

A Worker's Perspective:

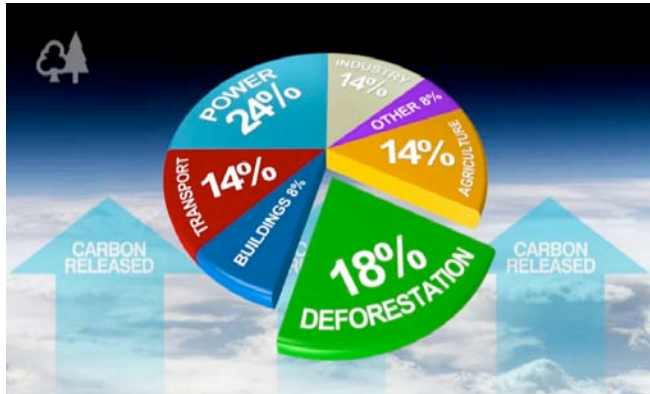
Climate Change Strategies in the Construction, Building Materials, Forestry and Wood Sectors

A Joint Position paper of the Building and Wood Workers International (BWI), the European Federation of Building & Wood Workers (EFBWW), and the Nordic Federation of Building and Wood Workers (NFBWW)



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Introduction



The impacts of climate change are not evenly distributed - the poorest countries and people will suffer earliest and most. And if and when the damages appear it will be too late to reverse the process. Thus we are forced to look a long way ahead.

The Stern review, Executive Summary Page vii

Climate change affects all of us, not only as consumers but also as workers. The construction, building materials, forestry, and wood industry, employing around 200 million workers, play an important role in contributing to and reducing CO₂ emissions. Deforestation is the second largest source of carbon in the atmosphere. Buildings are responsible for about 8% of global CO₂ emissions and their use increases their contribution upwards of 40%.¹ However, without any doubt, the construction and wood industry can deliver a substantial contribution to the reduction of greenhouse gases and the problem of global warming. We are part of the solution.

Climate change, which is considered to be one of the most threatening environmental problems of the 21st century affects all of us, as consumers and as workers. According to the United Nations Framework Convention on Climate Change (UNFCCC), climate change “may be attributed directly or indirectly to human activity” which changes the composition of the atmosphere in addition to the natural climate changes in certain periods. Adopted in March 1994, the UNFCCC gives the global framework for governments to tackle the challenge posed by climate change. To date, 192 countries have ratified this convention.

Poverty is a primary contributor to global deforestation, which is one of the largest contributors to carbon increase in the environment. Construction is increasingly taking place in developing countries, where most of the world’s fastest growing large cities are located. The construction industry makes huge demands on global natural resources, and this assumes great environmental significance with the rapid, and accelerating, growth in the global population. It is imperative that the demands on global natural resources are balanced with the ‘carrying capacity’ of the physical environment.

¹Forestry and climate change graphics used with permission from the United Kingdom Forestry Commission

This paper focuses on CO2 emissions and CO2 containment in connection to employment, job creation, and decent work. How do we ensure that workers, whose livelihoods depend on a job in a changing sector, still benefit from decent work and receive the training they need to make the transition? We have two main points: (1) Upgrading energy efficiency in construction and energy renovation of existing buildings; and (2) Reforestation and sustainable forest management

CURRENT POLICY PROPOSALS

Driven by nations with market-based economies, the current debate focuses primarily on designing a market mechanism to establish a monetary price for carbon pollution. By putting a price on carbon pollution, the thinking is that carbon polluters will not be able to externalize their costs onto the public in general and onto those without voice or without political power.

It is important that policies be designed so that markets, if relied upon for carbon pollution abatement, are effectively and efficiently regulated. Monies raised from carbon trading or taxes must be dedicated to promoting social justice with a specific emphasis on poverty reduction, and worker re-adjustment training for those displaced by the lower carbon economy.

Construction, Building Materials and Aspects of Climate Change

Before the advent of the integrated global economy dominated by international construction companies, buildings were constructed with regard to the surrounding environment. For example if weather extremes were an issue walls would be built thicker or thinner. Today we tend to build the same buildings regardless of local conditions. Such buildings tend to have larger carbon footprints.

