles that issue with warranty provisions but it also occasions public loss. Be-cause, hydro plants of public corporations don't work. Despite all, many numbers of natural gas combined cycle plants are shut down or replace since August 2018.

THE ENERGY POTENTIAL MAP OF TURKEY

Özgün Evrim SAYILKAN

Turkish energy policy is concentrated on 3Es, which compromise of energy, economy, and environment refers to the assurance of reliable, sufficient and timely manner energy production. However, the distribution of energy production to resources in the recent year causes suspicion about whether Turkey follows this policy successfully or not.

The distribution of energy production to resources in the recent year is as below: %35.05 natural gas, %19.56 import coal, %19.38 hydropower, %16.42 lignite, %6.31 wind, %2.16 geothermal, %0.75 biomass, and the others.

Turkey is a relatively lucky country thanks to the fact that almost all renewable energy resources including geothermal, biomass, solar, wind, and hydropower are available. Having an energy-rich geographic location brings Turkey more responsibilities about recognizing the potential of clean, domestic and economic resources and taking the advantage of them in an efficient way as it is indicated in 3Es policy. However, the current state of energy production brings a question whether Turkey uses all potential of renewable energy sources which are sufficient to energy production or not.

CLIMATE CHANGE IS ON OUR PLATE

Ezgi ALTINÖZ

The meat on our plates are destroying the planet! Considering the destruction of the planet by our own hands caused by our consumption of reified “foods” that come in the shapes of a hamburger or a meatball, the vegan way of life that is considered to be as a challenging way of life-style nowadays, is the saviour at this point. Our habitat consumption increases with wildly growing meat, milk and all animal derived food consumption and we do not even think of our planet’s future. The livestock factor is the leading cause in desertification of one-third of the world. And it is the killer of the Amazon forests, which are holding about 120 billion tons of carbon dioxide. Animal feed production and cattle ranching, which caused 91% of the Amazon rainforest’s desertification is therefore the leading cause of climate change.

Furthermore, the emission of methane gas is 20 times more damaging than carbon dioxide emissions. 37% of the methane emissions are from the livestock industry. Considering that a cow emits methane gas of 70 to 120 kilograms per year, is it possible to imagine the effects of methane gas released by 1.5 billion cows during their lifetime? The growth of the livestock industry with increasing meat consumption destroys our planet. Meat consumption exceeds the emissions from all transportation-caused emissions with a ratio of 18% in greenhouse gas emissions. Stop this! If you go vegan, you will not be contributing this massacre of the environment. It’s time to refresh our plates and save our planet!

NO MORE GASOLINE CARS? THE WORLD IS TURNING TO ALTERNATIVE FUELS - TURKEY IS NOT FALLING BEHIND

Feyza YILMAZ

In the past year, the use of hybrid vehicles in the world has increased by 54 percent and the use of electric vehicles has increased by 62 percent. Which may be the omen of a heart breaking break up with diesel and gasoline cars, who knows?

The reason why these vehicles are being preferred is not only they are environmentally friendly in terms of fewer gas emissions, but also they offer many additional benefits. Hybrid and electric cars have less fuel cost- average fuel cost of a gas powered vehicle is almost two times of hybrid cars and three times of an electric car-, more reliable with less maintenance cost and higher resale value. So, if we want to save some money and to avoid a possible doom scenario due to climate change, in addition to planting trees we may start using electric cars.

Turkey is not oblivious to the raise of alternative fuels usage in the World. Country is having a rapid change in usage of alternative fuels. In the past year, the hybrid vehicle market increased by 370 percent, with the increase of 950 sales to 4451 sales in a year. Besides, it is visible that tendency to electric cars increases by years. There are 573 electric cars in the streets around the middle of 2018 while the number of electric vehicle stations reached the number 1500. In addition, there are 50 electric buses that are in use in Turkey which will reach the number of 250 in coming year. Judging by this increase, Turkey cannot remain indifferent to the "go green" movement and it can be seen that hybrid and electric vehicles will be so much more popular in coming years. You go Turkey!

GEOHERMIE IS SUPER-HOT AND AS BEAUTIFUL AS EVER

M. Mert ÖRSLER

Geothermal energy is just like a beautiful girl with her charming red dress on a cocktail party, waiting for his cavalier: Turkey. But Turkey seems to have a date with fossil fuels nowadays.

