NEWSLETTER GLAWCAL

Issue 17, 2014

Focus on:

Climate Change and Its Impact on Food, Water and the Environment.

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Food and Water Supplies

CHEESEMAKERS: COMPANY'S GMO COMMITMENT SENDS RIPPLES UP THE SUPPLY CHAIN

Among the nearly 1,000 attendees at the American Cheese Society's annual conference in Sacramento last week, the name "Mateo" required no last name, no qualifier. Mateo Kehler isn't merely a leader in the American artisan cheese renaissance; he's also knee-deep in the nation's curdling fight over GMO labeling. He's based in Vermont, the first state in the nation to pass a GMO labeling law. For now, the law excludes dairy products, pending a report by Attorney General Bill Sorrell due in January 2015.

The dairy cows that Kehler depends upon to make cheeses like his bark-wrapped Harbison, buttery Alpha Tolman and gooey washed-rind Winnamere are not genetically modified. However, a small part of their feed comes from genetically engineered corn. For the moment, that's not an issue in Kehler's home state, but he says it's a looming worry.

Indeed, Whole Foods, which last year became the first national chain to set a deadline – of 2018 – for full GMO transparency.

Vermont-based cheesemaker Angela Miller finds it hard to meet the Whole Foods standard: "We do add corn feed, and for a long time, we fed organic feed, and then it was too expensive for us – it's double the cost".

The company is also going beyond transparency and, in some categories, expressing a clear preference for GMO-free products. President and COO AC Gallo writes, "We are going beyond finished packaged products with a focus on meat, dairy, eggs and fish. To be labeled as non-GMO or organic, animals providing these products must be fed non-GMO or organic feed."

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As the largest specialty cheese retailer in the nation, Whole Foods'decision casts a long shadow across the industry. For producers who want to continue selling their products there, the scramble to source non-GMO ingredients is heating up.

The company's standards are still developing, but by 2018, its producers will have to label products made from GMO ingredients – including dairy and meat products derived from livestock fed with genetically engineered crops. Kehler explains that this could be an insurmountable supply-chain problem. "There isn't a large supply of non-GMO grain," he says.

"In Vermont, there's one mill that supplies it and they're not taking customers. We're on a waiting list," he says.

Food and Water Supplies

HOW ABOUT THE FUTURE OF THE UK'S FOOD SELF-SUFFICIENCY?

This year, data suggest an optimistic prospect of a good harvest. However, Britain's ability to feed itself is in long-term decline, experts say, with self-sufficiency falling from 78% to 60% in the last 30 years.

In this context, the National Farmers Union has shown the importance to undertake stronger actions to change this alarming situation, stressing that the food supply would run out without imports.

Moreover, MPs have recently argued that Britain's capability to feed itself is undermined: some factors such as the extreme weather caused by climate change and increasing competition for food as the world's population grows are playing a crucial role threatening Britain's food self-sufficiency.

Additionally, some experts have analyzed this phenomenon, noting that the Ukrainian crisis has strongly affected wheat prices.

In this framework, major producers have criticized supermarkets that dominate the food market, accusing them of replacing British agricultural products with cheaper imports.

Andrew Pitt, above, a farmer in Northamptonshire, suggests science will be the answer to 'keeping us fed and watered'.

Food and Water Supplies

Studies describe a complex situation: increased production of apples, strawberries and asparagus are replacing imports, while celery and broccoli are rising but not enough to satisfy the growing demand.

On the other hand, the production of other important crops is decreasing: broad and runner beans, tomatoes, and pears have fallen by more than 20% in the past decade, due to foreign competitors that can supply hungry supermarkets all year round. In addition to that, farmers have highlighted that other issues are playing a central role, such as the difficulty in finding people in the UK to harvest hand-picked

Furthermore, the UK's higher food standards represent crucial factors that are damaging self-sufficiency, increasing prices compared with other countries, farmers warn.

In relation to that, the government needs to invest in new crops and smarter growing systems. The failure of establishing adequate policies will undermine Britain's ability to feed itself, experts say.

Lambing in Surrey: farmers face a situation where unworked land often pays more than fields in production.