If we were once again to build based on the needs of local populations and local conditions the carbon footprint of buildings could be significantly reduced. By placing the design and construction of buildings back into local cultural and environmental contexts we would also create opportunities to use and support local skills and local building materials thereby reinforcing social sustainability as well as environmental and economic sustainability.

In the global south, the pressure to be both “western” and “modern” in our built environment is a major contributor to buildings with higher carbon footprints relying on technologies and expertise that must be imported. This is particularly challenging in infrastructure development. In geographic areas suffering from inadequate infrastructure, the current construction market can deliver ‘western styled’ high carbon footprint solutions far more cheaply than lower carbon options, especially when cost is considered over a shorter time horizon.

A. THE ROLE OF BUILDINGS IN REDUCING EMISSIONS

Governments must play a more direct role as a driving force for lower carbon construction design, construction and use. Through their political power as regulators and their economic power as one of the



larger groups of procurers of goods and services, governments need to set rigorous standards for new construction, retrofitting targets for existing buildings, and support innovative design and construction processes through their public procurement processes.

The development of building codes that encourage and support central heating/cooling and other carbon reduction technologies can play an important role. Governments can establish incentives to encourage the private sector to engage in energy renovation schemes.

B. BUILDING MATERIALS AND CARBON:

1. Wood

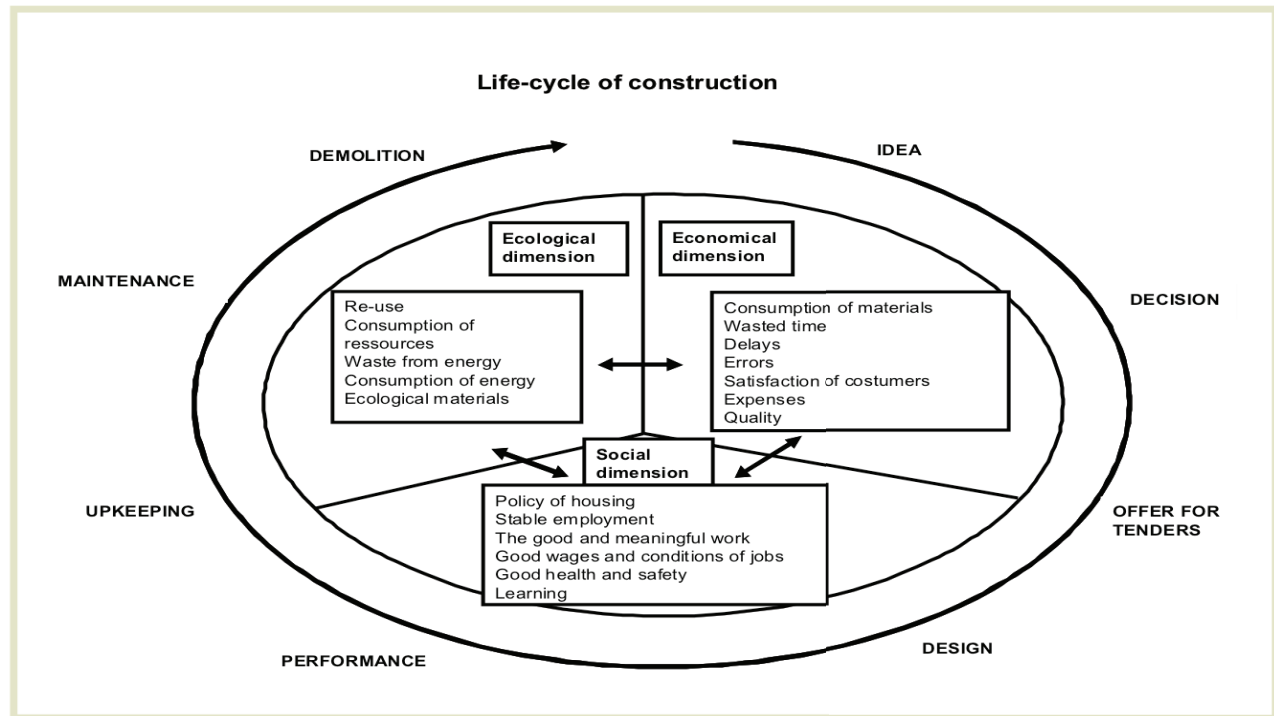
Wood is a unique material in that the CO₂-emission from burning wood is identical to the CO₂ being absorbed during growth. Wood therefore is CO₂-neutral and timber as a building material stores carbon for the length of its use. In many cases, for centuries.

