NEWSLETTER GLAWCAL

Issue 3, 2014

Focus on:

Climate Change and Renewable Energy

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Focus on

Climate Change. Renewable Energy

Our third issue will provide a look on two strongly interconnected topics: climate change and the struggle to increase the use of renewable energy. Grim news from all over the world underline the dreadful effects of climate change, from reduction in crop yields to an increase in the number of deaths caused by air pollution every year. Meanwhile, governments and international organizations (like the World Bank) are promoting more effective strategies and trying to limit the phenomenon. On the other hand, several unconventional projects involving renewable energy have been adopted worldwide, like a pumping mechanism to draw energy from lakes and rivers or an increased use of wood in buildings, to cut carbon emissions. The U.N. are spearheading this campaign, especially through their related panel, the IPCC, and have started to exert more pressure on those governments which have not taken serious commitments yet, like the British one.

One of the big questions in the climate change debate: Are humans any smarter than frogs in a pot? If you put a frog in a pot and slowly turn up the heat, it won't jump out. Instead, it will enjoy the nice warm bath until it is cooked to death. We humans seem to be doing pretty much the same thing.

(Jeff Goodell)

Climate Change

The Controversial Planned Dams in India

A Plan to Build 160 Dams in India Could Represent a Forefront of India's Development, but Critics Highlight the Negative Impact on Environment and Local Culture.

A plan to build 160 dams in the region of Assam, the northeastern part of India that is considered by politicians the India's future "powerhouse" and a turning point for the country's dam building program, and also in the mountainous state of Arunachal Pradesh , harnessing the waters of the strong Brahmaputra river and its tributaries, has been recently announced. New Delhi has highlighted the benefit of the program: in total more than 60,000 MW of electricity will be generated from these dams. The The issue of damn building is quite complex and also controversial. Critics indicate the negative effects that could be originated by planned dams due to particular geological and ecological factors, describing the alarming impact of climate change in the region. Data shows the increase in intense rainfall events that are accelerating the consequences of soil erosion and landslides in mountainous regions, affecting also the levels of temperature and glaciers.

In addition to this, the Brahmaputra is a mighty, potentially violent river system: waters rise dramatically during monsoon season, causing flooding, erosion and misery for thousands of mostly subsistence farmers, that have to face the consequences of this force of nature. Moreover experts discourage to plan dams in such a seismic area, as India is, in particular focusing on the geological structure of the Brahmaputra river basin. The Indian government strongly supports new dams because of to the power that could be generated, reducing India's dependency on coal, a negative cause of pollution. Critics skeptically accuse the government that most of the power produced will be exported to other parts of India and not used.

Last but not least, tribal concerns are playing an important role in the controversy: opponents say that indigenous people will be negatively influenced by dams establishment. Local culture will be laid on the line, with the increasing deforestation also threatening peculiar India's most important wildlife habitats. The lack of adequate plans, due to the absence of specifical deals on managing the Brahmaputra's waters denounced by opponents resulted in an increase of protests about dams.

The Controversial Sardar Sarovar Dam

Climate Change

Climate Change will Reduce Crops Yields. A Worse Situation than Expected

Researchers Show How Crops Harvests will Decrease due to Climate Change, Threatening Food Security.

A new study has shown that climate change will cut crops yields more than what was previously thought, threatening food security.

Australian, British and American scientists explained that the situation will be worse in the second half of the century, especially for tropical areas. The research found that harvests , including maize rice and wheat, will drop by 2% each decade, based on a 2C rise by 2050. Moreover the situation for wheat and maize in tropical areas could worsen, with a decrease of 40 %, if temperatures reach 5C warmer than pre-industrial levels.

Hearty and Healthy, Wheat is a Top Provider of Nutrition for the Human Race.

To address this alarming data, Governments have established a target to limit the increase of temperature to 2C above pre-industrial levels. However scientists forewarn that the planet could experience a 4C or even 5C rise: the only way to face it is to drastically cut carbon dioxide emissions.

Researchers advise that temperature levels and rainfall scenarios show how the current global situation is more serious than what was previously expected.

Climate Change

Due to the increasing temperatures, crops yields will drop in future decades. These consequences will damage not only Maize, which is the most sensitive, but also wheat and rice grown in tropical regions.

For these reasons, climate change will affect food supplies causing insecurity and great damages on rainfall patterns.

Scientists suggest to change planting times and irrigation to address also the growth of consumption and population. This solution could determine the benefit of a 10-15% increase in global yields providing food to 500 million to 1 billion people around the world.

In this way, the adaption path is considered the best way to achieve a better climate than the one we currently have, reducing its impact on environment.

Potato Farmers.

Climate Change

WHO Alarming Data. Air Pollution Causes the Death of Seven Million People Every Year

Bad Quality of Air Has Become the Most Serious Risk for Health, Report says.

Cyclists in Beijing Wear Face Masks as They Ride through Thick Smog caused by Pollution.

