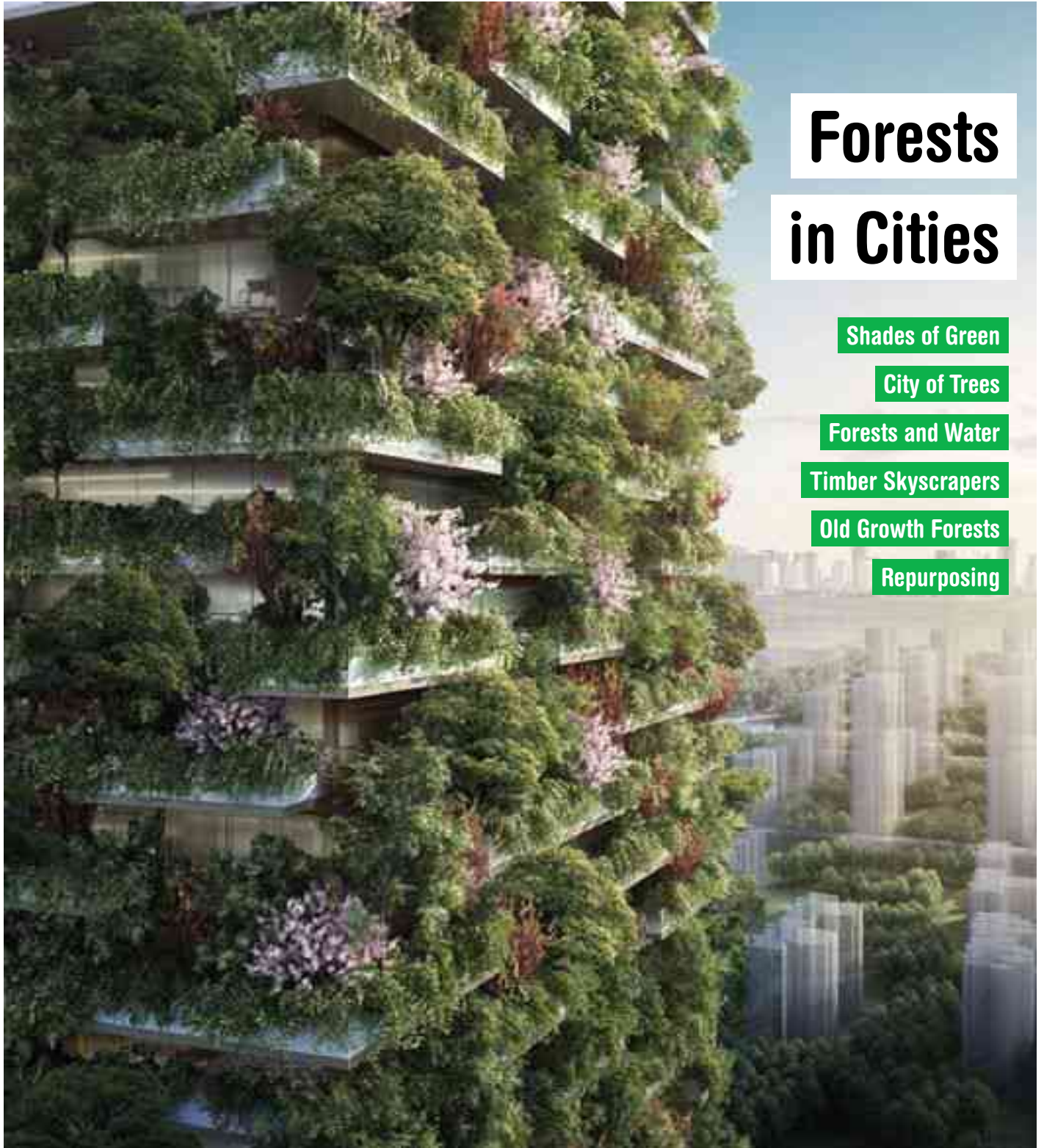


REVOLVE



N°27 | Spring 2018



Forests in Cities

Shades of Green

City of Trees

Forests and Water

Timber Skyscrapers

Old Growth Forests

Repurposing



European
Commission



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EU Green Cities Summit
Brussels

22 - 24 May 2018

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Nature



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Why city-dwellers should care about forests



WRITER:

Frances Seymour

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www.wri.org

Trees in urban areas make people healthier and happier.

Trees shade city streets and parks raise property values. Trees provide cooling shade and help moderate run-off after storms. They're good for the mind and body. Urban forests help cleanse the air of pollutants, reducing the incidence of respiratory disease. And their presence makes you feel better: a study in Toronto found that having an additional 10 trees on a city block improved peoples' perceptions of their health by an amount comparable to a \$10,000 increase in income or being seven years younger.

Nearby forests provide urban-dwellers with water, energy, and protection from weather extremes.

Nearby forests provide many of the services that underpin everyday life in the world's cities. Many of those cities – including Bogota, New York, and Singapore – have invested in protecting forested watersheds to ensure dependable supplies of clean, fresh water for drinking and sanitation. Forested catchment areas also fill the reservoirs behind hydro-electric dams that power city lights.

Forests constitute up to

1/3 of the cost-effective

actions to prevent

catastrophic

climate change

As climate change increases the frequency and severity of extreme weather events, the role of forests in attenuating the impacts of

those events is increasingly apparent. Natural forest vegetation helps mitigate the landslides and flooding that often result from heavy rainfall. Restoring tropical mangrove forests could help buffer coastal cities, such as Mumbai, from storms and sea-level rise. And in alpine areas, trees on steep slopes can help mitigate avalanche risk after heavy snowfalls.

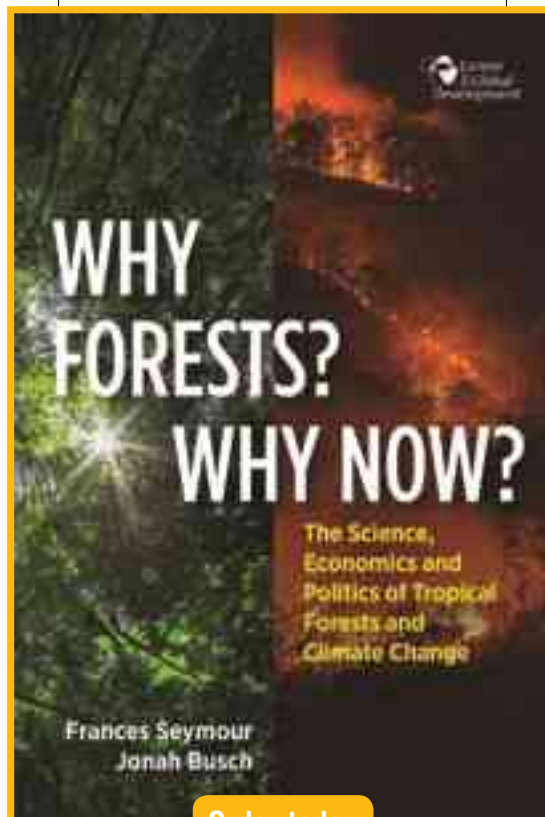
Far-away forests supply timber and protect the climate.

Cities do not depend just on trees in their immediate vicinity. Timber sourced from far-away forests has long been used for urban construction needs with rot-resistant tropical species favoured for outdoor uses such as pavements and park benches. A renaissance in the use of wood in urban architecture is underway, combining its inherent aesthetic and structural properties with new technologies to erect efficient, low-carbon “mass timber” buildings more than 10 stories tall.

In addition, new science is revealing the role of forests in ensuring global well-being, including the sustainability of cities, through their roles in moderating the climate both locally and globally. Forests are now estimated to constitute up to 1/3 of the cost-effective actions to prevent catastrophic climate change, including reducing emissions from deforestation and enhancing carbon storage through reforestation and restoration. Moreover, the role of forests in regulating hydrological cycles is now understood to operate at the local watershed level and to play a role in generating rainfall across continents, thus ensuring the continued productivity of the world’s agricultural systems.

Yet consumer choices still contribute to forest loss: the leading cause of tropical deforestation is conversion of forests to commercial agriculture to serve global commodity markets:

forests yield to pasture for beef, cropland for soy, and plantations for palm oil and fast-growing timber.



Order today

What can cities do to protect faraway forests?

Many cities already recognize the value of urban and nearby forests, and are actively working to protect and enhance tree density to reap their many benefits. In 2017, 17 Asian countries participated in a conference in Korea organized by the United Nations Food and Agriculture Organization (FAO), which produced an Action Plan for the development of urban and peri-urban forests in the region.

Awareness of what cities can do to protect faraway forests, however, is still embryonic, but urban leaders can do at least 3 things that would make a difference:

1. Enact forest-friendly procurement policies. These would include avoiding the sourcing of products associated with deforestation, unless those products are independently certified as legally and sustainably produced. Providing markets for legal and sustainable timber can provide incentives for keeping forests as forests rather than converting them to other uses.

2. Provide a market for forest ecosystem services, especially carbon. Many of the world’s leading cities have made commitments to achieve carbon neutrality by mid-century or before. Most emission reductions can and should be achieved by reducing fossil fuel use in the energy and transport sectors, but the purchase of forest carbon offsets from tropical jurisdictions could be the icing on the cake.

3. Raise awareness. Most urban-dwellers are unaware how much their well-being depends on goods and services generated by faraway forests, and what they can do to promote forest conservation. Urban environmental education can help citizens make more forest-friendly choices with their spending and voting power. ☺

A renaissance
in the use of wood
in urban architecture
is underway



Global

1. A new study by *Nature* underlines the importance of intact forests for mitigating climate change, maintaining water supplies, safeguarding biodiversity and protecting human health. Intact forests are large areas of connected habitat that are free from human disturbance. Unfortunately, these areas are becoming few and far between, often because of intensive agriculture, logging and road building. The research warns that global policies aimed at reducing deforestation are not doing enough to preserve such forests.