Every cubic meter of wood used as a substitute for other building materials reduces CO₂-emissions to the atmosphere by an average of 1.1 t CO₂². Added to the 1 t of CO₂ stored in wood, each cubic meter of wood that is substituted for other building materials saves a total of 2.1 t CO₂. Based on these figures, a 10% increase in the percentage of timber houses in Europe alone would produce sufficient CO₂ savings to account for about 25% of the reductions prescribed by the Kyoto Protocol³.

Using wood saves energy over the life of a building, as its cellular structure provides thermal insulation, and is becoming an ever more competitive solution in “green” building regulations.

²“Tackle Climate Change. Use wood”, *Cei-Bois*, November 2006.

³“Tackle Climate Change. Use wood”, *Cei-Bois*, November 2006.



Source: BAT Kartel

2. Cement

Cement production is a significant source of greenhouse gas (GHG) emissions. Virtually all the cement industry's output is used in the construction sector, especially for concrete, which is used as a material in quantities second only to our use of water. Twice as much concrete is used worldwide as the total of all other building materials put together. Concrete contains 10 – 15% cement. As much as 1.25 tonnes of CO₂ is produced for every tonne of cement, and around 1600 kg of raw material is needed to produce 1000 kg cement. Globally, 2.6 billion tonnes of cement are produced each year and, based on current trends, CO₂ emissions from the cement industry will quadruple by 2050.⁴

The manufacture of Portland cement (PC) is one of the most energy intensive of all industrial manufacturing processes and is responsible for up to 10% of man-made CO₂ emissions worldwide. Portland Cement (PC) is the most widely consumed cement variety worldwide. PC is a major constituent in the manufacture of a wide range of building materials and construction products including structural and non-structural concretes (of which more than 5 billion tonnes are produced globally each year), including mortars, slabs, paving blocks and foundations. These materials make up a vital part of our infrastructure but the production processes of cement and cement products result in a tremendous environmental impact.

The global cement industry is investing in research and development to find ways to reduce its emission of GHGs, mainly through reducing its use of fossil fuels. It is essential to establish a level playing field on regulations and emissions for the cement industry to ensure that this

⁴ *A Concrete Foundation. In: Tomorrow, 12:6, December 2002.*

sector can contribute to reductions in green house gases. Recycling and re-use of concrete must be encouraged.

C. PUBLIC PROCUREMENT

Regulations governing public procurement aim to guarantee fair and transparent competition to obtain the best quality-price ratio with optimum use of public funds. Policy considerations on social and environmental aspects of building and construction, important as they may be, are not usually a factor in decisions concerning the award of procurement contracts at this time.

Public projects can require bidders to:

- use state of the art carbon reduction design and construction elements.
- give preferences to the lowest carbon footprint bid based on the price of carbon either sequestered or avoided
- require the use of certified products where systems are in place such as in the case of forest certification
- ensure that social criteria that incentivize decent work, safe work and work that honors the ILO core labor standards are mandated in bids.

European legislation already accepts that sustainable development, including sustainable forest management, can be used as an award criterion in awarding contracts. In fact there is a long history of procurement policies being used to advance social justice in areas such as: employment policies, apprenticeships and skills training, wages, working hours, health and safety, child labour, forced labor, tropical timber, and many others. Public authorities can opt for a wide array of sustainable public procurement options as long as they do not discriminate based on nationality. Governments must introduce environmental and social clauses in all tender documents for public works.

D. TECHNOLOGY AND INVESTMENTS IN RENEWABLE ENERGY

Technologies are already available to avoid a carbon intensive future but they need to be deployed on a wider scale. Factors such as their cost, current low levels of deployment, the restrictive application of patents and lack of political will are responsible for the poor diffusion of technological innovations. Governments as well as companies must increase efforts in research and development in the construction sector and on renewable energy, renewable materials and energy efficient facilities management.