The country is ranked 3rd in the world regarding energy dependency; Turkey's interest in energy for the industrial and everyday usage is not a secret. But does it have to be met by importing Iranian gas? Can national and renewable resources meet Turkey's needs? To a certain extent, the answer is yes; the country can meet the needs of energy thanks to geothermal power! For the Royal Danish Consulate General Anette Snedgaard Galskjøt, the country can easily cut the imports of gas by 20 % using geothermal power, which can cater for 30 % of the country's heating needs. Turkey has already taken some bigger steps towards a geothermal future in İzmir, Denizli, and Çanakkale. But this should not sound sufficient; the country is ranked 7th, right after Iceland, across the globe regarding the geothermal potential. In Denmark, a country that is not even listed among the top geothermal countries unlike Turkey, almost two third of the population uses renewable energies including geothermal energy for heating. This is even closer to 100 % in Copenhagen. Despite the great potential of geothermal energy, the country insists on importing oil and gas which reached the biggest percentages of the annual energy import: 44% and 35 %. On the other hand, geothermal power is interestingly the least used energy source for electricity and heating in the country: 0.5 %. This situation can change if Turkey starts realizing the geothermie, super-hot and as beautiful as ever, waiting for far bigger steps from Turkey which might, at least, hinder the country's long-term relationship with the fossil fuels.

GEO THERMAL ENERGY: IS IT A SOLUTION?

Orhun Ege CANSARAN

Geothermal energy is one of the clean and kind of a renewable energy form and mostly is chosen for warming houses. Scholars calculated that Turkey has a potential around 33000 MV installed capacity to produce energy without assessment of fertility. After that assessment, revealed that only around 2700 MV is efficient and Turkey has already use 2100 MV installed capacity in order to producing electric energy. That's why, geothermal energy cannot be solution to extinguish Turkey's deficit of energy.

- Geothermal energy potential doesn't distribute proportional across the country.
- Transportation of the water will have caused heat loss till coming to end user.
- Most of the geothermal resources have around 30 Celsius so that cannot be used in energy production because energy production based on the dynamos so it should be over 100 C to produce steam.
- Geothermal energy located on under the ground with over hundreds meters. It should be stick up through underground and transform to plants. These process will cause to spread sulphur that hiding in the thermal water and also temperature may cause salinization.
- Available areas of Turkey to producing geothermal energy plants are based on the fertile farmlands so these lands will be loose their fertility.
- It's more trouble than it's worth because the installed capacity numbers too small.

CARBON CAPTURE STORAGE: DECREASE EMISSIONS; INCREASE EFFICIENCY

Naz Alara ERBEK

Greenhouse gas emissions resulting from the use of fossil fuels to generate energy mostly cause the carbon and carbon dioxide gases to be released into the atmosphere and this leads to global warming and climate change. In 1997, it was decided in the Kyoto Protocol that the distribution of CO₂ would fall below 1990 level. To prevent the global warming and climate change, experts are searching for new methods and ideas. Carbon Capture and Storage (CCS) is one them. Basically, CCS system captures CO₂ from electricity generation and industrial production. CO₂ is liquefied with high pressure and stored between special impermeable layers of the ground. There are various techniques of CCS.

For example, CO₂ can be transported by pipes or tankers. CO₂ can be added incertain places to improving the production efficiency in oil wells and increasing the production efficiency in natural gas wells. With this method, the quality of the oil and gas can be increased.

CO₂ can be stored in deep coal vessels, deep salt formations or oil and gas reserves. CCS is mainly used in developed countries. In Turkey there are certain common beliefs about CCS system. According to researches, %46 of the people think, CCS could not be used in short-medium term in Turkey. However, according to same research, it shows that, only %51 of these people know the system of the CCS. Accordingly, people should get access to the information about this method, to protect the environment and prevent the global warming.

URBAN CITY LIFE AND ITS IMPACT ON CLIMATE CHANGE

Nursan AKINCI

High buildings and their reflective glasses, asphalt on the roads, excessive population, and going to everywhere with our car have big impacts on climate change. NASA explains “extraordinary raining” in megacities as a result of the urbanization. The skyscrapers increase the temperature with their mirror glasses. Additionally, the urban soil is covered and sealed with the asphalt that the rainwater cannot be absorbed. The rainwater rises to the atmosphere again. The result is the heavier and abnormal raining. Since İstanbul is the 4th biggest city in the world and has approximately 200 skyscrapers and more than 5 thousand high building, these abnormal raining has seen in recent years as well.