“As vital carbon sinks and habitats for millions of people and imperiled wildlife, it is well known that forest protection is essential for any environmental solution – yet not all forests are equal,” said James Watson of the Wildlife Conservation Society, which led the research. He added that: “forest conservation must be prioritized based on their relative values – and Earth’s remaining intact forests are the crown jewels, ones that global climate and biodiversity policies must emphasize”.

Find out more



Japan

2. The value of trees for our health and well-being is increasingly being touted by nature lovers. A book to be published in April, however, suggests that trees really do have healing powers. *Forest Bathing* by physician Qing Li, chairman of the Japanese Society for Forest Medicine, explains how trees release anti-microbial essential oils, called phytoncides, that protect them from germs and have a host of health benefits for people. According to Qing Li, the oils boost mood and immune system function; reduce blood pressure, heart rate, stress, anxiety and confusion; improve sleep and creativity; and may even help fight cancer and depression.

Find out more



Brussels, Belgium

3. The Forest City Project is returning to Brussels for a 3rd edition with a new forum & exhibition on 21 March (UN International Day of Forests) bringing together forest specialists, urban planners, and international associations and agencies. The exhibition highlights the latest and tallest buildings made of timber in juxtaposition with the beauty of forests and the urgent need to address deforestation. More details here: www.revolve.media/forest-city-project-2018



China

4. China has announced it will plant forests covering an area roughly the size of Ireland this year to increase forest coverage to 23% of its total landmass by the end of 2020. Tree-planting has been cited by the government as an official part of its efforts to improve the environment and tackle climate change.

Find out more



Poland

7. One of Europe's last primeval woodlands is under scrutiny after the European Court of Justice ruled that Poland broke international law by drastically increasing logging in the Białowieża Forest.

In 2016, Poland announced plans to triple the amount of logging allowed in the forest, causing an uproar given its status as a United Nations World Heritage site. The forest hosts some of the largest and oldest trees in Europe and is home to the largest colony of European bison and other species that are rare or even extinct elsewhere.

Agata Szafraniuk, a lawyer from ClientEarth that has helped lead the opposition to the logging, said she was “not surprised” by the verdict. “The increased logging in the Białowieża Forest breaches EU nature laws because Polish authorities failed to adequately protect rare and precious species in this ancient forest,” she explained. “They even failed to assess what impact the logging could have on the unique nature of the forest, which is also required by the law.”

Poland's environment minister said the government would study the opinion and respect the court's final ruling, which will be published in the coming weeks.

[Find out more](#)



United Kingdom

5. Northern England is set to get a whole lot greener, according to government plans to plant a forest spanning the country from Liverpool on the west coast to the city of Hull on the east. If realized, the forest will contain 50 million new trees and repopulate one of the least wooded parts of the country. The government now needs to raise the funds to make this a reality — so far it has pledged just £5.7 million (€6.4 million) of the £500 million (€564 million) needed for the project.

[Find out more](#)



Paris, France

6. Paris has decided that trees could be a key ally in the fight against air pollution, revealing plans to plant 1 million new trees at Pierrelaye-Bessancourt — about 20 kilometers north-west of France's capital. The project could create a forest x5 the size of New York's Central Park and could turn the current wasteland into a green lung with hiking trails and conservation areas.

[Find out more](#)



China

8. Pollution and masks are the images that tend to come to mind when thinking of China's cities, but Stefano Boeri, an Italian architect, has a rather different view, imagining the future of urban China full of trees and plants. He wants to create entire “forest cities” populated by “100 or 200 buildings of different sizes, all with trees and plants on the facades.” He believes that “by 2020 we could imagine having the first forest city in China.” [Find out more](#)

Shades of Green



WRITER:

Philippa Nuttall Jones

Polluted is often the first thing that comes to mind when discussing cities, but the new Treepedia tool shows that rather than fifty shades of grey, many of our cities are actually quite green.

The Treepedia online tool measures tree canopy cover in cities. Rather than count the individual number of trees, which would clearly demand significant time and resources, the creators have developed a method that analyzes the amount of green perceived while walking down a given street. This means that many green spaces are not actually included – parks for example that are not seen from street level, will not be picked up by the tool – and so your favourite city may be even brighter green than Treepedia suggests. ►

DOWNTOWN RIGA, LATVIA.





- The tool was developed by researchers at the [MIT Senseable City Lab](#) in the United States of America, in partnership with the World Economic Forum, and uses Google Street View data to measure urban green canopies. The creators emphasize that the tool is not a gimmick and stress the importance of understanding and promoting urban tree cover due to its ability to lower urban temperatures by blocking shortwave radiation and increasing water evaporation. This will become increasingly important as climate change raises the temperatures in our cities.

Currently, about 54% of the world's population lives in cities and by 2050 the urban population is expected to grow by 2.5 billion people. As global temperatures rise gradually, extreme heat will become more common, threatening public health and local economies. To illustrate just how hot cities could become in the future, [Climate Central](#) (a U.S.-based organization of scientists and journalists researching and reporting on climate change) created an interactive tool with the World Meteorological Organization in summer 2017.

The figures are impressive.

Under a high-pollution scenario, based on current emissions trends continuing, the average land temperature worldwide is projected to rise by 4.8°C. This could mean Ottawa in Canada swapping its mild climates for the equivalent tropical climate of Belize City by 2100. Meanwhile, inhabitants in mountainous Kabul in Afghanistan could be forgiven for believing that they have been transported to coastal Colombo in India. Furthermore, due to the vagaries of geography, some cities will warm much more: Sofia (Bulgaria) for instance is estimated to suffer the greatest overall temperature shift, with temperatures rising by nearly 8.4°C by 2100 compared to today.

Given the 2015 Paris climate agreement and other efforts to reduce emissions, these projections are hopefully just a bad dream. In reality though, even if we stopped polluting tomorrow, we are still locked into a certain ►

Green View Index

“Increasing a city's tree canopy contributes to lowering urban temperatures by blocking shortwave radiation and increasing water evaporation. Creating more comfortable microclimates, trees also mitigate air pollution caused by everyday urban activities. Their absorptive root systems also help avoid floods during severe rains and storm surges. **So overall, trees are pretty awesome.**”

Cities around the world are recognizing this and many are developing strategies to increase green canopy cover. In fact, in 2015, the World Economic Forum's (WEF) Global Agenda Council (GAC) on the Future of Cities included increasing green canopy cover on their list of top ten urban initiatives: ‘Cities will always need large infrastructure projects, but sometimes small-scale infrastructure

from cycle lanes and bike sharing to the planting of trees for climate change adaptation—can also have a big impact on an urban area.’

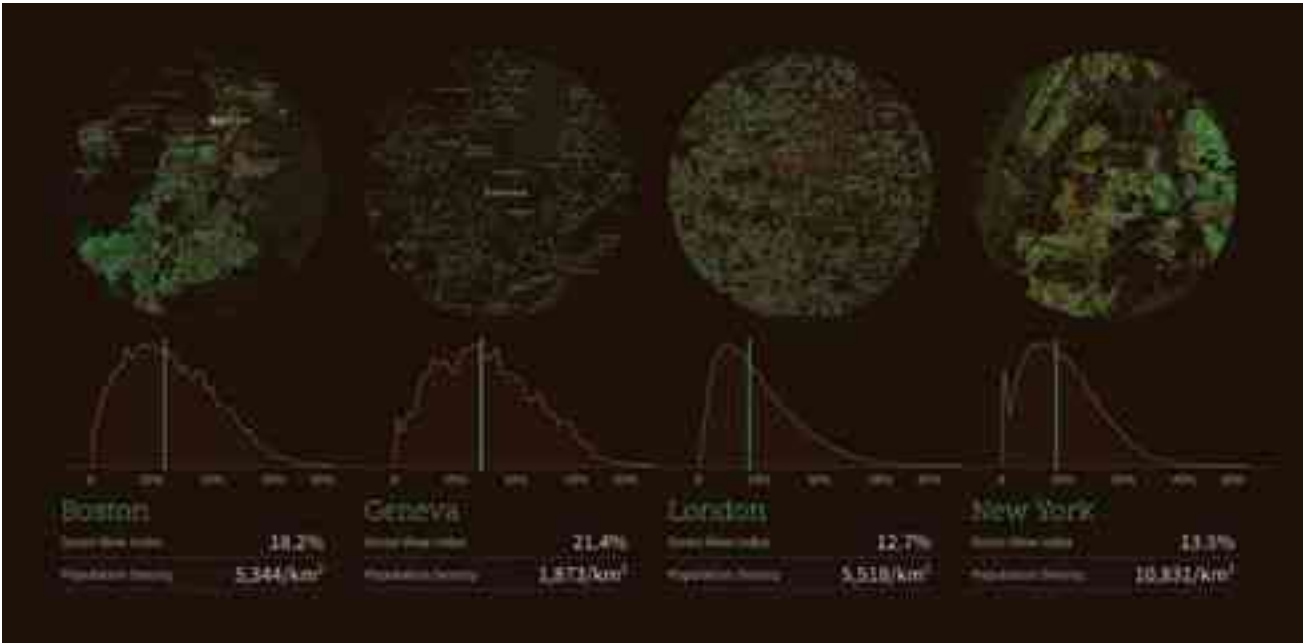
As cities around the world race to implement green canopy strategies, **we've developed a metric—the Green View Index—to evaluate and compare canopy cover.** In collaboration with the World Economic Forum's Global Agenda Council on the Future of Cities and the World Economic Forum's Global Shapers community, we will continue to grow this database to span cities all over the globe. What does your green canopy look like?”

For more information:
senseable-trees@mit.edu

Increasing tree cover in cities
is vital to help ensure the comfort
of inhabitants and visitors and
to reduce the risk of health problems.



TORONTO ▲





▲ NEW YORK CITY



▲ TEL AVIV



▲ BOSTON



▲ GENEVA

- degree of warming, with urban areas expected to suffer the most. Increasing tree cover in cities is therefore vital to help ensure the comfort of their inhabitants and visitors and to reduce the risk of health problems, and even death, particularly for older citizens, from extreme heat. During the 2003 heat wave in Europe, nearly 15,000 heat-related deaths were recorded in France, with the majority being old people stuck in boiling cities.