Recently the Centre for European Policy Studies (CEPS) (Brussels 2009) demonstrated that the construction industry has one of the lowest investments in research and development (0.1%). Major companies tend to be more innovative than small and medium sized companies – a serious problem, since 90% of construction companies world wide are micro enterprises, employing less than ten workers. A key instrument to boost the “quality of labour” and productivity would be sizeable investments in the vocational and professional training of workers.

E. CENTRAL HEATING - CENTRAL COOLING

In cold countries, most energy spent in the building is for heating. Homes’ CO2 releases are one of the most important causes of the “greenhouse effect”. To reduce the energy used in heating, the buildings are typically insulated. In hot countries, most energy spent in the building is for cooling. When insulating these buildings you can get the same effect as when you insulate to keep the cold out. You can keep the warm air inside warm, or keep the cool air inside cool. The most energy efficient way to heat a house is central heating, and this technique can also be used in central cooling. In Copenhagen experiments have already begun in this area.

F. INCENTIVES FOR BUILDING OWNERS TO REDUCE ENERGY USE

The owner of the building will also benefit economically from renovating the building, saving money otherwise spent on energy. This is big incentive for the owners whether private, companies or governments. Governments should establish appropriate motivation mechanisms and incentives to encourage the private sector to engage in energy renovation schemes.

Forests and Environmental Aspects of Climate Change

Forests contribute to carbon storage. On average a typical tree absorbs, through photosynthesis, the equivalent of 1 ton of carbon dioxide for every cubic meter of growth, while producing the equivalent of 0.7 t of oxygen⁵. This fiber continues to store carbon until released most frequently through fire and soil disruption resulting from natural disturbances, land use change, and harvesting activity.

In order for the carbon sequestration benefits of forests to be maximized, a number of conditions must be met. Most importantly, forest management must respect internationally agreed principles of sustainable forest management. When forests are managed sustainably, carbon releases from natural disturbances are minimized, carbon neutral or nearly neutral consumer goods are produced and the long-term health of the forests is integrated into the long-term management plan.

The Food and Agriculture Organization (FAO) estimates that approximately 7.3 million hectares⁶ of forest area are lost to deforestation annually.⁷ Deforestation is the result of conversion of land use from forests to agricultural or urban uses. Drivers of conversion include:

⁵“Tackle Climate Change. Use wood”, *Cei-Bois, November 2006*.

⁶FAO Forest Resources Assessment 2005, www.FAO.org.

⁷FAO Forest Resources Assessment 2005, www.FAO.org.

EXAMPLES FROM EUROPE

In **France** the parliament has decided to double the number of old buildings they will energy-renovent, thereby increasing the number of renovated buildings to 400.000 yearly. The program will start with 800.000 public buildings that will be energy-renovated by the end of 2015.

In **Germany** the CO2 *Gebäudesanierungsprogramm* targets a yearly energy-renovating of 5% of all buildings from before 1978. This has created 190.000 jobs, saved 2 million tons of CO2 emissions and reduced heating bills.

In the **Netherlands** the government has approved plans on energy-renovating in 200.000 - 300.000 buildings a year.