The World Health Organisation has released a shocking report: about 7 million people are killed by air pollution every year and half of these fatalities are caused by the fumes of indoor stoves.

The research highlights that air pollution has become the biggest environmental health risk, determining about one in eight deaths.

Without a doubt, it is impossible to live without breathing. In this way it is very difficult to try to avoid the negative effects of pollution. Irritation due to tiny particles that gets into the lungs is now one of the main negative effects of air pollution. In addition, the report shows how the air pollution may be the cause of problems such as heart inflammation, chronic problems or heart attacks.

WHO has indicated that about 4.3 million deaths in 2012 were caused by indoor air pollution, for example by the use of wood and coal stoves, and other 3.7 million deaths were determined by outdoor air pollution in 2012. What is also significant is that about 90 per cent of these events happened in developing countries. Moreover, research has explained that many people were exposed to both kind of pollution.

The new data are more than twice as big as the previous figures, thanks to better information about the effects of pollution on health and to stringent detection methods. Recently the WHO's cancer agency has defined the air pollution as a real carcinogen, explaining the link between dirty air and lung and bladder cancer.

Climate Change

Furthermore, the WHO research reveals that women and children are mainly at risk, they pay the heaviest price because they spend a lot of time at home, thus breathing smoke and soot from leaky coal and wood stoves.

In this frame, experts have higlighted that it is essential to undertake control measures to oppose the negative consequences of pollution. Governments have the important aim to cut pollution levels with instruments, such as legislation. One of the measures that have been proposed is to move power station far from big cities and also to propose cheap alternatives to indoor wood and coal stoves. In the same way, people could also reduce the daily impact of pollution on their health chosing smaller roads or avoiding to travel in rush hours. Some measures have already been taken, like the use of face masks in big cities as Beijing and Tokyo, but they don't represent an adequate solution to such an alarming problem. Also the use of masks could suggest the wrong message. We can't live and coexist with pollution accepting its negative results, but we all have to change our lifestyle in order to achieve better conditions and live reducing the polluting impact on health.

People Running through London with Face M\asks

Climate Change

U.S. Environmental Protection: Commitment to Reduce the Impact of Methane Leaks

The White House Has Opened Doors to Better Controls on Oil and Gas Industry with the Purpose to Study the Consequences of Leaks of Greenhouse Gas.

The White House has announced the possibility to launch new rules to reduce emissions of methane from oil and gas industry, in order to study the importance of the greenhouse gas' impact.

This announcement responds to the pressure and to the requests of environmental groups calling for a better regulation for the oil and gas industry: without this plan, US cannot achieve its commitment to cut greenhouse gas emission by 17 percent from its 2005 levels.

This strategy involves the intervention of the Environmental Protection Agency (EPA) that will have the aim to analyze the magnitude of methane leaks from fracking sites, compressors and gas pipelines.

After the results of these studies, the EPA will decide whether to undertake new rules and better controls on the industry. In this way the Obama's policy for the safeguard of the environment will be completed

Methane represents the primary component of the natural gas: it is more than 80 times more powerful than the carbon dioxide as a greenhouse gas over a period of twenty years. The main industrial source of methane consists in oil and gas sites.

According to the EPA's greenhouse gas inventory, 14 percent of pollution in 2013 was caused by methane. Also, it is expected that this percentage will increase.

Moreover, shale gas plays a central role in Obama's strategy to reduce the impact of the polluting coal. However, there are more obvious evidences of the negative consequences of the methane leaks escaping into the atmosphere.

The National Academy of Sciences had reported last November that the EPA had under-estimated the effects of methane leakages: studies show that methane pollution will alarmingly increase to over 620 million tons of carbon dioxide pollution in 2030 without stronger controls on industry.

In this frame of environmental protection , the White House has affirmed that the task of the EPA is to establish new rules for future and existing landfills. At the same the Department of Energy will start to examine the potential of capturing and storing methane in underground waste dumps.

Pump Jacks are Seen at Dawn in an Oil Field Over the Monterey Shale Formation in California.

Climate Change

Climate Change is Threatening Human Security . Poor People Will Face the Main Consequences

Studies Show How Disadvantaged Groups Will Suffer the Most from Climate Change's Impact. In this Frame Governments Have to Undertake Adequate Measures in Order to Cut Emissions and Protect the Environment.

Villagers and Rescue Workers Begin the Clean-up Operation in Tacloban, Philippines, after the Typhoon and Storm Surge in November 2013

A recent report from the UN's panel has designed climate change as a threat to human security for the first time.

This study shows how people who are socially, economically, culturally and institutionally marginalized are the most vulnerable to the impact of climate change.

Some groups come to mind. Single mothers in rural regions. Pensioners who have to face an heatwave in industrialised countries . Workers who spend a lot of time outdoors. People who live in the slums of the developing world's big cities.

These are just some examples of vulnerable groups affected by the main impact of climate change. The reporters has also announced that the effects of global warming will be more evident in the coming decades: climate change's impact will affect all continents causing heatwaves and other weather disasters.