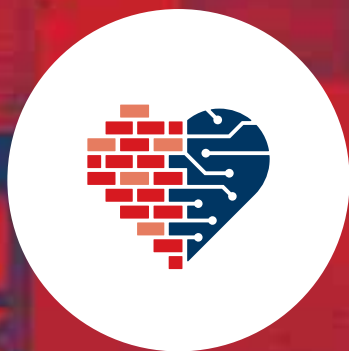
Trees are not just good at combatting heat, they can also mitigate air pollution and their absorptive root systems can also help avoid floods during severe rains and storm surges, highlights MIT.

Treepedia was launched in 10 cities, including Geneva, Tel-Aviv, and Boston; and continues to expand in municipalities across the globe. Researchers plan to make the tool more interactive in the future and give users the possibility to play an active role in helping to green their city and make it more climate change proof. According to MIT, individuals will be able to add unique tree information on an open-source street map and engage with city officials to request that new trees be planted in certain areas.

As Voltaire said, we all need to take responsibility for cultivating our garden, whether it be in our backyard or along our streets for the benefit of all. 🌳

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world's population lives
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the urban population
is expected to grow
by 2.5 billion people.

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This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement N° 768921.

City of Trees: Growing more Trees for Greater Manchester



WRITER:

Sarah McNally

The ground-breaking movement aims to plant three million trees; one for every man, woman and child living in Greater Manchester, UK.

Launched in November 2015, the City of Trees initiative aims to transform 2,000 hectares of currently under-used, unloved woodland back into use for the community in order to connect people to nature.

The movement was instigated by the Community Forest Trust, which has a rich history of over 25 years greening Greater Manchester, and The Oglesby Charitable Trust. City of Trees aims to gain the support of businesses, organizations and community groups in helping to reach the ambitious targets. To date, the movement has planted over 230,000 trees and brought over 200 hectares of woodland back into management. ►





- Peter Stringer, Technical & Green Infrastructure (GI) Planning Manager of the City of Trees' team, says: "The benefits of trees are well documented; they create healthier, happier communities, tackle climate change, reconnect our children to the natural world, and provide essential habitats for wildlife."

The movement aims to engage a whole range of organizations including community groups, businesses, social housing providers, local authorities as well as public sector bodies to help achieve its ambitious goals.

As well as engaging other organizations, the charity wants the public to be part of the initiative and since its launch has connected with over 10,000 people face-to-face through events, walking activities and planting schemes. To help engage the public, City of Trees runs monthly volunteering sessions across Greater Manchester, where anyone can come along to plant a tree, learn how to manage a woodland and even bash some balsam!

Peter Stringer comments "By getting people out and about in the great outdoors we hope to show how important trees, woods and wildlife are." The organization welcomes people who want to use employee volunteering days to get involved in practical projects on the ground, as well as students and anyone with a passion to help green Greater Manchester.

City of Trees also works with school children and aims to connect them with the nature on their doorstep by creating outdoor play areas, involving pupils in tree planting and linking classroom activities to the natural world.

Through the 'Trees for Learning' programme, children will be planting 60,000 trees with around 350 Greater Manchester primary schools. The initiative is part of the Department for Environment, Food and Rural Affairs (DEFRA)-backed project to plant 1 million trees with primary schools across the UK by 2020.

Having worked with thousands school children to date, the charity advocates the benefits of





outdoor education. Peter Stringer claims that “there is a wealth of evidence showing that nature-based learning supports significant improvements in social studies, science, language, arts and maths. We feel it’s especially important to work with children around trees and woods to ensure they preserve and protect them for future generations.”

“By getting people
out and about in the great
outdoors we hope to
show how important
trees, woods
and wildlife are.”

Peter Stringer



The team behind City of Trees have been planting trees across Greater Manchester and work with their partners and landowners to identify land for tree planting. Stringer explains that “it could be extending existing woodland and building-up biodiversity or linking our woods and green space. We also plant totally new areas of woodland.”

City of Trees successes include creating a 4,000-tree new woodland at Snipe Clough in Oldham, a former landfill site, as well as working with the local community and school to bring a Wythenshawe woodland back to life.

City of Trees also specializes in greening-up urban areas, and advocates for the importance of planting trees in towns and cities. Mr. Stringer comments: “It is about planting trees wherever ►

The City Forest Park Project

Flagship schemes for the movement include The **City Forest Park Project** which is an exciting new vision in partnership with the Forestry Commission creating an amazing urban woodland on an unprecedented scale. City Forest Park is a network of private land, unused sites and managed public space just three miles from the heart of Manchester City centre. Standing at 330 hectares, it's the size and scale of Central Park in New York.

Alongside the Forestry Commission, City of Trees hopes to breathe new life into it for the benefit of the whole city-region community, transforming the landscape by planting trees, bringing woodlands back into use and creating new paths and cycle networks. Stringer comments: "This is an ambitious project and we're seeking investment to help realise the vision and create a truly amazing forest park for everyone to enjoy."

- it's appropriate and ensuring we plant the right tree in the right place – at the right time."

The charity also relies on the power of trees to counter excess surface water which can lead to flooding in cities and towns. Their **Howard Street Project**, for example, is the first of its kind in the UK: in June 2015, three London plane trees were planted in a specially designed trench in Howard Street, Salford, to capture the impact that trees have on cleaning polluted water from road run-off and managing levels of surface water, which can lead to flooding.

**"Retrofit tree planting
schemes in towns
and cities can be used
as a nature-based
solution to tackle
urban flooding."**

Dr. James Rothwell

The project produced promising initial monitoring results (June 2016) which revealed that the average water volume retention by the tree pit system was approximately 40% and the average storm peak reduction was 50%. Storm waters were also slowed by the system by up to two hours. Dr. James Rothwell from the University of Manchester, who is leading the research element of the Howard Street Project, says that "these results demonstrate that retrofit tree planting schemes in towns and cities can be used as a nature-based solution to tackle urban flooding."

And that is not all – City of Trees is part of the so-called '**Northern Forest**' – a 25-year vision to plant 50 million trees across the North of England – stretching from Liverpool to Hull. The Woodland Trust and the Community Forests (that includes City of Trees) are driving forward this government-backed initiative: spanning over 120 miles across the cities of Bradford, Salford, Hull, Leeds, Manchester and Liverpool, the proposed new Northern Forest will help provide natural flood management, boost wildlife habitat for woodland birds and bats and protect ancient woodland areas and iconic species such as the red squirrel, alongside providing a tranquil space for millions of people living in the area and generating more than £2 billion for the country's economy. ►







- Stringer concludes: “We know that trees and woods are an essential part of the fabric of our lives and provide us with a huge range of benefits. We’re working to ensure that they are considered as part of all future growth and development, as we believe they play a crucial role in ensuring Greater Manchester becomes a world class city-region we can all be proud of.” 🌳

**“We know that trees and woods are
an essential part of the fabric of our lives
and provide us with a huge range of benefits.”**

Peter Stringer

For more information, visit:
www.cityoftrees.org.uk



Manchester
City of Trees

Peter Stringer, GI Planning & Technical Manager of the City of Trees’ team

Pete has a wide range of experience in Green Infrastructure planning, delivery and research. Graduating from the University of Manchester in 1995 with an MA in Town Planning Pete worked at Manchester City Council in Development Control and Environmental Planning until 2000. In 2000 he was employed by Groundwork Manchester as Programme Manager overseeing a range of environmental regeneration projects. He was appointed by Red Rose Forest in 2001 to manage the now nationally recognised Green Streets programme which uses GI as a vehicle for engaging and regenerating areas of social deprivation and environmental inequity. An important part of his work is to facilitate research collaborations with Universities in Greater Manchester, such as i-Tree and Howard Street to help provide the key evidence needed for demonstrating the role that GI plays in climate change adaptation and social benefit. Pete is also responsible for developing plans that provide a strategic focus for where GI is most needed to address needs such as flooding and air quality.

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How Forests Help Cities Manage Water



WRITER:

Kate Reilly

The Challenges of Flooding in Cities

Paris spent several days on high flood alert this January, after some unusually heavy rain. The amount that fell in December 2017 into January 2018 was the second highest in the same period since the winter of 1935 to 1936 (Meteo France, 2018). The River Seine peaked at 5.84 metres on 29 January 2018, up from its normal level at this time of year of 1.5 metres, forcing authorities to suspend traffic, close railway stations and schools, and

evacuate 1,500 inhabitants from their homes. The city suffered significant economic consequences as tourist boats were shut down and inland waterway cargo transport was out of business for weeks. Floods like these are anticipated to become more frequent in Europe with climate change (EEA, 2017), making their effective management one of the most pressing challenges facing European cities.

Winter rainfall is expected to get heavier across much of Europe by up to 35% towards the end of the century, compared to 1971-2000 (EEA, 2017). After long periods of heavy ►





- rain, the land becomes saturated with water, preventing subsequent rain from soaking into the ground. Short but intense rainstorms generate floods in a similar way – the rain falls faster than it can permeate the soil, instead flowing over the land surface and rapidly creating a flood (Archer and Fowler, 2015). In cities, the impermeable roads, footpaths and buildings likewise prevent rain from infiltrating into the soil. Instead, the water flows quickly over these hard surfaces, picking up oil, sediments and other pollutants, and carrying them to rivers and storm drains. Increasing urbanisation means more natural surfaces are concreted over, making flooding more likely.

Because of these climatic changes and urbanisation, flooding is becoming one of Europe's most costly natural disasters, causing loss of life and economic damage. A 2014 study predicted that, in the European Union, average annual economic losses from floods would rise from 4.6 billion euros between 2000 and 2012 to 23.5 billion euros by 2050 (Jongman et al., 2014). The damage to property and infrastructure and losses of agricultural crops and livestock are expensive to repair. Moreover, the disruption to services prevents normal economic activity resuming, as witnessed in Paris.