Furthermore, the population is responsible for extraordinary raining in terms of increasing effect on climate change as well. In İstanbul live more than 14 million people, use electricity, and cars in a highly excessive way. Human’s developed lifestyle are a crucial reason for the climate change which may not be seen as unexpected.

HOW THE WORLD AND TURKEY SEES ELECTRICAL VEHICLES

Onurcan BORAN

Electric Vehicles (EV) are more advantageous than internal combustion engines (ICE) because they run on electricity and electricity comes from many sources like solar, wind and hydropower. However, petrol isn't available everywhere and it is expensive. Countries like USA, Western Europe, and Eastern Asia are trying hard to change their transportation policies. Norway aims to completely electrify the transportation until 2025 and Norway abolished import tax of electrical cars and imposed high taxes on ICE. Since 1978 US made strict laws to decrease CO₂ emissions from cars. In Japan there were exactly 3,300 electrical cars on traffic. Japanese government created a project called "the Clean Energy Vehicles Introduction Project". This project was aiming to provide citizens with the half of the price of electric cars. Although China has many weaknesses in EV policy compared to Japan China produces cheapest car batteries. In Turkey, we still don't have a local and national electrical car and charging stations are only common in western part of Turkey. East of Turkey seriously lacks charging stations. More importantly, national income and level of welfare is not sufficient to purchase electric cars (EC). Lastly, Turkey had better to make use of EVs because Turkey is rich in renewable energies.

As for charging stations, they are really advantageous. For example, in electrical car models, they have an interrelated navigation system. Whenever car runs out of energy, it changes its behaviour and tries to go to charging station.

But there are still problems! Despite all advantages, there are still some problems with charging stations in general like technological, economic and social problems. Electrical cars are more expensive than internal combustion cars. In ordinary charging stations it takes 8 hours to charge. Even in developed countries like US, people still aren't so familiar with charging stations. According to a survey in US, 29 percent of citizens say there are too few, if any, public charging stations where I travel.

THE LONG LIFE OF URANIUM

Öykü ÖNCÜL

After the discovery of Uranium, it became the main fuel for both nuclear reactors and raw material for nuclear weapons. Due to its characteristics of splitting into two different lighter fragments and its releasing energy process. Even though uranium consists of three isotopes: uranium-234, uranium-235, and uranium-238. All of them are radioactive. One of the most common isotopes uranium-238 has a half-life about 4.5 billion years which means that the half the atoms will be decaying in that amount of time which are more beyond human time. Due to uranium-235 characteristics since it can maintain a chain reaction in which each fission is able to produce neutrons to trigger other and fission process can be sustained by itself without any external source of neutrons that's because it is highly used in nuclear weapons and power plants that have 704 million half-life. On the other hand, uranium-238 even though could not sustain chain reaction by emitting alpha particles that are less potent by comparing other forms of radiation and the effects of its gamma rays remain outside the body, uranium by considering the gamma-rays poses little health risks. However, if it is inhaled its radioactivity causes increased risk of lung, bone cancer and can cause damage to internal organs. Animal studies show that uranium has influence on both the developing fetus and reproduction which is the sign of its danger. Moreover, effects of the milling and mining uranium operations since it poses the increased lung cancer. Many of the Native Americans who worked in uranium mines, died because of lung cancer. Effects on water and land contamination still continue due to its both radioactivity and its quality of remain hazardous even after thousands of years.

BIOFUELS: OPPORTUNITIES OR THREATS?