Moreover, the results of climate change will open the door to violent conflicts, with negative consequences on human safety.

In this frame, scientists have highlighted that governments play a fundamental role: they have to undertake measures to cut greenhouse gas emissions to preserve the environment and to protect people. Without these actions nobody would be immune to climate change's negative results.

Adaptation represents the only way to follow in order to reach the goals. Researchers stress how important is to quickly and significantly reduce the emissions, keeping the global temperature's rises at 2 degrees in this way. However, this is not the definitive solution to such a big problem. There are still consequences that we can't control. The report also explains how in many cases countries are not ready to address the climate risks: governments have thus to invest in a better preparation, in order to reap benefits not only in the present but also in the future.

Climate Change

As a consequence of the report, it is clear that the poor and the weak, and communities subject to discrimination will be prejudiced. Those who influenced climate change the least will be those most exposed at its risks.

According to the researches, one of the most significant consequences will be the reduction in crop yields, with a related increase in prices. The reports shows an alarming situation: even advanced agriculture will start to suffer due to warmer temperatures and crop yields' decrease. In this way disadvantaged people in poor countries will have to face increasing problems of malnutrition, making these areas even poorer. In addition to this, climate change's results will be so significant that also rich and developed countries will face new situations of poverty.

In this context, environmental disasters will be evident consequences of climate change: studies explain the number of natural calamities between 2000 and 2009 was three times higher than in the 80's. Of course , such episodes were accompanied by bigger disasters and negative effect in poorer countries.

Bangladesh, with its Low Elevation and Severe Tropical Storms, is among the Countries Most Vulnerable to the Effects of Climate Change, though it has Contributed Little to the Emissions that are Driving it .

Climate Change

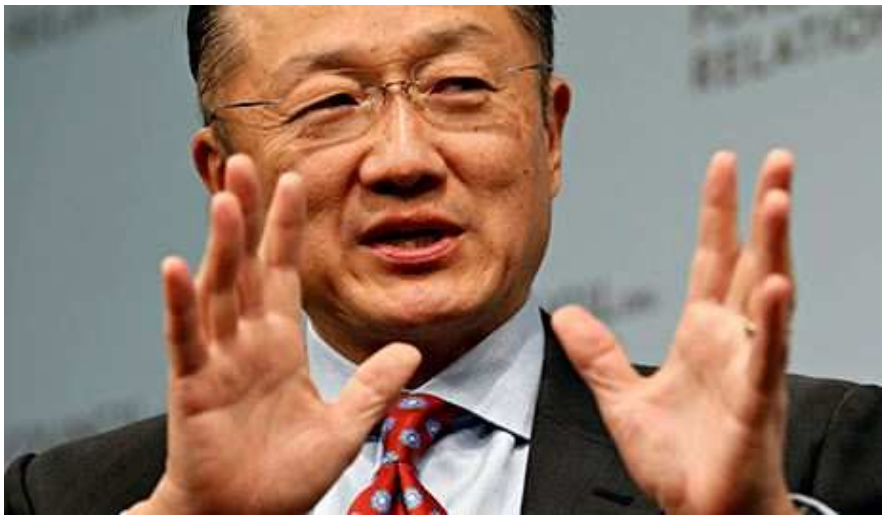
The World Bank is Calling for Stronger Strategies to Fight the Climate Change's Impact

The World Bank's President Stresses the Importance of Cooperation in Order to Safeguard the Access to Water and Sanitation, Avoiding Inequality and Social Unrest.

The president of the World Bank has recently stressed the urgency to adequately fight the impact of climate change. Conflicts due to scarcity of water and lack of food supplies will explode within the next five to ten years as a consequence of climate change. In this way, the campaigning against the effects of the global warming is one of the main issue, the president Iim Yong Kim say. Moreover, he has suggested to replicate the successful coalition of scientists and groups of activists that has joined their forces in the battle against HIV across 15 years. Following this way, it is necessary for the climate change community to achieve good plans as the ones for the treatment of HIV.

The World Bank's president has also complained about the lack of appropriate researchers in the field of renewable energy and the insufficient discoveries made by universities, that are too slow to concretely reach the industry. The community has to achieve a serious program to cap the rise in global temperatures at 2C.

In addition to this, the president has announced the commitment and the involvement of the Bank in such a fundamental and global matter. There are in particular four sectors in which the Bank could be a significant support in the fight of climate change, that are finding a stable price for carbon, cutting fuel subsidies, investing in clean energy and developing plans for a smart-climate agriculture. Thus, it is necessary to improve the access to clean water and to sanitation: inaction about climate change's impact will rise battles over resources. Carbon is not the only important issue related to climate change.



As Jim Yong Kim Warned of the Risks of Climate Change, the UN said Food Prices Had Risen to their Highest in Almost a Year.