The direct impacts on people is significant too: the European Environment Agency estimated that more than 2,000 people were killed and 8.7 million affected by river and coastal floods in the European region between 2000 and 2014 (EEA, 2016). On top of losing homes and possessions, people affected by flooding are exposed to contaminated drinking water, electrical hazards while cleaning up, and other health risks. Mental health is also often affected, with some people developing mild depression and other disorders. These impacts have social and economic costs due to lost working days and the costs of healthcare. When floods occurred in England in 2007, public health costs were estimated at £287 million, 9% of the total cost of the flood (WHO, 2013). These high health, social and economic costs, particularly in cities where people and





economic activity are concentrated, make it imperative that we redouble our efforts to reduce flooding and its impacts.

Trees provide Multiple Benefits in Cities

Managing urban flooding has relied traditionally on intricate systems of dykes, flood walls, dams and reservoirs, while the pollutants it carries are removed from water by complex treatment processes. Although these technologies have facilitated the development of many European cities, flood protection structures are often not designed for the large floods that will be more frequent with climate change, and merely move the problem downstream. Treating highly polluted water becomes expensive, and even advanced treatment plants have no effect on the dirty floodwaters that run straight off the land into rivers.

This is where trees come in. City planners are increasingly looking to nature, including urban forests and street trees, in combination with wetlands and other nature-based solutions, to help relieve some of their water-related burdens. Reducing flooding using nature works by restoring the natural hydrological processes that slow down rainwater and allow it to soak into the ground. Leaves and branches catch falling rain, which can then drip off slowly over time, and trunks and roots increase the roughness of the land surface, slowing down the water flowing over land. Rain falling where trees are planted can infiltrate into the soil more easily than the rain that hits roads and the other hard surfaces abundant in cities.

A 2013 study of street trees found that trees planted in grass plots allowed 100% of rainfall to soak into the soil. Even trees planted in bare soil reduced the proportion of rainfall flowing over the surface by 62% compared to asphalt without trees (Armson et al., 2013). Through these processes, urban trees can work in combination with traditional flood defences to reduce the likelihood and magnitude ►



- of localised flooding (Depietri et al., 2012). The Danish city of Aarhus, for example, has incorporated this idea into its municipal plan, which aims to double the forested area in the municipality between 2012 and 2030, including planting trees specifically to slow down flood waters.

Trees planted in and around cities, as well as other nature-based solutions, offer a host of benefits beyond their contribution to reducing floods. Their shade helps to cool hot city streets, and they can be planted in areas where people congregate or spend time outside, like at bus stops. They can also help to filter pollutants from the air – a high density of urban trees has been associated with lower rates of hospitalisation from asthma in areas where air pollution is high (Alcock et al., 2017). And being able to walk, meet friends, and exercise amongst nature, even in cities, benefits our mental health (WHO Regional Office for Europe, 2016).

These combined benefits have significant economic value too. In the London Borough of Hammersmith and Fulham, 565 trees and shrubs were planted in deprived areas of social housing. In combination with other measures, such as creating grassy basins and rain gardens, they led to 100% of rain falling on the area being diverted away from the storm drain system, reducing the risk of flooding. This and the newly attractive surroundings for residents, training schemes for local young people and the many other advantages of the project added up to a total benefit of £4.39 for every £1 invested (Groundwork, 2016).

Forest Landscape Restoration for Managing Water

Cities do not exist in isolation: with water, everything is connected – what happens upstream affects the land and waters

downstream, where many cities are located. Deforestation in upstream hills has a particularly important effect on water quality. When rainwater flows over deforested land, it erodes the bare soil, leading to higher sediment loads in rivers. When this land is used for agriculture, pesticides, fertilisers and manure are also washed into rivers and carried downstream.

Conscious of the major benefit that forests provide in filtering sediments and pollutants from runoff, cities are increasingly interested in the watersheds that their drinking water comes from. Currently, a third of the world's cities obtain their drinking water from protected forests (WWF, 2003). In 2008, the Colombian capital of Bogotá established a water fund, which subsidises long-term land conservation in upstream watersheds, both within the city limits and in lands protected at national, regional and local level, to deliver high-quality drinking water for the more than



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The INHERIT project (www.inherit.eu), coordinated by EuroHealthNet, has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 667364.

8 million people living in the region. This effort prevents an estimated 2 million tons of sediment from entering the city's water sources, saving up to \$4 million per year that would be otherwise spent on water treatment facilities (TNC, n.d.). Vienna's drinking water similarly comes from mountain springs in forested areas, now designated as water protection zones. The low-impact forest management in these zones means that Vienna's water is drinkable straight from its source, although it is still purified to guarantee safety.

**1/3 of the world's
cities obtain their
drinking water from
protected forests**

When it comes to the role of watershed forests in preventing floods, the picture becomes more complicated, as these large-scale forests interact with the water system in a different way to the trees and small-scale forests found in cities. For example, deforestation, and the resulting change in land use, affects both rainfall patterns and how that rain is transported to rivers once it falls. It is thought that expanding forest cover upstream only helps to reduce small, localised floods in small watersheds (CIFOR, 2005). We still need more research on the relationship between forests and floods to understand how these complex processes work at large scale, particularly over the long term (IUCN, 2017).

Nevertheless, forests outside cities also support carbon storage, biodiversity, provision of food and medicines, livelihoods for local people, and spiritual, educational and aesthetic values. To maintain these benefits, and because forests are inherently valuable, the

International Union for Conservation of Nature (IUCN) is supporting the restoration of the estimated two billion hectares of land around the world that are deforested and/or degraded (WRI, 2013). The Bonn Challenge is a global effort to bring 150 million hectares of this deforested and degraded land into restoration by 2020 and 350 million hectares by 2030. It was launched in 2011 by the Government of Germany and IUCN, and later endorsed and extended by the New York Declaration on Forests at the 2014 UN Climate Summit. IUCN is the Secretariat of the Bonn Challenge.

IUCN's Forest Landscape Restoration approach, promoted by the Bonn Challenge, aims to restore forest functionality across a large area of land to enhance habitat quantity and quality for biodiversity, mitigate climate change, and benefit local people. It involves planting trees, allowing forests to naturally regenerate or other options depending on the needs of a particular location. ▶

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The ZERO BRINE project (www.zerobrine.eu) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 730390.

- Effective Forest Landscape Restoration yields \$7 to \$30 in economic benefits, including from cleaner water, for every \$1 invested. Countries like Costa Rica and South Korea show that large-scale forest restoration is possible – Costa Rica increased its forest cover from 29% in 1991 to 54% in 2015 (WRI, 2017), while South Korea achieved an increase from 35% to 64% between 1953 and 2007 (WRI, 2013). Although 40% of Europe's land is currently forested, only 3% of that is undisturbed by human activity, and increasing urbanisation and demand for timber, and the threat of climate change, are putting European forests under pressure (EEA, 2016). Forest landscape restoration measures are needed to protect these forests and the benefits they provide, both in and out of cities.

**Launched in 2011,
the Bonn Challenge aims
to restore 150 million
hectares of deforested
and degraded land
by 2020 and 350 million
hectares by 2050.**

The Benefits of Forests, in and out of Cities

As water-related challenges become both more common and more damaging, it's important that combinations of management strategies are used effectively, with forests playing a strong role. In cities, this requires strategic spatial planning to ensure that forests and trees are well placed to intercept rainfall and prevent it flowing overland and causing

damage. Furthermore, they should be designed to connect habitat across the city and with its surrounding areas to enhance biodiversity. To protect the watershed forests on which cities rely, strong partnerships with authorities at regional and national level are needed, as well as with other local authorities outside the city.

Protection and restoration of forests is promoted by the European biodiversity policy framework. Target 2 of the EU 2020 Biodiversity Strategy requires that “by 2020, ecosystems and their services are maintained and enhanced, by establishing green infrastructure and restoring at least 15% of degraded ecosystems.” The EU Strategy on Green Infrastructure similarly encourages the systematic development, preservation and enhancement of green infrastructure, including urban forests and trees, to restore healthy

ecosystems and stop the loss of biodiversity, with added benefits for flood management. Protection of existing forests is equally important – the EU Forest Strategy promotes sustainable management to balance the various demands made on them and safeguard their biodiversity. Together, these strategies recognise the value of Europe's forests and other natural capital, and ensure their protection to maintain the benefits they provide to society.

Effective implementation of these policies and of initiatives such as the Bonn Challenge contributes to Europe's efforts to tackle climate change, including meeting the goal of the Paris Agreement to keep the rise in global temperature to well below 2°C above pre-industrial levels. For example, as part of the UK's 7th National Communication under the United Nations Framework Convention on Climate





Change (UNFCCC) submitted in December 2017, Scotland has set the long-term target of 10,000 hectares of new woodland per year, which will further increase to 15,000 hectares per year from 2024. These targets are part of efforts to mitigate climate change by capturing carbon from the atmosphere and storing it in forest ecosystems. Reducing the impacts of climate change, including the heavier rainfall predicted for much of Europe, requires

mainstreaming adaptation in other policies. Forests can play a strong role here too – the EU Forest Strategy also aims to ensure forests' capacity to regulate water quality and quantity.

To realise these plans and policy commitments, we need to continue to advance scientific understanding of the complex relationships between forests and water, and to produce good evidence of the other benefits

forests provide. We need to translate this science into guidance on how forests can be best managed and restored to maximise those benefits in ways that take account of the local context. IUCN works to ensure that scientific knowledge can be easily used by decision makers, and seeks to showcase the achievements of cities, regions and countries in protecting and restoring forests to produce clean water and manage flooding for all. 



The International Union for Conservation of Nature is the global authority on the status of the natural world and the measures needed to safeguard it. It provides public, private and non-governmental organisations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together. The IUCN influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.



Interview with Scott Francisco, Founder of Pilot Projects



What does ‘Pilot-Projects’ actually do?

We co-create a better world. We help our partners (governments, corporations and non-profits like conservation organizations and neighbourhood associations) solve complex systems problems that involve culture, markets, policy and physical infrastructure. We believe culture is a powerful, significant force that must be paired with the design of physical infrastructure to produce meaningful outcomes. This is the basis of all our projects

and services which include strategic facilitation, consulting and infrastructure design.