Food and Water Supplies

NESTLE' STRESSES THE ALARMING THREAT OF WATER SCARCITY

According to the Nestlé's chair, water scarcity represents one of the most challenging issues of the international agenda. Water related issues are even more urgent than climate change, Nestle says.

The former chief executive of Nestlé has strongly suggested that water needs to become the main priority to world leaders. Although political discussions involve climate change and related issues, nobody talks about the water situation in this sense, Nestle argues.

The world is running out of water: governments need to establish adequate measures to overcome this alarming situation.

Nestlé represents one of the world's largest food companies. Despite its comments, the company is facing severe criticism for its water bottling activities in California, as the area suffers one of its toughest droughts on record.

Nestlé reportedly drawing water from an area in California which is suffering in the drought, plans to bottle it and sell off .

Data show that Nestlé's 383,000 square-foot water bottling plant is located on the Morongo Band of Mission Indians' reservation in California.

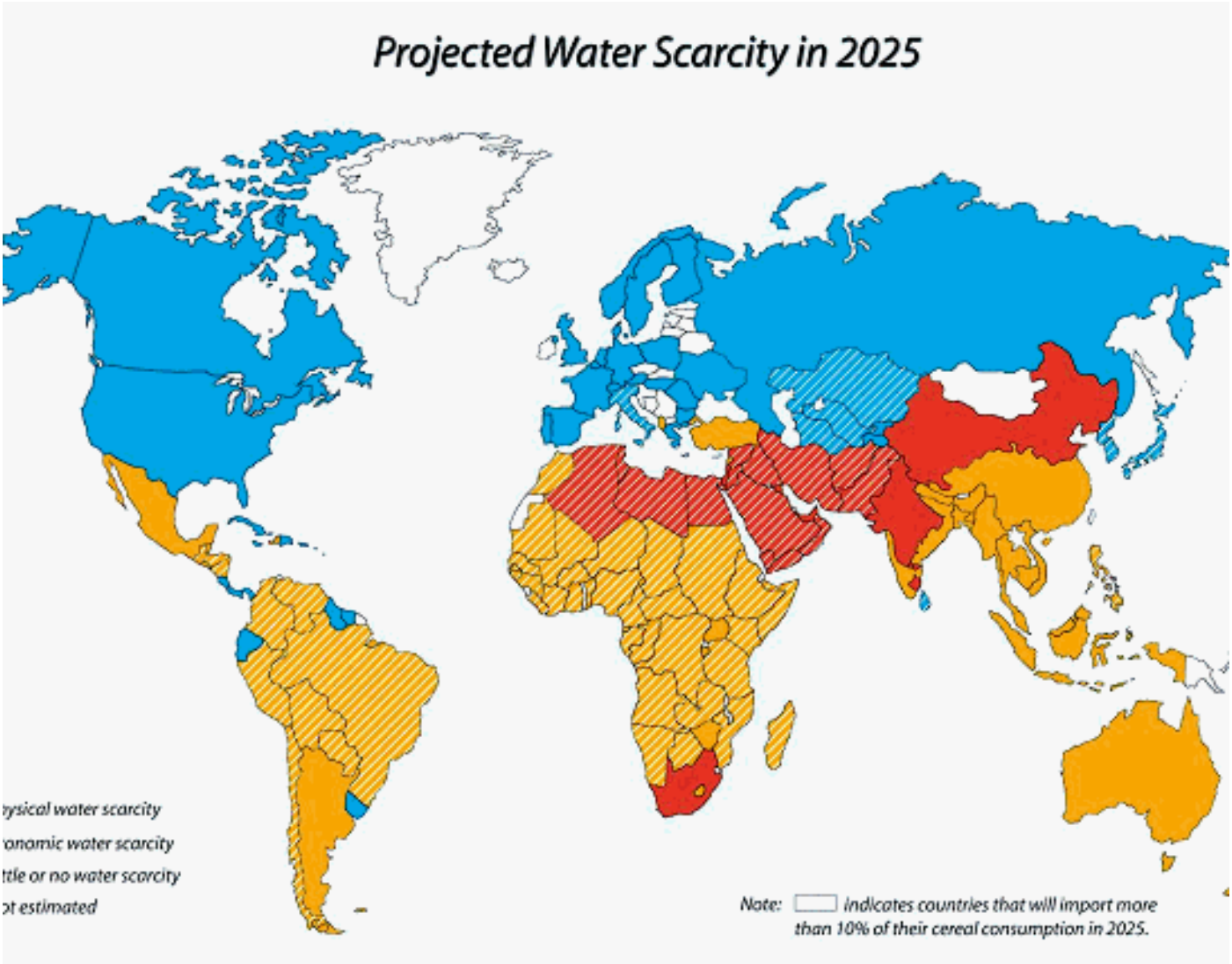
In this context, the state has declared a drought state of emergency this year, in preparation for coming water shortages, especially during the summer months. However, Nestlé is not required to comply with the emergency measures because its plant sits on a Native American reservation.