The impact of global warming will be increasingly stronger over food and water in the next years, without a doubt. Supporting access to water and sanitation is a central issue , in the same strong way as global health and education.

The Bank also highlights its responsibility to tackle the problem especially in poorer countries, to avoid inequalities and social unrest.

Following the objective to reduce the poverty by 2030 and to extend the results of prosperity, the Bank has doubled its credits to $28 billion a year. The eruption of social movements in poor countries is also an alarming issue due to the inequalities within the so called developed states. To reach adequate growth strategies, the Bank has extended its tasks across many different areas such as health, education and transport, to share the benefits of this policy across national borders. Moreover, this plan includes the cooperation between the bank's private-sector branch and the public one, encouraging also the partnership with regional banks, all related to innovation as the main way to follow.

Climate Change

How about Coal's Future?

The Stringent Targets of the Climate Policy Will Determine the Shutdown of Coal Power Plants.

In the current international frame, one of the central issue is the aim to limit the impact of climate change to 2°C. This purpose will mean the consequent downfall for the coal power plants.

Coal power plants are considered the main cause of greenhouse gas emissions nowadays.

However, long-term programs for new plants, built to run even for 30-50 years, are planned in many countries, especially India and China .

The climate policy is constantly becoming not only urgent but also very stringent: the stronger targets imposed would highly increase the costs of the emissions with a consequent lack of competitiveness for coal power generation. In this way plants will be left idle, with huge losses for owners and investors. This problem is also known as stranded capacity.

To achieve the objectives planned by the climate policies, it will be necessary to shut down coal-fired power plants, without delaying such a fundamental climate action. A possible delay to reach concrete climate goals will encourage the building of more coal-fired power plants in the near-term, with negative effects: when the policies are finally introduced, it will be necessary to quickly phase out coal and more investments will be wasted, researchers say.

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Additionally, a new study published in the Journal of Technological Forecasting and Social Change highlights that 37% of global investments in coal power plants would be lost due to the delay to meet concrete goals over the next 40 years, with negative effects especially for India and China's economies.

In this context, the strategies to reduce stranded capacity in coal power plants and the measures to limit the future climate change to 2°C target agreed by the international community are playing a central role.

According to this, avoiding the construction of new coal power plants represents a central matter.

The plans of action to reach these objectives include the use of other kind of power plants, thus enhancing the energy efficiency.

Following this view, the researches explain that the decrease of the quantity of energy used will create benefits, reducing the amount of energy required and so the consequent need for new power plants.

A Huge Portion of China's Carbon Dioxide Emissions Come from Burning Coal.

Renewable Energy

The Growth of Clean Energy

The Production of Clean Energy Represents Half of Europe's Energy Production with France and Germany as Leaders in this Field.

France Played the Main Role in EU Energy Production in 2012 .

In 2012, according to Eurostat, the production of clean energy represented half of the global energy produced by Europe.

The energy produced by the 28 Members amounted to 794 million tons of oil equivalent (Mtoe) with a preponderant role of nuclear energy that reached a 29% share. In this frame the clean energy production was represented by a 22% share, including the use of biomass, hydropower, geothermal energy, wind energy and solar energy.

This represented an important outcome, in relation to the previous goal expressed by Europe to achieve the target of 27% of renewable energy by 2030, trying to reduce the gas emission levels of 1990.

In this context France played a leading role and, together with Germany, the UK, Poland and the Netherlands, produced 64% of total energy in the EU in 2012.

In particular France and Germany not only played the main role in Europe for the nuclear energy production, but also they were in the van for the renewable energy within other European states. To explain this situation we can just think that 19% of Europe's renewable energy was developed only in Germany.

As a positive consequence of this tendency in 2012 the consumption of inland energy by 24 out of 28 member states had decreased, returning to the levels of the early 1990s.

Despite this positive feedback, the EU members dependence had not been eliminated standing at a level of 53%. Malta was still completely reliant, with an importing of its energy around a 100% share.

In this sector the state that stood out was Denmark, that we could consider a net exporter of energy.

Renewable Energy

Renewable Energy Revolution. How to Create Energy from Lakes and Rivers

An Innovative Carbon-Free Technology using Water from Lakes and River will Replace Gas in Homes, reducing Household Bills by 20 per Cent.

UK. A revolutionary system that could cut household bills by 20 per cent has been presented: millions of homes could be heated by a carbon-free technology taking energy from lakes and rivers.

In the frame of insecurity caused by the current Russian situation, and also related to UK renewable energy policy ,this innovative system has been described by the Energy Secretary as a challenge.

This new system employs water-sourced heat pumps and will procure hot water for houses. It's been estimated that 500 tons of carbon emissions will be cut every year .

The Department of Energy and Climate Change (Decc) has shown that any body of water, including tidal rivers and standing water such as reservoirs and lakes, can be used as long as they are in the open and heated by the Sun.