A “pilot project” is something that gets “made”, carefully and relatively quickly, in order to unlock much bigger systemic problems. This allows us to test an idea, understand a system, before applying solutions on a larger scale. We are designers who work on “wicked problems” – challenges that usually fall outside the mandate of conventional design, like de/reforestation, drinking water, the productivity of organizations and people in their workplace, even new forms of education.

Why is the Brooklyn Bridge project so symbolic?

Brooklyn Bridge Forest links a global city (New York City) and a global forest (Maya Biosphere Reserve), using local and global systems (culture and infrastructure) to unlock new thinking about the relationships between them. The project proposes that the historic wood planks to be replaced on the iconic Brooklyn Bridge Promenade come from a new source: a specific tropical forest that is managed and conserved by a community who supply the wood to New York City. Our aim is to connect this forest community with NYC in a balanced relationship in terms of cultural impacts, financial benefits, ecological impacts and awareness. The project is intended to be visible globally and to excite urban citizens and forest-dependent communities around the world about the possibilities of working together. We are focused on engaging youth, both in cities and forests, and helping them imagine a new global culture that supports urban and rural livelihoods with the conservation of the natural environment at its heart.



What is C40-F40 about?

C40 F40 is an expansion of the Brooklyn Bridge Forest concept to strengthen the vital connection between cities and forests. The cultural significance of global cities is growing in proportion to the power of nations and international agreements to regulate change. We believe that powerful cities can take direct responsibility for the natural environment on which they

depend, in particular for forests that are critical to maintaining a healthy climate. C40 F40 proposes that each global city form a relationship with one globally significant forest, based on mutual benefits, and find creative ways to help sustain each other. This may include the exchange of products like wood, food, plants and medicines, as well as finances, research, tourism and education. The relationships would be developed to have direct benefits to urban citizens, forest residents and to the global climate and biosphere. This project is evolved to become the City Forest Alliance.

How can cities combat climate change better?

Cities are the places where the world's culture, ideas, language and policy are shaped. Cities also represent the majority of global consumption of energy, goods and services. But cities still see themselves as independent entities and tend to shape their policies to protect their own self/local interests – as if their decisions do not impact the rest of the world. Nothing could be further from the truth. What happens in these cities does not stay in the city! If cities want to make a dent in addressing climate change, they must think radically beyond their borders – both their physical borders and their more conceptual borders. They need to apply their creativity



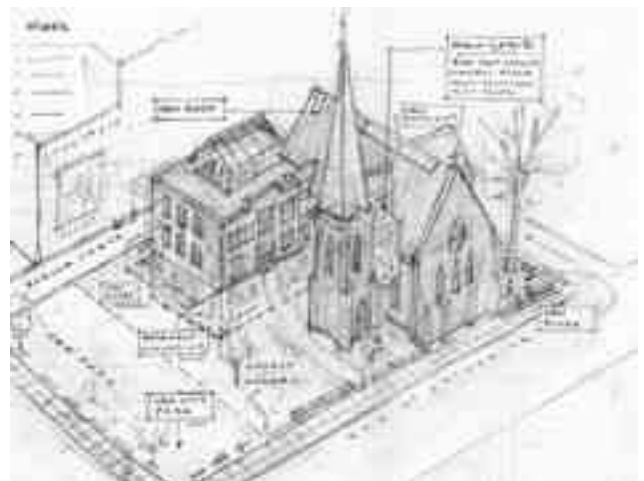
and cultural influence to every aspect of their global impact. Cities have the power to sculpt their procurement strategies, their policies, their media and most importantly, their identity. What if being a New Yorker meant not using plastic water bottles? That fact would transcend local regulation and have impacts on the whole world.

What would a city-forest alliance look like?

Imagine if the top 40 (or top 100) cities of the world all agreed to engage directly with the question of conserving global forests, each committing to a relationship with an important forest, perhaps nearby, but mostly far away. This is important because global cities consume globally – that is a reality that must always be kept in mind! Imagine if each of these cities set out to test and

model a relationship that was mutually beneficial, and specific to each forest, each city, and the people in each. We would have 100 prototypes to work with, to visit, to see the impacts. None of these would be perfect, but that's fine. We need to experiment and get people interested. We need to innovate together. Take responsibility. We need to see that the problem is not just “over there” as we go about our urban lives. A City Forest Alliance could help everyone in the world better understand and act on forest conservation. The City Forest Alliance would co-create a global urban culture with the knowledge, the vocabulary, the skills and the habits needed to reverse deforestation and alleviate the effects of climate change. ☀

**What if being
a New Yorker meant
not using plastic
water bottles?**



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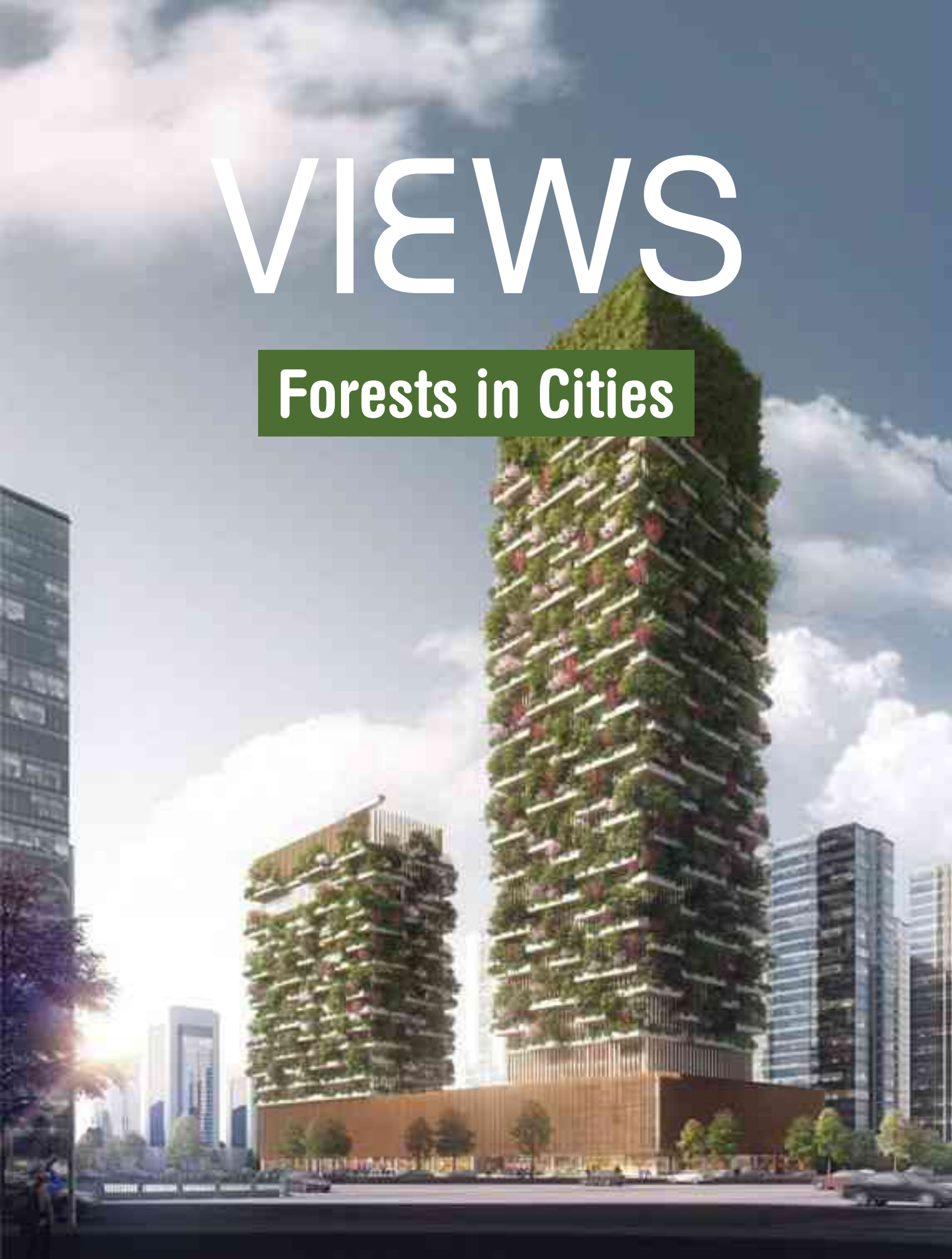
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VIEWS

Forests in Cities



Forests in Cities

A century ago, we were competing to build the tallest skyscrapers out of steel and concrete, now architects see the value of using wood and are racing to build the best designs out of timber, more precisely with cross-laminated timber (CLT) and glue-laminated timber (GLULAM). The added value of timber is that it stores carbon and that it is lighter while being as resistant as metals; the lighter weight and the ease with which it can be prefabricated and cut to fit specific spaces means that it is better for design and for the environment.

The trend to integrate trees in the urban fabric of cities and wood in architectural structures is growing rapidly. This photo essay highlights some of the latest buildings being built with timber and the tallest examples of design plans to reach above 300 meters in different cities around the world. From London to Toronto to Milan to Tokyo, the race is on amongst city planners, construction companies and architect firms to reach the highest peaks – literally with the tops of their buildings and in terms of ensuring greater sustainability. 🌳

See more at: www.revolve.media/views



PREVIOUS PAGE: NANJING GREEN TOWERS, NANJING, CHINA.
© STEFANO BOERI ARCHITECTS



ABOVE: KNARVIK COMMUNITY CHURCH, KNARVIK , NORWAY. © REIULF RAMSTAD ARKITEKTER, PHOTO BY HUNDVEN CLEMENTS



VALLEY, AMSTERDAM, NETHERLANDS. © MVRDV



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BAOBAB, PARIS, FRANCE. © MICHAEL GREEN ARCHITECTURE







25 VERDE, TURIN, ITALY. © LUCIANO PIA, PHOTO BY BEPPE GIARDINO



BOSCO VERTICALE, MILAN, ITALY. © STEFANO BOERI ARCHITECTS





HYPÉRION, BORDEAUX, FRANCE. © JEAN-PAUL VIGUIER ET ASSOCIÉS



PUUKUOKKA HOUSING BLOCK, JYVÄSKYLÄ, FINLAND. © OOEPA



OAKWOOD TIMBER TOWER , LONDON, UK. © COURTESY OF PLP ARCHITECTURE



TORONTO TREE TOWER, TORONTO, CANADA © PENDA, TMBER

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Making our Cities Sustainable: Building with Wood



WRITER:

Silvia Melegari

With forecasts predicting that 75% of the world's population will be living in urban areas by 2050, it is paramount that cities become more sustainable – this means using more sustainably-sourced wood building products.