Öykü YILMAZ

Biofuels pollute the environment less than fossil fuels, since the plants which are used for biofuels absorb carbon dioxide through photosynthesis and equalize a big amount of CO₂ emission as fuel. The carbon in the biofuels is derived from the decomposition of the carbon dioxide in the air and the burning of biofuels does not cause the increase of net carbon dioxide in the earth's atmosphere. But meanwhile, unplanned biofuel production is a problem. It is observed that the palm trees, which are the raw material of biodiesel, are cut from the rain forests in tropical regions. This is an extremely wrong application. The EU does not include biofuels from areas with high biodiversity value and high carbon stock. It also considers biofuels that make at least 35% greenhouse gas savings compared to fossil fuels as true biofuels. This criterion is applied both in domestic production and in imports. For example, researches show that the greenhouse gas consumption that saved in the biodiesel produced in Europe can be up to 44% and this value can be as high as 60% with efficient conversion efforts. Experts indicates that in bioethanol, this value is recorded as 74% depending on the raw material used. Biofuels are derived from the organisms that have recently lived or from their output. Biofuel is one of the types of renewable energy unlike other fuels like petroleum. Instead of fossil fuel usage in vehicles, this kind of renewable energy sources are less polluting the environment. So being aware of biofuels that they should be used instead of fossil fuels in order to prevent the increase in the amount of carbon dioxide in the atmosphere is important.

WHAT IF NEANDERTHALS COME BACK FROM EXTINCTION?

Rustam GULIYEV

The Earth - a beautiful planet that popped up about 4 billion 400 million years ago, on its surface slowly the oceans formed and then the conditions for life appeared, well, but who will inherit this blue planet. Humans are probably one of the dumbest beings on Earth if you count them with a theory of survival, for thousands of years as Homo sapiens evolved; he does his best to destroy himself as a species. We began to change our planet so much since our inception that officially the world began to recognize the existence of the Anthropocene period due to the strong influence of man on the geological and biospherical structure of the Earth.

However, is this feature of the Homo sapiens a representative of only our species or is it just our genetic lineage starting with our ancestors Australopithecus? Do we really need Anthropocene to claim that it wraps our essence? So this is a story of a heroic war for our world, the war between monsters. Per contra, the behaviour of Neanderthals suggests otherwise. Their influence on the planet is still under our feet and their DNA is still in us.

Neanderthals were famous hunters during Pleistocene; even in winter within the large migrations of animals, they attacked them more frequently than ever; such as mammoths, Irish elks, and roes. Over time, the population of those animals declined. Funny enough, today, we cut a large population of huge mammals that they don't have time to reproduce. Neanderthals were so erudite in terms of fire that over time their work could grow into huge forest fires, which undoubtedly resembles us. Even the fact that we have from 1 to 4 % of the DNA of a Neanderthal is itself already enough to understand that we had the same interests in shaping the environment.

ENERGY RESOURCES ON MARS

Shahrzad SEYFAJEHI

Professor Neutron: Sixty percent! Professor Sun, don't you think living off of solar energy on Mars which has only sixty percent sunlight intensity of Earth sounds like... I'm looking for the right word... Madness?!

Professor Sun: Professor Neutron, I do understand it sounds inefficient thinking about the long term. But for initial settlement on Mars it is a viable option! After all nuclear reactors are also a solution for a decayed or so.

Professor Neutron: Nuclear reactors are sustainable, just send a balloon to Jupiter's atmosphere, harvest helium 3 as much as you need, viola! Your reactors are refueled.

Professor Sun: And what about the nuclear waste? Would you go viola! And get disposed of them?! I highly doubt it professor, I mean you know better than me how hazardous the residue of nuclear waste is and yet we haven't found a solution for getting disposed of them here on Earth... this is while solar energy is not only environmentally friendly...

Professor Neutron: Ms. Sun! for some reason you keep forgetting about sand storms on Mars that block the sunlight for even weeks!

Professor Sun: Mr. Neutron, do I need to update you on technology? even today we have solar batteries lasting for if not months, for weeks. Think about NASA's space probe using solar power that reached Jupiter. I repeat Jupiter which is even farther away than Mars!

Professor Neutron: So you are comparing energy needed for only a space probe to energy needed for a whole human colony...!?

Professor Steam: Colleagues! Don't you see the necessity of geothermal energy now?! It's environmentally friendly, no hazardous residues or waste, it is renewable and always usable, no storm to obscure it. With volcanos we have found on Mars, Olympus Mons with twice the height of Mount Everest's height ready to erupt, we definitely know that Mars has thermal heat. And yes Mars' core is cooler than earth but if we drill deep enough and create the Geothermal power plant we need, accessible hot fluid and an overlaying accessible cold fluid in order to be used as heat sink, to overcome the problem of heat rejection on Mars since there is no atmosphere we can happily use geothermal energy for our human colonies on Mars!