Heat Reservoir: Bewl Water at Lamberhurst, Kent, Could Provide a Site for Heat Pumps

The goal of the Government is to create 4.5 million heat pumps across Britain, using both heat from air as well as water. Scientists have thus described this program as a combination of heat pumps and low carbon electricity and as the future of building heating.

This will represent the first system of this kind on a large scale: water-source heat pumps have been used on individual domestic level in Japan and Scandinavia, although they did not generated sufficiently hot water for everyday use.

Renewable Energy

This zero-carbon technology will be developed at first in south London. The government has decided to allocate subsidies for domestic renewable heat production, the so called "renewable heat incentives". In this way the costs for this kind program could be lower.

In this system water will be drawn from two metres below the surface of the Thames, where thanks to the Sun is kept at around 8C to 10C all year round. The water will be filtered twice and led through a pump, where the low-grade heat is harvested by heat exchangers, while the cooler water is pumped back into the river. The heat exchangers transfer the heat to a series of condensers, which boost the 8C to 10C heat to 45C hot water using a process of reverse refrigeration. This will be used to heat domestic water for nearby homes and a small amount of electricity will be used to power the system.

The Energy Secretary explains how this innovation, using renewable heat from the River Thames, could reduce the Britain's future reliance on gas. Moreover this new development will represent a strategic challenge to safeguard the security of UK and Europe energy sources, an urgent need as shown by Ukraine's crisis these days. The main aim is to conciliate energy security and action on climate change. This constitutes a long-term objective, to achieve the increase of carbon emissions and the reliance on imported fossil fuels.

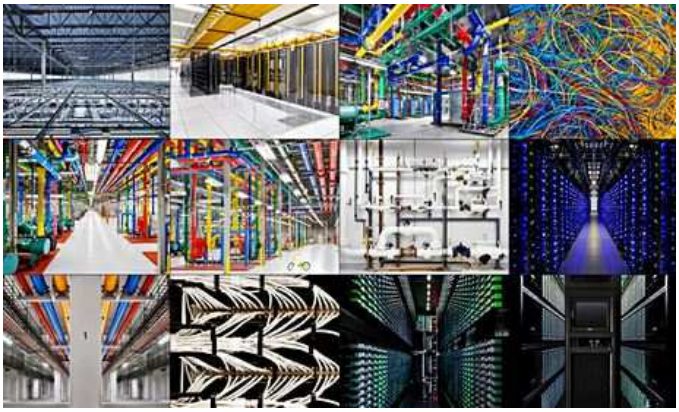
This strategy is also linked to the current policy about the freezing of the carbon tax on energy-intensive industries.

According to the Government's aim , climate change action and renewable policy represent the main goal to achieve, related to the Ue tasks of climate and environment protection.

Renewable Energy

Greenpeace's Report on Social Media Powered by Dirty Energy

A Recent Study Shows How Electricity Used by Data Centres is One of the Main Sources of Greenhouse Gas Emissions



Google's Data Centres. The Company was Praised for Committing to Power its Data Centres with 100% Renewable Energy

Greenpeace's report reveals that the development of many social media is powered by dirty energy, as coal.

The report shows the praiseworthy situation of these six companies: Apple, Box, Facebook, Google, Rackspace and Salesforce for committing to power their data centres using 100 percent renewable energy , cleaning up their energy profiles.

On the other hand, the study criticizes media as Amazon Web Services, which provides a cloud platform for Netflix, Tumblr and Pinterest due to its centres located in areas with an intense use of coal. In this way this society lags far behind its major competitors, with a significant environmental footprint.

The report has analyzed the energy behavior of 300 tech companies. The best results are been recorded by Oracle and and Twitter. Other companies, like Microsoft and Yahoo, have received just a mediocre mark.

The electricity use by data centres is one of the main sources of greenhouse gas emissions. According to the increasing number of users online, it represents also the fastest-growing source of emissions globally.

Greenpeace's study highlights that the use of internet and the consequent data traffic is forecast to triple between 2012 and 2017. Media companies like Google and Apple have achieved clean data centres using renewable energy and planning programs to create electricity from wind and solar power.

Unfortunately, a different situation is registered for the giant Amazon that is related to some famous online brands such as Netflix, Pinterest, Spotify, Tumblr and Vine. The report denounces that Amazon has set up the majority of its infrastructures in areas with heavy concentration of dirty energy, as Virginia, and complains the lack of any programs to reach sources of clean energy, despite its great buying power .

To describe the importance of this situation, we can consider that the streaming of Netflix and YouTube represents the 50 percent of US internet traffic at the rush hour. In addition to this, the internet traffic mostly passes through electricity coming from coal. Amazon has ten data centres in Virginia but just two percent of the related electricity is produced by renewable sources, and 40 percent comes from coal, Greenpeace says. These outcomes are estimates : many companies as Amazon and Twitter did not provide their data about the electricity use.

Twitter rents spaces in other data centres: on one side, it tries to follow a clean energy policy, but on the other side it uses centres in areas as Georgia with a great dependence on coal and nuclear power.