The building sector contributes to 42% of final energy consumption, 35% of total GHG emissions, 50% of extracted materials, and 30% of water consumption in the European Union. Construction and housing therefore play a fundamental role when enhancing societal goals for sustainable growth and citizen wellbeing. ►

THE TREE, BERGEN, NORWAY. STANDING 49 METRES TALL, "THE TREE" IS HELD UP WITH STRUCTURAL GLUED LAMINATED (GLULAM) TIMBER COLUMNS THAT ARE UP TO HALF A METRE THICK, WHILE CROSS-LAMINATED TIMBER (CLT) IS USED TO FORM THE FLOORS AND WALLS. THE TREE'S DEVELOPER – THE BERGEN AND OMEGN BUILDING SOCIETY – BELIEVES THAT USING TIMBER CONSTRUCTION HELPED TO AVOID THE EMISSION OF MORE THAN 21,000 METRIC TONS OF CARBON DIOXIDE.

IMAGE: © ARTEC AS







WOODEN HIGH RISE HOUSING, LOUDDEN, STOCKHOLM. © THAM & VIDEGÅRD ARKITEKTER ▲



THE CUBE BUILDING, LONDON, UK. © HAWKINS\BROWN ▲

- Today, more than ever, we must find ways to reduce the pressure on our planet's environment and our resources: wood has a key role in making cities more sustainable. The construction sector is very resource intensive and contributes to a large share of greenhouse gas emissions. Increasing the use of renewable materials, mainly wood, in buildings, would increase the bioeconomy.

The Carbon Footprint of Products

The quantity of CO₂ and other greenhouse gases (GHGs) released per unit of product during a product's manufacturing and, in some cases, end use and disposal, is referred to as its "carbon footprint". Increases in GHGs in the atmosphere are considered the primary factor in global warming.

Wood has played an important role in the history of civilization. Humans have used it for fuel, building materials, furniture, paper, tools, weapons, and more. Wood is undeniably one of the oldest building materials, with evidence showing homes built over 10,000 years ago using timber. Europe's Neolithic long house (built in 6,000 BC) is certainly an example.

According to some studies, the environmental impacts from construction are related to the renewability and recyclability of the materials used that can help mitigate climate change. The use of wood products can act as a greener alternative to more fossil-fuel intensive materials: substituting a cubic metre of wood for other construction materials (concrete, blocks or bricks) results in the significant average of saving 0.75-to-1 ton of CO₂.

Wood is an excellent choice for green construction designs, which minimize the use of energy, water and materials, and reduce the



PLANTS AND TREES SPROUT FROM THE MODULAR UNITS THAT MAKE UP THIS TIMBER-FRAMED HIGH-RISE, PROPOSED BY ARCHITECTURE FIRM PENDA. THE TORONTO TREE TOWER IS BUILT FROM CROSSLAMINATED TIMBER MODULES.

IMAGE: © PENDA

subsequent impacts on human health and the environment. Wood is a high-performance and versatile choice for new construction or renovation; it is remarkably strong in relation to its weight and provides good insulation from the cold.

Wood's natural thermal efficiency means timber systems can be more cost-effective in constructing energy-efficient buildings than cement blocks, bricks or alternative materials. Wood is especially favoured in cold climates, where, as an insulating material, it helps reduce heating costs while providing comfortable living conditions. The energy performance of buildings is key to achieving the European energy efficiency and climate objectives, in this respect wood's thermal insulation makes it the material of choice in both cold and warm climates.

Life-cycle assessment studies that compare the environmental impacts of products show that wood building products have a lighter environmental footprint than alternative materials and offer clear environmental advantages at every stage. The manufacture of wood products requires less fossil fuel than non-wood alternative building materials, such as concrete, metals, or plastics.

As a light-weighted material that can be processed easily, wood is the ideal material for renovation and refurbishment, allowing high flexibility for inhabitants and users to adjust buildings to specific needs. Wood buildings are about a quarter of the weight of an equivalent reinforced-concrete structure, which means foundations can be smaller. Timber is a sustainable material and a natural "carbon sink" as trees lock in carbon from the atmosphere. Tall steel-and-concrete buildings tend to have a large carbon footprint, in part because of the amount of material required to ►

FAST FACTS ABOUT BUILDING WITH WOOD:

Wood products contribute to achieve the commitment undertaken by Member States and the European Union to decrease greenhouse gas emissions and enhance removals in line with the Paris Agreement. Sawmill products can play a significant role in decarbonizing the economy if governments seize the opportunity to use wood products in construction and as every day materials. The quantity of CO₂ and other greenhouse gases released per unit of product during a product's manufacturing and, in some cases, end use and disposal, is referred

to as its "carbon footprint". Increases in GHGs in the atmosphere are considered the primary factor in global warming. Wood products have many environmental advantages compared to non-wood alternatives: indeed the manufacture of wood products requires less fossil fuel than alternative building materials. Several scientific studies had proven notable carbon emissions savings when wood products are used in constructing buildings in place of non-wood alternatives.

- support them. Using wood could reduce their carbon footprint by 60-75%.

In southern France, the city of Bordeaux has pledged to build 270,000 square feet of wooden spaces per year for the next 15 years. One of the projects leading the way is the Hypérion Tower – an 18-story residential building with CLT floors and walls that will be one of the tallest timber structures in the world when completed in 2020.

**Bordeaux has
pledged to build
270,000 square feet
of wooden spaces
per year for the next
15 years.**

Each floor will have around half a dozen apartment units with private balconies and access to a shared garden. Construction is expected to take less than a year, compared to a year and a half for a version made entirely in concrete.

The Hypérion project has an additional goal: to promote the use of locally-sourced wood from the Nouvelle-Aquitaine Region that surrounds Bordeaux. The Hypérion Tower will be a showcase for chestnut and oak from the Périgord, to the north of Bordeaux, which will make up the building's facade and beams, while the panels that secure the facades are made from pine from the nearby Landes Forest thus relying on nearby natural resources and enhancing the regional bioeconomy.

Making Sustainable Building Products

The European sawmill industry is the leading wood processing industry: this industry is on the one hand very traditional and rural – retaining a focus on products which have been used for centuries such as sawn boards and timber frames – and on the other hand it is willing to explore modern and alternative solutions, such as engineered wood products (EWPs).

While overall the production and consumption of sawn wood has been doing relatively well over the last few years, many sawmills see a bright future in the increasingly high sales of EWPs: products such as cross laminated timber (CLT) and glue laminated timber (glulam) have grown massively, and their innovative characteristics have a huge potential in helping tackle the climate change challenges that Europe will be confronted with in the future. For example, CLT buildings have the flexibility to handle the world's strongest earthquakes with no loss of life or structural damage. They have excellent acoustic performance and are very efficient at insulation. Finally, CLT has comparatively low carbon emissions over the life-cycle of buildings and is seen, therefore, as a strong step towards providing greater sustainability.

Engineered wood products, such as cross-laminated timber (CLT), glued-laminated timber (Glulam), and structural composite lumber (SCL) that includes laminated veneer lumber (LVL), laminated strand lumber (LSL) and parallel strand lumber (PSL), all provide consistent quality and strength, changing the way buildings perform structurally and providing a predictable level of fire resistance.

The core business of the sawmill industry remains the production of sawn wood which is increasingly connected to the development of demand in more distant markets in Asia for instance. Conversely, many sawmills are proud to serve the local European markets in rural areas with trade relationships going back many decades, and in some cases, centuries. ►



PHOTO: THE SEVEN-STORY, WOOD AND GLASS BUILDING, COMPLETED IN 2013 IN CENTRAL ZÜRICH. THE BUILDING'S MOST NOTABLE FEATURE IS ITS EXPOSED STRUCTURAL SYSTEM MADE ENTIRELY OF TIMBER, WITH NO METAL CONNECTORS. THE JAPANESE ARCHITECT SHIGERU BAN DEVELOPED THE SYSTEM IN COLLABORATION WITH SWISS ENGINEER HERMANN BLUMER, WHO SPECIALISES IN TIMBER STRUCTURES. HERMANN BLUMER & SHIGERU BAN ARE THE MAIN WINNERS OF THE PRESTIGIOUS SCHWEIGHOFER PRIZE IN 2017. SCHWEIGHOFER PRIZE AWARDS INNOVATIVE IDEAS, TECHNOLOGIES, PRODUCTS AND SERVICES IN ORDER TO STRENGTHEN THE COMPETITIVENESS OF THE EUROPEAN FOREST-BASED SECTOR.

IMAGE: © DIDIER BOY DE LA TOUR, © SHIGERU BAN ARCHITECTS



Skyscrapers Made of Wood: the Future is Now

Although steel and concrete skyscrapers typically fill modern city skylines, architects and engineers are now considering the benefits of using wood as a material for tall buildings. Timber is both light and strong, which means it's well suited for tall towers that must hold their own weight. At the same time, it's not as stiff as steel and concrete, which limits the distance it can span while retaining its strength.

Today, wood is lauded for its smaller environmental footprint and the speed with which buildings can be assembled. New types of engineered timber are considerably stronger and allow architects to build bigger and higher, making timber skyscrapers a reality. Wood construction has been propelled by using cross-laminated timber (CLT) – a strong and light-weight glued wood panel that can be made as

large as desired and cut with sub-millimetre precision at the factory, which speeds up construction and reduces waste.

Wooden skyscrapers are being built now across the globe, from Norway to New Zealand, from Canada to Austria.