Food and Water Supplies

In relation to this situation, local residents are concerned about the amount of water that Nestlé is drawing from the area to bottle and export.

To answer the critics, the company has highlighted its commitment to operate in an environmentally responsible manner, focusing on water and energy conservation. Nestlé has highlighted the importance of its sustainable measures designed to prevent adverse impacts to local area groundwater resources, particularly in light of California's drought conditions.

"The world is running out of water: governments need to establish adequate measures to overcome this alarming situation."



Food and Water Supplies

AUSTRALIA: FOCUS ON THE LINK BETWEEN CLIMATE CHANGE AND HUMAN HEALTH

Recent studies have argued that climate change may threaten Australians' livelihoods, affecting the viability of communities and putting pressure on social stability.

Experts have also warned that climate change represents a challenging issue for Australia, both publicly and scientifically important.

Global warming is significantly affecting human health. However, until now there has been a relatively small scientific contribution to address these impacts on health. In this way, people need to understand that the impacts that will flow from a small increase in the

An irrigation system waters corn crops – researchers are modelling how climate change will affect food and water supplies.

Related to that, the Australian Academy of Science has stressed the urgency to undertake concrete measures, hoping to influence policymakers and governments in order to face the impacts of climate change on public health. In this way, groups of experts have asked government to tackle the complex interactions between increasing extreme weather conditions and the impacts on health.

The studies have shown that climate change has the potential to affect health directly through phenomena such as heatwaves and extreme weather, and indirectly through increases in the prevalence of certain diseases.

Moreover, experts have analyzed the impacts of climate change on future food and water supplies, focusing on physical science issues as the transport of pathogens in water supplies and other important consequences of this situation as possible future conflicts for water.

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In this context, the World Bank has recognized that fights over water and food will probably represent the most significant direct impact of climate change in the next five to ten years.

In this framework, the recommendations are playing a central role influencing government ministers and senior bureaucrats about the urgency to reinforce and support research in this challenging field.

"The World Bank has recognized that fights over water and food will probably represent the most significant direct impact of climate change in the next five to ten years."

Climate Change Impacts on the Environment

WHAT IS HAPPENING TO FORESTS?

A report from the European Forest Institute, published in the journal Nature Climate Change, has recently shown that climate change is playing a crucial role altering the environment.

Additionally, the study stresses that forests are particularly vulnerable to the rapid changes occurring in the climate system.

In relation to that, climate change has significantly damaged forests in the last few decades, the report says. Moreover, researchers have outlined that severe damages from wind, bark beetles, and wildfires have increased significantly in Europe's forests in recent years. Extreme weather conditions have considerably intensified, challenging the sustainable management of forest ecosystems.

Scientists estimate that forest fires will cause increased damage on the Iberian peninsula.

The report has revealed that the alarming consequences caused by forest disturbance has increased over the last 40 years in Europe, reaching 56 million cubic meters of timber annually in the years from 2002 to 2010. Furthermore, studies estimate that this trend will likely continue: forest disturbance will increase damages by another million cubic meters of timber every year over the next 20 years.

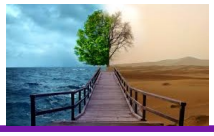
Climate change represents the main factor that drives this increase, the report shows.