Greenpeace is encouraging these companies to follow the positive examples of Apple, Google and Facebook, stressing the importance for electricity industries to invest in solar and wind.

Renewable Energy

Using More Wood in Buildings Will Reduce the Reliance on Fossil Fuel

Researchers from the Yale University Explain the Benefits of the Use of Wood Instead of Steel and Concrete, in Order to Cut Carbon Emissions and Fossil Fuel Consumption, While Safeguarding the Biodiversity and the Environment.

Using more woods and less concrete and steel in building constructions would significantly cut global carbon dioxide emissions and fossil fuel consumption, a recent Yale University' study says.

It is generally considered that tree harvesting should be reduced as less as possible to preserve the biodiversity and to safeguard the carbon storage capacity. However, a sustainable wood management could reach the goal of reducing the fossil fuel burning, the university's research has shown.

To achieve these results, the researchers from the Yale School of Forestry & Environmental Studies and the University of Washington's College have outlined various proposals such as leaving forests untouched, burning wood for energy, and using solid wood products for construction.

The study shows that the quantity of wood globally gathered each year is 3.4 billion cubic meters: this represents only 20 percent of annual wood growth, that amounts to 17 billion cubic meters. Moreover, the majority of the harvests are wasted due to its use for cooking.

The scientists explain that the increase of the wood harvest to the equivalent of at least 34% of the annual wood growth would create significant consequences. Firstly, one of the main result would be that the global CO2 emissions could be reduced by avoiding emissions related to steel and concrete and by storing CO2 in the cellulose and lignin of wood products. Secondly, the global fossil fuel consumption would be reduced between 12 and 19 percent; in this way the scrap wood and the waste materials could be burned to make energy, replacing fossil fuel consumption at the same time.

Self Wooden Loghouse

Renewable Energy

Norwegian Woodl Building

The constructions made of wood consume less energy than steel and concrete buildings. Following this, the study explains that an efficient harvest and product use would avoid more CO2 emissions, saving also materials and wood energy.

The research stresses also the importance of the forests that should not be unduly sacrificed for the benefit of the agriculture. Researchers of the Forestry and Environmental Studies describe forest harvest as a temporary opening needed by forest species such as butterflies and deers. The complete conversion to agriculture would represent a permanent loss of all peculiar forest biodiversity.

The production of steel, concrete, and brick represents 6 percent of global fossil fuel consumption. In addition to this, if we consider the transport and the assembly of steel, concrete, and brick products its share of fossil fuel burning reach levels of 20% and even 30%.

The aim to reduce fossil fuel consumption and carbon emissions from construction will be costantly more difficult to achieve due to the demand for new buildings, bridges and infrastructures forecast in the coming decades related to the economic development in Asia, Africa, and South America. According to this, it is necessary to evaluate programs for innovative construction techniques, making wood more effective and useful.

The study also highlights that a carefully managed harvesting will have other positive benefits such as the reduction of the risks of catastrophic wildfires and the maintaining of the forest habitats and densities in non-reserved forests.

In this way the biodiversity will be safeguarded in ecosystems all over the world. According to this view, it's fundamental for the environment's safety to maintain the diversity of habitats, needed by the different species, by harvesting just a part of the forest growth in order to save fossil fuel and CO2 emissions, providing also more jobs for local people.

Renewable energy

U.N Project for a Global Transition to Renewables

The IPCC Will Discuss the Main Problems about Climate Change, in Order to Achieve a Policy to Support Renewable Energy.

The Intergovernmental Panel on Climate Change will meet in Berlin to chart ways in which the world can cut greenhouse gas emissions, one of the most important problem in the current climate frame, trying to give estimates on how much it would cost.

There is a significant consensus that global warming is certainly caused by human actions and poses a serious threat to humanity. The U.N expert panel on climate is strongly trying to achieve concrete solutions in order to understand what the international community has to do.

According to the previous IPCC's report of a landmark climate assessment, it is fundamental to invest more in the renewable energies, cutting investments on fossil fuels, that are the principal source of man-made carbon emissions.

IPCC
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
WMO UNEP

IPCC Logo

This report outlines various solutions and proposals such as the use of wind energy and solar energy, and a better energy efficiency, analyzing at the same time their costs and benefits. Moreover, the IPCC will discuss about the necessary amount of global cuts needed to meet the proposed targets.

Following the result of the report sent to governments in December, emissions need to decrease by 40-70 percent by 2050, in order to keep global temperature increases below 2 degrees by the end of the century, which is the agreed goal of international climate talks. As shown in the draft, the investments in fossil fuels such as oil and coal would have to drop by $30 billion a year, and the spending on renewable energies would have to rise up to $147 billion annually.

These findings could provoke the opposition of the fossil fuel industry and countries that depend on it, as the reaction of some industries shows.

This reaction of the industry is in contrast with a point of view of UN. According to UN the ¾ of the fossil fuel reserves in the ground needs to be kept there for the world to reach the 2-degree target.