- Local territory and global markets, tradition and innovation, rural locations and state-of-the-art facilities: the European sawmill industry has its feet planted firmly on the ground, while looking far into the future in which – thanks to the products it manufactures – it will have played an ever more relevant role in the decarbonisation of Europe. 

Wood from Sustainably-Managed Forests

Sustainable wood comes from sustainably-managed forests and is defined as renewable because the forest stewards manage the landscape to prevent damage to ecosystems, watersheds, wildlife and the trees. EU Member States have introduced legal measures requiring reforestation and the protection of woodlands and forests. Today, more trees are planted than felled: European forests are growing. Sustainable forest management offers the opportunity to mitigate climate change and to contribute to sustainable development.



The European Organisation of the Sawmill Industry (EOS) is a Brussels-based non-profit association representing the interests of the European sawmilling sector. Through its member federations and associated members, EOS represents some sawmills in 12 countries across Europe (Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Latvia, Norway, Romania, Sweden and Switzerland). Together, they produce products such as sawn wood, decking, flooring, joinery, fencing, engineered wood products (EWPs), representing 80% of the total European sawn wood output. The European sawmill industry has a turnover of almost €40 billion and employs over 259,000 people across the European Union.

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Certified Wood for Greener Cities



WRITER:

Mieke Vercuijsse

Can we dream of Green Cities: towns and municipalities where wood is the main material used for construction? We believe we can. Wood has attracted enormous attention in recent years, not least because of rising ecological awareness. Urban populations have grown and will continue to grow, so we need to look for solutions with the smallest possible ecological footprint. Using wood as a building material is definitely one of those solutions. Labelled wood guarantees that the wood originated from forests managed sustainably.

Wood: an Ecological Product

Wood is an exceptionally environmentally friendly material according to the Life Cycle Analysis. This is a technique for assessing the environmental and nature impacts associated with all stages of a material's life. At every stage wood gets very high scores. During its production, ►





- extraction, destruction, processing, usage and recycling wood has a great deal of respect for Earth. When trees are harvested for industrial use – in the construction sector, for example – the CO₂ stored during the growth of trees can remain stored for a long time in the wood used as a product.

The Future: Green Cities

Today, just over half of us live in cities and that number is predicted to grow to 75% over the next 20 years. This means that some three billion people will need a new

home over that period. In addition, there are an estimated one billion people in the world living in slums and some 100 million. The opportunity is therefore not only to build these homes, but to do so in a way that results in the lowest footprint possible.

Sustainable timber therefore sits at the heart of tomorrow's construction industry. As well as having the lowest embodied CO₂ of any commercially available building material, it is increasingly seen as the simple and straightforward way to achieve a high-performance building solution.

Advantages of Wood in Constructions

Building with wood has numerous advantages, no matter whether you use it for indoor panelling, carcass work or outdoor finishing. Check out below some of the benefits.

- **Wood in buildings is healthy**

Wood is popular in buildings. It has a positive influence on the indoor climate and thus also on the well-being and health of the people who live or work in the building. What's



more, wood is an excellent heat and humidity regulator. Walls made of wood breathe; they control the humidity of the surroundings.

- **Wood allows creative designs**

Wood is strong, flexible and attractive, and because it is a relatively lightweight material it is easy to work, process and finish. It is a material ideally suited to creative and innovative designs. Wood is suitable for all architectural applications and allows a huge choice of outdoor panelling, stone, brick and of course outdoor woodwork. Moreover, every piece of wood has its own particular characteristics, because it is unique in terms of its grain, colour and lines. Architects who design a home made of wood can give free rein to their creativity and fulfil even better the wishes of the prospective builder.

- **Wood enables fast construction**

A home made of wood is lighter than one made of conventional materials, so you can have smaller and simpler foundations, which means they are easier to build. Numerous elements manufactured in workshops simply need to be put together on the building site. This rapid construction makes it possible to deliver a windtight and watertight skeleton in just a few days. Additionally, you do not have to delay finishing until the sub-flooring and brickwork are dry. And given the precision of joiners, the frameworks can be ordered in advance, which saves an awful lot of time.

CLT: an amazing development

One of the most amazing developments is cross laminated timber (CLT). CLT is an engineered wood panel typically consisting of three, five, or seven layers of dimension timber oriented at right angles to one another, and then glued to form structural panels. This gives it exceptional strength, dimensional stability and rigidity. It is lightweight compared to other materials, and is well suited to floors, walls and roofs. In the interior of buildings it can be left exposed providing additional aesthetic attributes. As the panels are ►



- prefabricated building components, this can help speed up construction practices and allows for off-site construction.

Wood with a Sustainable Origin

Forest certification allows forest managers to demonstrate that the practices they apply in the forest today are sustainable and that their forests meet both our needs and those of future generations. Certification systems such as the Programme for the Endorsement of Forest certification (PEFC – see xxxx) offer assurance to the consumer that the timber and wood-based products they buy come from forests that are managed sustainably according to exacting international standards. To ensure the reliability of such systems, regular controls are made by independent certification bodies.

An increasing number of building projects are now opting for certified timber, and both public authorities and private companies are choosing to work with wood and paper with a sustainable origin, through their (Corporate) Social Responsibility policies.

The C40-F40 Project

With their high concentrations of people, influence and consumption, megacities have an enormous impact on climate change. C40, a powerful network of megacities committed to combating climate change by reducing carbon emissions through changes to local policy and physical infrastructure, proposes with the C40-F40 project to link the largest and most influential cities with the world's most socially and ecologically important forests.

Through the 2017 PEFC Collaboration Fund, PEFC is providing financial support for the pilot phase of this project. The project will create links between 10 global cities and forest communities, leveraging urban resources and consumer power to support (financially and culturally) community- and family-based sustainable forest management. Each participating city will select a distinct forest area as





a partner. Certified sustainable forest management would be a requirement, whether pre-existing, or something that the city helps the forest managers to obtain. This partnership may take the form of using sustainably-sourced wood from the forest in a visible city landmark; using other non-timber forest products in the city in a sustained and creative way; or creating other forest opportunities such as ecotourism.

For example, the wooden boardwalk of the world famous Brooklyn Bridge in New York will soon need replacing. The project partners propose an innovative partnership between the people of New York City and a sustainably managed community forest in Guatemala. New Yorkers can contribute by sponsoring the individual wooden planks that will make up the new boardwalk, while the local people managing the forest will get

the financial support they need to protect the forest.

Most importantly, C40b cities will become long-term champions of the world's most important forests and their peoples, modelling a new type of proactive and cooperative globalization. ☺



The Programme for the Endorsement of Forest Certification (PEFC) is an international non-profit, non-governmental organization dedicated to promoting sustainable forest management through independent third-party certification. It works throughout the forest supply chain to promote good practices in the forest and to ensure that timber and non-timber forest products are sourced with respect for the highest ecological, social and ethical standards. Today, PEFC has recognized certification systems in over 46 countries. Together, these account for over 300 million hectares of certified forest (which represents 2/3 of all certified forest area worldwide), making it the world's largest forest certification system. Visit: www.pefc.org.

Under Threat: Europe's Old-Growth Forests



WRITERS:

Liesbeth Van den Bossche & Sabien Leemans

On 21 March people worldwide celebrate the International Day of Forests (#IntForestDay). Forests are essential for life on Earth: they are the largest stores of carbon after oceans and provide habitat for 80% of the world's terrestrial biodiversity. But some of the most precious forests in Europe are under threat. Despite the continuous increase of forest land in Europe, biodiversity is not thriving, with many forest habitats being threatened by unsustainable forest management practices and forest fragmentation. Even illegal logging, which is most often witnessed in the context of tropical rainforests, is also happening in Europe – spotlight on Poland and Bulgaria.

We often forget that virgin forests are still present in Europe. These are untouched, centuries-old ecosystems unaffected by human developments. WWF has been campaigning to save two of these last pristine places, which are now under threat: Białowieża Forest in Poland and Pirin National Park in Bulgaria. These irreplaceable sites are part of our natural heritage and they are under increasing pressure from logging and development. Several of Europe's ancient forests are UNESCO World Heritage Sites but their main legal protection comes from EU nature laws, such as the EU Birds and Habitats Directives. Unfortunately, some governments feel that they can ignore these binding laws, undermining their objective to protect threatened species and habitats. WWF has therefore been calling on the European Commission to enforce these laws and protect Europe's old-growth forests. ►

BIAŁOWIEŻA FOREST, POLAND. © ADAM LAWNIK





Hunting and Harvesting the Ancient Auroch

Białowieża Forest has repeatedly been the grounds for hunting parties to try their sport: “Białowieża became once more the personal hunting preserve of the tsar and a railway line was built all the way from Moscow to transport the parties of grand dukes and generals of the imperial staff who clocked to the forest in the summer and autumn.” [...] “whether in the hands of the state or those of private landowners, the object in the latter part of the nineteenth century was to wring as much profit out of the forest as they could possibly yield.” [...] “Before the war [World War I] was over, the forest had lost a full 5 percent of its area. Five million cubic meters of wood had been shipped directly to Germany.” [...] “Białowieża simply exchanged the German companies that had dominated before and during the war for a different contractor: the British lumber company Century, which managed to do more comprehensive damage to the forest during its five-year lease between 1924 and 1929 than the entire German military occupation.” [...] “In the early 1930s the Pilsudski government established the League for Nature Conservation and designated Białowieża

as one of the country's first three national parks.” [...] As Hitler endorsed the breeding of hybrid in an attempt to reintroduce the massive ‘auroch’ bison, Goring “slept in the tsar’s bed” and no animal could “escape Goring’s constant artillery in rutting season” and “in September 1939, the Blitzkrieg was so savage and so swift that the German army reached Białowieża in a matter of weeks.” Then the Russians occupied the forest, then Hitler launched Operation Barbarossa and occupied tsar Alexander’s “palace” in Białowieża and turned the primeval forest into a heiliger Hain “sacred grove” for his aurochs to return and roam. Then in a rapid recurrence of history, with the Germans gone after WWII, the Soviet Ukrainian peasant-dictator Nikita Khrushchev “decided that a new hunting lodge was required to impress foreign grandees and senior members of the nomenklatura who would nervously stand around in fur hats as foresters obligingly drove the game their way.” That was in the late 1950s.