Everyone stared at Professor Steam with a solemn expression. Smell of sweat and burned out cigarettes filled the room. A fly was buzzing.

PROS AND CONS OF HYDROPOWER

Simge SADAK

Among renewable energies hydropower is at the top after wind energy in terms of being the greenest. In fact, hydropower is the largest renewable energy source in the world getting ahead of the wind energy. Despite the huge Green House Gas (GHG) emission rates, hydropower decreases the damage by having one of the least GHG emission rate compare to the other energy sources.

Hydropower has a huge capacity of energy production that shouldn't be look aside. According to International Hydropower Association, U.S and Brazil has the most installed hydropower capacity in the world following the China. Today, China has over 341,000 MV installed capacity, U.S follows China with 103,000 and Brazil has 100,000. Turkey also has 27,000 MV installed capacity in 623 hydropower plants and produces %20 of it's electricity from hydropower.

Due to the source that hydropower uses, which is the water, it is clean and reliable. Also as a renewable energy it avoids pollution and Green House Gas emissions. However, there are some disadvantages that should be take into consideration. Construction of these hydroelectric power plants block the fish migration and cause extinction of some fish species. In fact, few Chinese fish species are already endangered because of these plants. Another important problem that should be paid attention is that these hydropower plants sometimes cause floods due to the overtopping and this leads to serious destruction of existing systems such as jobs, settlements and also high number of deaths.

A LETTER TO OBLIVIOUS HUMANS

Sardar Talal KHALID

Dear oblivious humans,

If I could go to the police station to file an official FIR against more than the 50% of the world's population (who are oblivious to global warming) on the charge of being responsible of potentially killing or harming my future grand children in a couple of decades, I would do so. But sadly no one would take me seriously and I would be back to square one.

Now I am not as radical a person to say that global warming is a collective suicide or collective mass murder. That would be ridiculous. But seriously, what are we thinking? Do we as a society not realize that global warming is NOT a pending threat but it is an immediate threat as pointed out by almost 97% of scientists? I am highly fascinated by a civilization advance enough to land on the moon but psychologically impaired to choose between preventing global catastrophes and its urges to use environmentally unfriendly products for instant gratification.

The industrial revolution has led to such an increase in the amount of toxins in the environment that the planet is shaking. It can't even bear the high amount of Carbon Dioxide constantly being pumped into the air anymore (which previously was an essential component of air). This realization is dawning upon most of us, but the effects have already taken impact.

This is to sincerely belittle humans. I understand that in the digital age we have a plethora of information on the internet mixed with misinformation and conspiracy theories which spreads misconceptions. I also understand that psychological distancing causes people to forget about the threats which can occur in the future. But still. Certainly, there is a long way before we convince people that killing the planet is not a good idea. What irks me, however, is that there is in fact a need to convince people to not kill the planet.

Sincerely,

Concerned humans

THE FUTURE OF RENEWABLE ENERGIES IN GULF

Turan BAYRAM

Not only in the long term, but also in the short term, Gulf countries need renewable energies, since their electricity consumption is increasing. The electricity consumption in the region have increased 12.4% from 2005 to 2009 in average which is the highest in the world. Instead of producing energy from hydrocarbons for their own usage, it is most likely that they will choose to produce this energy from renewable which will help them sustain their economy in long term as well.

Gulf countries has a strong economy due to their geographical position: They have the most fertile lands to produce oil and gas. To open up the subject, Gulf countries hold 29% of all oil reserves, and 22% of all gas reserves which are the highest ratio in the world. This fertile resources gave them the opportunity to raise golden cities in the middle of desert. They indeed enjoyed this opportunity for the past 50-60 years, yet the world started to have a different understanding about how the energy should be produced and consumed. The importance of renewable energies is increasing; so it will affect directly the economy of Gulf countries in the future. Since their economy is highly dependent on the oil and gas sails; Gulf countries should find a way to sustain their stabilized economy.

Almost every country in the Gulf has a long term strategy on the issue. Emirates and Saudi Arabia leading the change across the region, yet relatively small countries have plans as well. As a matter of fact, Gulf countries have to use renewable energies due to their economical position in the world. The change seems a bit slow since it is too hard to change everything in a short time, yet the plans seems as promising as it can be.