Climate Change Impacts on the Environment

In this context, the international team of researchers have also described in this report another crucial element: the strong feedback effect from forest disturbances on the climate system. Environmental scientists argue that Europe's forests at present are playing an important role, helping to reduce the effects of climate change absorbing large quantities of carbon dioxide. However, the carbon lost from the damaged trees could reduce this effect, reversing the positive impact of forest management measures created to mitigate climate change. In this way, the increase in forest disturbance caused by the climate could even

In this framework, experts stress the importance to undertake stronger management measures in order to protect biodiversity and forests, reducing carbon losses and supporting the forests' role in mitigating climate change. In addition to that, forest managers need to adapt to changing phenomena to preserve forests capability of functioning to society's benefit.

"We cannot manage our planet if we cannot manage our forests," said William Sommers, a research professor with the Center for Climate and Society at George Mason University.



Climate Change Impacts on the Environment

GEOENGINEERING: ETHICAL ISSUES SHOULD PLAY A CENTRAL ROLE TO ADDRESS CLIMATE CHANGE

In relation to the so-called geoengineering, an environmental philosopher has recently stressed the importance to tackle ethical issues in order to face global warming with concrete measures.

Some experts have shown that geoengineering has worsened the problems for future generations.

Geoengineering, also known as climate modification, has increasingly been under the spotlight especially about its moral and ethical consequences.

Geoengineering methods include carbon dioxide removal to cut the levels of greenhouse gas in the atmosphere storing it, for example, in trees, algae or underground.

Another category, known as solar radiation management aims to reduce the amount of energy entering the Earth's atmosphere from the sun, for example by spraying sulphate particles into the stratosphere or whitening clouds.

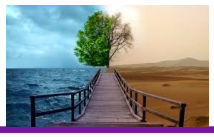
In this context, political inertia represents one of the most important factors that explains why the world has failed to address climate change and rising greenhouse gases.

Many leading scientific institutions are now looking at proposed ways to engineer the planet's climate to offset the impact of global warming.

Experts suggest that governments need to take into account the severe costs of these policies for the future, and not only to establish measures to face climate impacts in the near term.

In recent years, major scientific institutions and a growing group of researchers have started to consider geoengineering: thus, the ethical and moral questions should play a central role.

Consequently, dealing with social and political issues represents an essential element in the realm of geoengineering.



Climate Change Impacts on the Environment

THE CRUCIAL ROLE THAT INDIGENOUS PEOPLE COULD PLAY IN INTERNATIONAL CLIMATE CHANGE POLICY

Indigenous people represent one of the most vulnerable groups to the severe impacts of climate change.

Indigenous rely on the natural environment and biodiversity for their livelihoods, as their entire worldview is based on complex interactions with nature and the environment.

Indigenous people are vulnerable because of the continuing neglect and marginalization in national, regional and international climate change policy.

However, recent events of various indigenous peoples' initiatives show that indigenous communities possess important resilience that should not be neglected.

Indigenous people have been adapting to changes in the environment for centuries, living in harmony with their own landscape. Consequently, these communities have developed strategies and methods to adapt to environmental changes.

According to some experts, the participation of these communities and the integration of their knowledge and priorities could play a crucial role: indigenous people should be involved at the UN climate talks.

Including these communities in the international debates will help policymakers to achieve effective results in order to address climate change.

In this context, experts have stressed that climate change represents a global problem: however, its impacts are local, varying significantly by location.

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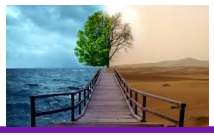

Climate Change Impacts on the Environment

In relation to that, the Indigenous Peoples' Biocultural Climate Change Assessment Initiative (IPCCA) have outlined that many of these adaptations are already in progress in order to tackle climate change related issues. The strategic methods that indigenous people have undertaken include, for instance, diversifying and supplementing natural resources, altering and modifying key species and biodiversity, shifting timing cycles and calendars and adjusting locations.

Thus, the climate change policy apparatus needs to involve within the international policy these skills and knowledge, often neglected by the broad technical and scientific approaches.

Climate Change Impacts on the Environment

FOCUS ON BIOMASS THAT CAN PRODUCE LOW CARBON EMISSIONS

A new report for the UK's department of energy and climate change has argued thatburning wood to produce electricity, under tightly controlled conditions, can produce lower carbon emissions than other fuels.

The report represents a significant call for a stronger focus on energy related issues, raising debates over how the technology can be used in the future.