The principal goal is to achieve a global economy as carbon neutral as possible.

An alternative strategy to mitigate the climate change would use new ways to catch carbon from the atmosphere or prevent the sunlight , trapped in the atmosphere by greenhouse gases. This process is known as geo-engineering, that means a large-scale intervention in the Earth's climatic system with the aim of reducing global warming.

Many scientists believe that such plans are unlikely going to work – which is a doubt shared by the IPCC. Opponents stresses the possible effects from geo-engineering that could include a change in the monsoon pattern or a widening of the ozone hole that could threaten the lives of millions.

The IPCC has also highlighted that climate change has certainly caused damages on economies, crops and human health.

The study also stresses the important matter of the costs associated with the strategies to keep warming below 2 degrees C.

One of the most controversial issue of the international debate is represented by the matter about who should pay for efforts to curb climate change. This question is the turning point of the U.N. negotiations on a new global climate agreement, set to be adopted by 2015. The poor countries require more financial help from rich countries, in order to switch to low-carbon energy sources.

Data show that although China has the world's highest carbon emissions, the West, which underwent a stronger industrialization earlier, has historically pumped more carbon into the atmosphere.

In this framework, it is fundamental to achieve adequate policies considering their important cost and impact for society in the future, at the same time.

Renewable Energy

U.N. Urgent Wake Up Call for Governments to Use Renewables in Order to Fight the Impact of Climate Change

Climate Experts Highlight that Renewable Energy Can No Longer Be Considered a Niche Market, with Stronger Pressure on Britain to Develop its Green Commitments.

The Conservatives Have Been Planning to Block Further Onshore Windfarm Construction

The climate-change experts will meet next week, continuing to strictly highlight the importance of a stronger use of renewable energy, as windfarms, to prevent a global catastrophe.

In this framework, the UK's commitment for a green growth will be subject to the fiercest control.

A report by the world's leading authorities will outline the gap between the UK government's intention to halt the construction of more onshore windfarms and the majority of scientists' point of view, stressing the importance of windfarms as one of the cheapest tool to provide clean energy , ensuring the environment's safety at the same time.

The Mitigation of Climate Change's panel, by the UN's Intergovernmental Panel on Climate Change (IPCC), will show that the best solution to address the climate change's impact is to triple or even quadruple the use of renewable power plants. According to the panel, this strategy represents the only way to keep the carbon dioxide levels in the atmosphere below the critical level of 480 parts per million (ppm), before the middle of the century. If levels fall down this threshold, the possibilities to avoid global disorders will be very low.

The IPCC's report represents an urgent wake-up call for governments to earmark 1-2% of GDP to replace power plants burning fossil fuels, one of the main cause of global warming, with renewable sources.

These findings constitute a great challenge for the UK. The government is now planning a program to block the construction of new onshore windfarms in Britain, that is the country's only realistic priced renewable energy option other than solar power, which has limited potential in the UK.

In this context, there are strong green lobby's protests against the British government, accused of failing to meet its commitments to become the greenest government ever.

The government's decision to restrain the construction of new onshore windfarms could paralyze the UK capability to curtail carbon dioxide emissions and lead to higher energy prices, experts say.

Renewable Energy

Data show that onshore wind power costs around £90 per megawatt hour to generate, but for offshore windfarms this rises to £150. On the other hand, the use of other renewables is limited or not fully developed, as the tidal power. Additionally, the nuclear power represents a possible alternative, but there are controversial debates and a complete construction program would take decades to be approved and realized.

Moreover, the renewable energy's choice is endorsed by the public, so the government should perform actions to put the UK at the forefront of this energy revolution.

According to Greenpeace's view, there is yet time to avoid the worst effects of climate change, adopting clean energy solutions to cut carbon pollution. Additionally, renewable energy technologies represent the cheapest option in a large number of major markets, quickly becoming cheaper.

In this way, the IPCC report states that the target to limit global warming to 2 degrees Celsius will be feasible only if the increasing carbon emissions are rapidly braked and reversed.

The global temperatures would rise by 0.3-4.8C this century, on top of roughly 0.7C since the industrial revolution and seas are expected to rise by 26-82cm by 2100, the first report forecasts. Following this, the second report highlights that the risk of conflict, hunger, floods and mass displacement would increase with every minuscule rise in temperature.

Climate experts strongly affirm that, in order to fight the climate change's impact, inaction cannot be allowed to continue. As such, governments must agree on a climate plan that will come into force in 2020. In case of delays, the costs of mitigating climate change will exponentially increase due to higher levels of carbon dioxide in the atmosphere.

The UK economists warn that the current environmental frame represents a severe memento for implementing adequate actions against climate change by building cleaner and more efficient economies. Thus, renewable energy can no longer be considered a niche market, but renewables should take the full share of the global energy market in the next few decades, the WWF says.