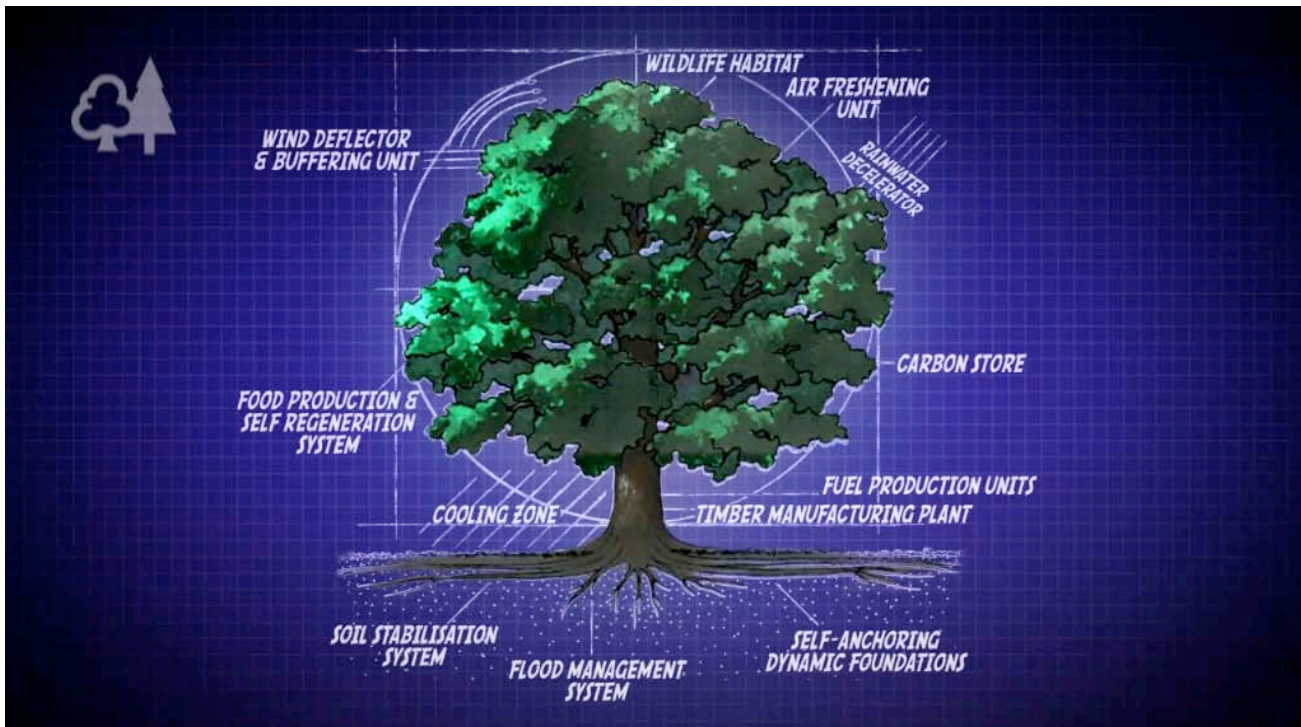
In a number of countries including those cited above and the UK, governments have decided to introduce targets for energy effective building of new buildings. These demands will be introduced in the period 2012-2015. CO2 neutral houses will be obligatory in the UK from the year 2016 and in France, the Netherlands and Germany from the year 2020.



- Market driven land use decisions. Forestland use is seldom able to compete in market driven economies. Profit driven institutions are contributors to deforestation through conversion of forests to agricultural activities. In many tropical countries this sets off a cycle of soil degradation that creates tracts of land that have no economic value and are ecologically degraded for substantial periods of time.
- Natural disturbances. In those areas where there exists a natural fire regime, forest management is critically important for both preventing deforestation and for managing carbon storage.
- Unsustainable and illegal commercial harvesting activity. Considering that roughly one fifth of all European Union timber imports stem from illegally harvested wood, wood importing countries should re-examine their trade and import policies. According to Indonesian Forestry unions, each cubic meter of illegal timber means a loss of employment for at least four workers in the production chain.
- Use of biomass for heating and cooking by impoverished populations living in or close to forests. The social and cultural drivers of deforestation are important. Poverty and the need to survive today makes protecting forests for tomorrow a far greater challenge.
- Climate change. Not only is deforestation a cause of climate change, but climate change is also a contributor to deforestation. Changes in rainfall, temperatures, and extreme weather increases biological stress on forests in various geographic areas. This contributes to global poverty and creates “climate refugees”.

Illegal logging is a major cause of social, environmental and economic problems

Illegal logging is a contributor to deforestation since post commercial “green up” activities rarely follow illegal harvesting. Such activity contributes to environmental damage and places workers in hazardous situations with no recourse to social protection. It denies communities and governments of income, and contributes to organised criminality.



A. Sustainable Forest Management (SFM)

Several certification schemes exist today, which serve as standards for the verification and encouragement of managing forests sustainably. When enforced, these standards increase the economic, social and environmental benefits of the forestry and forest-product industries. Forest protection combined with SFM sustains forests and bio-diversity and secures incomes in rural regions and along the production process. Education and skills development plus decent working conditions are vital to enable communities and forest workers to sustainably manage. SFM should also include a commitment to low carbon, low impact forestry practices. For example, “chemical-free” management of forests should be applied wherever possible.