Biomass that includes wood, other plants and waste products, has been used as an alternative to burning coal to produce energy for several years. However, biomass carries with it potential matters: for instance, the wood used to fuel the power plants could undermine the role of forests as a long-term store for carbon.

Moreover, the use of wood from older forests that can take centuries to replace could cause other severe problems. Additionally, the consequences of these phenomena can result in the destruction of species that live in these habitats.

The report outlines various scenarios in which the use of biomass can be either beneficial, in terms of carbon emissions, or problematic.

Drax Power Station near Selby, parts of which are being converted for biomass co-firing.

In relation to these findings, the chief executive of the UK's biggest coal-fired power station that is converting some of its boilers to biomass by using wood imported from the US, explains that biomass could be an effective instrument in order to reduce emissions. Biomass can represent a good form of renewable energy, the chief executive explains.

Climate Change Impacts on the Environment

According to the Renewable Energy Association, companies need to operate in accordance with the guidelines set out by the UK government in order to cut emissions. This approach would result in significant carbon savings and lower greenhouse gas emissions for the UK.

"Biomass carries with it potential matters: for instance, the wood used to fuel the power plants could undermine the role of forests as a long-term store for carbon."

Climate Change Impacts on the Environment

CONCERNS AND DEBATES ABOUT THE NEW ENVIRONMENTAL POLICY OF THE WORLD BANK

The World Bank has recently launched a plan to reduce the conditions on which it lends up to $50bn a year to developing countries. Experts have condemned this decision as potentially disastrous for the environment, representing a measure able to weaken the protection of indigenous peoples and the poor.

Experts show that existing environmental and social protection will be undermined to allow logging and mining in most ecologically sensitive areas. Moreover, indigenous peoples will not have the possibility to be consulted before major projects such as palm oil plantations or when large dams plan to go ahead on the land that they traditionally occupy.

According to World Bank watchdog groups including the Bank Information Centre (BIC), the Ulu Foundation and the International Trade Union Confederation, the new program will damage existing protection for biodiversity. Additionally, countries will be allowed to establish harmful projects on the environmental safety.

In line with this, environmental groups point that this plan represents an alarming attempt to undermine protections for the poorest, allowing the destruction of forests and the natural environment.

The plan will lessen the usual requirements to evaluate impacts on people and the environment of a project, allowing governments to use their own discretion, weakening the existing standards.

In addition to that, the Bank Information Centre has stressed that the plan could strongly damage the respect of international human rights law.

To address these concerns, the World Bank has outlined that the new plan will foster sustainable development, highlighting its efforts to protect people and the environment. In this way, this new policy represents an instrument to address extreme poverty, promoting shared prosperity in a sustainable manner with its partner countries.

A palm oil plantation in Sumatra. NGOs fear that changes in the World Bank's lending rules could allow such plantations on indigenous peoples' lands.

Climate Change Impacts on the Environment

CLIMATE CHANGE: POSITIVE SIGNALS TO OVERCOME THE CURRENT ALARMING SITUATION

Experts have also warned that climate change represents a challenging issue for Australia, both publicly and scientifically important.

Recent data has shown that carbon dioxide concentrations in the atmosphere have been at record levels unseen in over 800,000 years. The Intergovernmental Panel on Climate Change has highlighted the urgency to undertake stricter measures in order to address climate change, one of the most challenging issues that the international community needs to face.

However, according to the world's top climate scientists, the current framework offers some good reasons to be hopeful that humans will rise to the challenge of climate change.

First, experts stress the importance of the US trend in relation to environmental policy. Barack Obama has pursued a policy of environmental protection, establishing emissions caps on coal power stations in order to fight climate change.

Moreover, after the launch of Obama's crackdown on coal, Chinese government climate advisor has announced that the government will establish new measures to control CO2 emissions in the next five-year plan. This announcement represents a breakthrough, as it was the first time that the Chinese government took on a serious commitment in order to overcome the consequences of climate change.

Indian workers walk past solar panels at the 200 megawatts Gujarat Solar Park at Charanka in Patan district, India.