Solar Panels Are One Example of Clean Energy

gLAWcal Activities

Papers

EUROPEAN ENERGY AND ENVIRONMENTAL LAW REVIEW (EEELR), Kluwer Law International, Volume 20, issue 6, 2011, pp. 232-244.

NATIONAL ENERGY POLICIES AND ENERGY SECURITY IN THE CONTEXT OF CLIMATE CHANGE AND GLOBAL ENVIRONMENTAL RISKS: A THEORETICAL FRAMEWORK FOR RECONCILING DOMESTIC AND INTERNATIONAL LAW THROUGH A MULTISCALAR AND MULTILEVEL APPROACH

(Paolo D. Farah and Piercarlo Rossi)

Abstract

Energy consumption and energy demand are predicted to grow steadily over the next few decades. The international community confronts two great challenges at once: providing secure and cheap energy supplies to meet ever-expanding needs and responding to climate change. There are a variety of national strategies to answer these needs. The impacts of the diverse national strategies on the greenhouse effect are multilevel; they range from the most state-centred to large-scale ones. The nature of the dual problems provides the basis for a review of the diverse approaches based on hierarchies of principles that entail diagonal regulatory strategies on climate change and energy security. These principles should mark the policy priorities to be followed and make it possible to more effectively integrate public laws with differing objectives, such as economic development and the environment. The globalization discourse has fragmented the traditional framework in which the policy-making role of the nation-state is inserted into the international legal system. The coexistence of national, regional and international decision-making levels can be seen to lead to sets of policies which fail to maintain internal consistency. Accordingly, studies on energy issues and studies on environmental risks need to be held together by means of a methodological integration that is able to encompass the multiscalar effect. LINK: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1970698

Journal of International Economic Law 16(3), 707–740. September 2, 2013.

ENERGY TRADE ANDTHE WTO: IMPLICATIONS FOR RENEWABLE ENERGY AND THE OPEC CARTEL

(Paolo D. Farah and Elena Cima)

Abstract

“Energy has become increasingly important in international trade relations. However, the World Trade Organization (WTO) does not deal specifically with this sector, and this creates several problems when it comes to regulating trade in energy goods and services. The situation is further complicated, on the one hand, by the need to foster the diffusion of renewable energy to address the current environmental concerns and, on the other, by the total and overwhelming control exercised by the Organization of Petroleum Exporting Countries (OPEC) over the oil market. It is true that, recently, the WTO has shown an increasingly open approach towards environmental issues. However, free trade is still the backbone of the Organization and trade liberalization its main goal. This explains why the WTO Panel and Appellate Body are still reluctant to justify measures adopted to support the renewable energy sector that may conflict with international trade law. Different might be the case with fossil fuels, the main competitor of renewable energy. OPEC exploits several strategies to control oil prices, which, at least in theory, clash with international trade rules. However, whatever the reason, such practices have never been challenged in front of the WTO. The way WTO provisions are interpreted and applied by the Panel and the Appellate Body when environmental concerns are involved can be used as a starting point to forecast a hypothetical judgment in case OPEC’s practices were eventually challenged.”

LINK: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2330416

gLAWcal Activities

Conferences and Workshops

Paolo Farah has presented a paper on "**China's Shale Gas Development. Trapped between the Absence of an Adequate Legal Enforcement and Environmental Degradation Risks**", Paper presented at West Virginia University, Department of Public Administration, USA, 14th January 2014

Paolo Farah has been Moderator, Discussant and has presented a paper on "**Shale Gas in China: A Comparison With Unconventional Fuel Development in the United States: Health, Water and Environmental Risks**" at the Workshop on "*Legal Risk Management in International Economic Law*", ACIL – Global TranSAXion , Amsterdam University, Faculty of Law, Amsterdam, The Netherlands, 6th December 2013

This Special Issue of the gLAWcal Newsletter with focus on "Climate Change and Renewable Energy" has been realized gLAWcal—Global Law Initiatives for Sustainable Development within the European Community's Seventh Framework Programme (FP7/2007-2013) People, Marie Curie IRSES Project under grant agreement n° 269327, "Evaluating Policies for Sustainable Energy Investments", Acronym of the Project: EPSEI, Coordinated by University of Turin - Dipartimento di Giurisprudenza. For any information about the EPSEI project and its objectives, please address your queries by email to: research@glawcal.org.uk

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WHO WE ARE

gLAWcal is an independent non-profit research organization (think tank) that aims at providing a new focus on issues related to economic law, globalization and development, namely the relationship between international economy and trade, with special attention to a number of non-trade-related values and concerns.

Through research and policy analysis, gLAWcal sheds a new light on issues such as good governance, human rights, right to water, rights to food, social, economic and cultural rights, labour rights, access to knowledge, public health, social welfare, consumer interests and animal welfare, climate change, energy, environmental protection and sustainable development, product safety, food safety and security.

All these values are directly affected by the global expansion of world trade and should be upheld to balance the excesses of globalization

Owner and Editor: gLAWcal - Global Law Initiatives for Sustainable Development

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