Governments can support SFM through public procurement and trade policies that support the two internationally recognized forest certification schemes, the FSC and the PEFC. While these systems still need to expand their social standards throughout their entire chain of custody there is evidence that even with existing social standards the lives of workers are improved and forests are managed with a more ecological and carbon neutral regime.

B. Wood Products and Carbon Pollution

With improved re-cycling of wood-based products when their useful life is over, either the energy stored can be harvested or the materials themselves transformed into new, environmentally friendly products. Strategies to increase the use of wood products can ensure a lower carbon footprint. Finland, Sweden and Norway already have defined clear objectives for their respective total environmental accounts focusing on the use of wood as a building material.

Unfortunately carbon captured in wood from sustainable forests has not been measured as holding carbon. This would increase the incentives for using and building with wood, and the use of wood would become a tool for the countries to use for fulfilling their obligation for CO2 reduction.

REDUCING EMISSION FROM DEFORESTATION AND FOREST DEGRADATION (REDD)

REDD has as its primary intent to save existing forests and has a distinctively higher mitigation potential than afforestation or reforestation. The United Nations Framework Convention on Climate Change (UNFCCC) parties to date has not fulfilled their commitment established in Article 4.1 (d) of the convention.

Nevertheless REDD continues to be an important part of the climate change debate. For us, it matters more how a REDD scheme is implemented than which scheme is adopted. Whatever form of REDD is ultimately adopted it must provide for a just transition (see below) for forest dependent peoples and the forest products workforce.

If REDD reduces the economic value of forests then how this transition is to occur must be clearly delineated to protect the workforce. If REDD contributes to a sizeable increase in the wealth of forests then issues of distributional equity must be addressed.

The track record of governments’ ability to deliver either a just transition or distributional equity is not positive. In most cases such outcomes require considerable funding and even more monitoring. The more frequent outcome is that forest dependent peoples and the forest products workforce are left to fend for themselves, bearing a disproportionate burden of the costs of policy change.

Policy and Program Recommendations

BWI-EFBWW-NFBWW 14-point Proposals for COP 15 are the following:

1. Countries should set out legally binding targets and a sustainable approach to tackle climate change. BWI shares the vision of global trade unions that global temperature should no longer rise more than 2 degrees Celsius, and also that of the Kyoto protocol standard of 5 percent in rich countries.
2. Governments should begin a programme of upgrading energy efficiency, and energy renovation of existing buildings.
3. Governments should spend more in research and development in the construction sector and in research on renewable energy, renewable materials, energy-efficient facilities management, and waste management.
4. Governments should set up motivation mechanisms and incentives to encourage private sector to pursue renovation schemes in buildings to improve energy efficiency.
5. The cement industry should reduce the use of fossil fuels and thereby reduce their emissions. There should be a level playing field on the emissions for the whole cement industry. Recycling of concrete must be encouraged.
6. Governments should include environmental standards in their procurement standards.
7. Governments should incorporate all core conventions of the International Labor Organization when establishing new projects and jobs.
8. Governments should support reforestation projects.
9. Governments should regulate the use and recycling of building materials in upgrading and renovation projects as well as when building new properties. Governments should promote the use of such building materials (such as wood) whose use contributes to the tackling of climate change.
10. Governments should regulate carbon dioxide emissions and energy consumption in existing and new buildings.
11. All countries should recognize the need for national strategies for the production and use of wood and wood products from sustainably-managed forests.
12. Governments must recognize carbon dioxide from forestation and building as part of their countries' total carbon dioxide emission account.
13. Countries should push for a separate agreement on the UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) under the Convention. The agreement should set additional targets to avoid deforestation, establish a special fund including accountability structures and a separate market for reduced emissions from deforestation certificates.
14. Governments must lead in combating unsustainable harvesting and logging through international trade agreements such as the EU Forest Law Enforcement, Governance and Trade (FLEGT) system and through strengthening of the existing forest certification schemes.

Effective climate change policies and programs will only be successful if designed and implemented with the active participation of those whose lives they affect: employers, workers, and consumers from the top level down to the ground in forestry and building sites. Social dialogue between workers, employers and governments is a powerful instrument, and an indispensable tool for dealing with climate change.



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