Climate Change Impacts on the Environment

China is the world's largest emitter of carbon: due to the high level of pollution, the Chinese government has ordered a mass closure of coal plants within a few years. Environmental groups have welcomed this program, suggesting that strengthening these measures could bring Chinese emissions close to the level the International Energy Agency affirms are needed to avoid more than 2C warming.

Additionally, thanks to the decrease of technology prices, innovation and significant governmental initiatives on renewable energies have taken an increasing share of global electricity generation. After the stall of the early part of the last decade, the increase of renewable energies is now relentless, attracting more and more investments in this field. Studies show that in 2013 investors have contributed $268.2 billion to renewable projects, 5 times more than in 2004.

As another positive signal, estimates outline that since 2011 electric car sales have doubled every year. Consumer acceptance of the technology is on an exponential growth curve: experts argue that we will see more than one million of these kind of vehicles driven across the world by the end of 2015.

"Studies show that in 2013 investors have contributed $268.2 billion to renewable projects, 5 times more than in 2004."

gLAWcal activities in 2014

Conferences and Workshops

As part of the Research Project on "**Evaluating Policies for Sustainable Energy Investments: towards an integrated approach on national and international stage**", Acronym of the Project: **EPSEI**, funded by the European Community's Seventh Framework Programme (FP7/2007-2013) People, Marie Curie IRSES Project under grant agreement n° 269327, the following events have been organized by gLAWcal—Global Law Initiatives for Sustainable Development (United Kingdom) :

Workshop on "**Chinese Ecological Civilization and Western Concepts**", organized by gLAWcal – Global Law Initiatives for Sustainable Development (United Kingdom), Università degli Studi di Torino, Dipartimento di Giurisprudenza (Italy), Chinese Research Academy of Environmental Sciences – CRAES (China), Aix-Marseille University, CEPERC (France), held at the Chinese Research Academy on Environmental Sciences (CRAES), Beijing, China, 1st August 2014, 8:30 – 1230.

It has been created a webpage multimedia in the EPSEI website and an EPSEI Youtube Channel where this workshop has been included. Below the links to the videos:

Paolo Davide FARAH, gLAWcal – Global Law Initiatives for Sustainable Development (United Kingdom), EPSEI Vice-coordinator at University of Turin Department of Law (Italy), **The Influence of Politics in the Law Making Process in the Field of the Ecological Civilization**

https://www.youtube.com/watch?v=a5_nfxittEg

Jean-Yves HEURTEBISE, FuJen Catholic University (Taipei), Department of French Language and Culture; Aix-Marseille University, CEPERC - Research Center for Comparative Epistemology and Ergology (France); Kozmetsky Global Collaboratory in Stanford University (KGC, USA), **Environment, Science and Society**

https://www.youtube.com/watch?v=4g3VVH3-J3I

Vanessa KOPEC, Aix-Marseille University, CEPERC - Research Center for Comparative Epistemology and Ergology (France) & EU Commission Marie Fellow at Chinese Research Academy of Environmental Sciences (CRAES), Beijing China, **The Concept of "Ecologic Civilization": from Traditional Roots to Contemporary Commitments**

https://www.youtube.com/watch?v=xhWmFvyL6xA

Fernando DIAS SIMOES, University of Macau, Faculty of Law (China) & Member of the Scientific Committee of gLAWcal

https://www.youtube.com/watch?v=03ctiBkVBCE

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ThinkIN China and gLAWcal- Global Law Initiatives for Sustainable Development (United Kingdom) jointly organized an event held at the Bridge Cafe' (Beijing, China) on December 1, 2014 with Ms. MAO Ziwei, World Resources Institute China, Energy Programme and Professor Paolo Davide Farah, West Virginia University (WV, USA), gLAWcal - Global Law Initiatives for Sustainable Development (United Kingdom) and EPSEI Scientific Vice-Coordinator EU Commission Research Project with a talk on "**China Low Carbon Dream**". gLAWcal financially supports the activities of ThinkIN China, Beijing (China).

The link to the program: http://www.glawcal.org.uk/images/Leaflet_1_December_2014.jpg

This Special Issue of the gLAWcal Newsletter with focus on "**Climate Change and Its Impact on Food, Water and the Environment"** 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

GLAWCAL

GLOBAL LAW INITIATIVES FOR SUSTAINABLE DEVELOPMENT

WHO ARE WE

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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