FROM CHAPTER 1 “IN THE REALM OF THE LITHUANIAN BISON” FROM *LANDSCAPE AND MEMORY* BY SIMON SCHAMA (1996) PAGES 37-74.



► Remember the Bison of Białowieża

Białowieża Forest is a European forest located in the Podlaskie Voivodeship area in the East of Poland and in the Grodno/Brest regions in western Belarus, covering an area of 141,885 hectares. This virgin forest is Europe's last major primeval forest – a forest type which used to cover vast tracts of Europe. Białowieża is home to the largest European bison population as well as to lynx, wolves and ancient trees. The forest is protected by EU nature laws and has been classified both as UNESCO

World Heritage and EU Natura 2000 site because of its ongoing natural processes, richness of dead wood and astonishing biodiversity. It is the best-preserved forest ecosystem of the European Plain – Europe's last low-land deciduous and mixed old-growth forest.

Despite its outstanding natural beauty, the Polish government decided to allow industrial-scale logging, which is a very controversial decision. Alarming, the government tripled the amount of permitted logging in Białowieża Forest district in 2016. Scientists and NGOs oppose the large-scale logging of this old-growth forest. Seven NGOs (including

WWF) filed a complaint which compelled the European Commission to start a formal infringement procedure. Intensive logging in Białowieża Forest came to a halt in November 2017 after the European Court of Justice (ECJ) – the EU's highest court – threatened with a penalty of 100,000 euros per day if logging continued, which highlights the importance of European law in the protection of ancient forests.

More recently, in February 2018, the ECJ Advocate General issued an opinion in which he stated that it was unlawful to increase logging in the forest. Conservationists anxiously



BISON IN BIAŁOWIEŻA FOREST, POLAND. © ADAM LAWNIK



await formal confirmation of this in the final judgment of the Court, expected in March or April 2018. Currently, logging is only allowed at limited scales and for safety reasons, but conservationists are keeping a close eye on the situation to ensure there is no further abuse. The situation on the ground clearly shows that Poland was not taking the concerns of the European Commission to heart.

The situation in Białowieża is not an isolated case in Poland. There are similar intensive logging plans for the “Relict Carpathian Forest”, located in the Polish Eastern Carpathians. The biodiversity there is on a similar level ►

**In 2016, the Polish government
tripled the amount of permitted logging
in Białowieża Forest.**



TOURISM IN PIRIN NATIONAL PARK, BULGARIA. © KOEN DE RIJCK

- as Białowieża and while it may be less well-known it is home to brown bears, wolves, lynxes and wild cats.

Quick Profit over Long-Term Gains

Environmental and economic interests also clash in Bulgaria, notably in Pirin National Park in the Blagoevgrad Province, a wonderful natural area in which the Bulgarian government

wants to expand the current Bansko ski resort. Pirin National Park covers a mountainous area of 40,000 hectares with waterfalls, glacial lakes and a unique old-growth forest that boasts a diverse ecosystem containing more than 1,300 plant species, 45 mammal species and more than 150 birds. Pirin is a hotspot for biodiversity and home to iconic and rare wild animals such as brown bears, wolves, chamois and capercaillie. The national park is known for being one of the few places in the world where endemic forests of Macedonian Pine and Bosnian Pine have survived the last ice age.

Like Białowieża Forest, Pirin National Park is protected by EU nature legislation and has been designated as a World Heritage site by UNESCO. Despite this high level of protection, the Bulgarian government has proposed a new management plan, which would open 60% of Pirin National Park for commercial scale logging, which will cause grave damage to its remarkable natural biodiversity. This is clearly in breach of nature protection laws, destroying over-100-year-old pine trees and endangering wildlife in the most pristine and valuable areas of the park. The new management plan



hectares of forests were destroyed, including old-growth trees of up to 300-years-old. This has even led to a UNESCO decision to exclude these two areas from the World Heritage site in 2010 and categorize them as ‘buffer zones’.

While a court decision on the new management plans was pending, the Bansko district demanded amendments to the current management plan to increase the ski area into the national park’s delicate conservation areas and to open 48% of the national park to construction. The Bulgarian government decided to push through the changes to the management plan days before the New Year. WWF appealed these amendments in court as well.

The government’s covert action back-fired and instigated weekly street protests since December 2017. Tens of thousands of people have been protesting in Sofia and in more than 20 other cities in Bulgaria to save Pirin. Protestors also took to the streets in London, Vienna, Brussels and Paris. Environmental actions have been common for over a decade in Bulgaria, but this has been the biggest wave yet. The demonstrations have drawn the attention of large international media channels, especially after Valeri Simeonov, Deputy Prime-Minister of Bulgaria, threatened to expel Ska Keller (President of the Greens/EFA Group in the European Parliament) from the country after participating in the protests, calling her a “green jihadist”.

protection mechanisms need to be enforced. It is disheartening to see that Europe’s few remaining ancient forests are on the brink of collapse because European law is poorly implemented. WWF has been championing these causes and has repeatedly asked the European Commission to uphold and enforce EU legislation and the Białowieża example shows that decisive EU enforcement can have a positive effect. Now is the time to step up, before Europe’s remarkable virgin forests – and the animals and plants that inhabit them – are lost forever. ☹

**The Bulgarian
government wants
to open 60%
of Pirin National Park
to commercial-scale
logging.**

Protection on Paper is Meaningless

is not yet implemented as it awaits a court ruling, as the draft failed to undergo an environmental assessment – a requirement by national law and both for UNESCO and EU Natura 2000 sites. The lawsuit is being led by a coalition of NGOs, including WWF.

Still, the Bulgarian government wants to allow commercial logging to enable a 12.5-fold expansion of the current Bansko ski resort. Earlier construction works for the ski resort started in 2003 and already caused severe damage to the park: more than 160

Both Pirin and Białowieża are symptoms of a systematic failure to implement European nature laws, proving that protection on paper is meaningless if it is not backed by effective management on the ground. Both areas are protected by European law and yet the governments of Bulgaria and Poland are determined to bow to economic interests and proceed with their plans. This violation of European law needs to be addressed and the

Białowieża Forest

185,000+

More than 185,000 people signed an online appeal for the protection of Białowieża Forest.

100,000

The European Court of Justice decided to impose a threat of a daily penalty of 100,000 euro if Poland does not abide to the ban on illegal logging.

150,000

Thanks to its natural values, Białowieża Forest attracts about 150,000 tourists and hundreds of scientists from all over the world.

1,000,000s

In the last 100 years, several millions of cubic metres of timber were logged in the Forest.

141,885

The Białowieża Forest World Heritage site covers an area of 141,885 hectares spanning the border of Poland and Belarus.

12,000+

Over 12,000 species have been identified in Białowieża Forest, but the actual amount of species living in the forest might even reach 25,000, including 59 mammal species, over 250 bird species, 13 amphibians, 7 reptiles, and over 12,000 invertebrates.

3x

The Polish Environment Minister decided in March 2016 to triple logging in the Białowieża Forest District which is the best-preserved forest ecosystem in Europe.

Pirin National Park

125,000+

Over 120,000 people have signed the petition urging Bulgaria's Prime Minister, Boyko Borisov, to protect the World Heritage site and its pristine wildlife.

300

The installation of the tourism facilities already led to the clearance of more than 160 hectares of forest, including old-growth trees aged between 120 and 300 years.

1,000s

Thousands of Bulgarians gathered in downtown Sofia to protest further clearing for ski runs and the building of ski lifts in Pirin National Park.

3,000+

It is estimated that more than 3,000 hectares of forest would need to be felled to facilitate the planned expansion of ski areas.

48

Amendments made to Pirin's current management plan by Bulgaria's government in December 2017 have now opened 48% of the park to construction activities.

1,300

Pirin National Park in Bulgaria is home to "Baykusheva mura" – at 1,300 years-old, she is believed to be the oldest pine tree on the Balkans.

60

Commercial logging threatens nearly 60% of the territory of Pirin National Park.

**Pirin and Białowieża are symptoms of a systematic failure
to implement European nature laws.**



WWF is one of the largest conservation organisations with a presence in over 100 countries in the world. WWF works to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. The European Policy Office helps shape EU policies that impact on the European and global environment. www.wwf.eu



BENEFITS OF URBAN TREES



Strategic placement of trees in urban areas can **cool the air** by between 2 °C and 8 °C.



Large urban trees are excellent filters for **urban pollutants** and fine particulates.



Mature trees regulate water flow and improve water quality.

A tree can absorb up to 150 kg of CO₂ per year, sequester carbon and consequently **mitigate climate change**.



Wood can be used for **cooking and heating**.



Trees can provide food, such as fruits, nuts and leaves.

Spending time near trees improves **physical and mental health** by increasing energy level and speed of recovery, while decreasing blood pressure and stress.



Trees properly placed around buildings can **reduce air conditioning needs** by 30% and save energy used for heating by 20–50%.

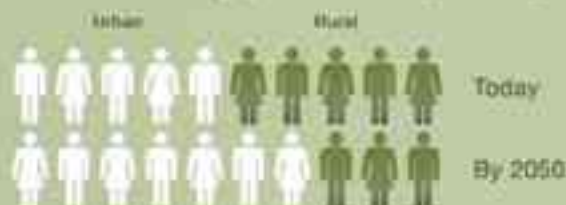


Trees provide habitat, food and protection to plants and animals, increasing **urban biodiversity**.



Landscaping, especially with trees, can **increase property values** by 20%.

World urban population is growing fast...



...planting trees today is essential for future generations!

Book Review



WRITER:

Stuart Reigeluth

"Trees can't walk." (p.186) Once seeds land and catch hold, or when saplings are planted and the trees begin their long journey of gradual growth over the years, decades and centuries, they stay in one place, until they die and decompose and go back to the earth and feed the next generation of trees, or until they are harvested and transported to distant lands to make furniture, products and buildings. Trees can't just pick up their bags and mobilize their troops, like in the fantastical blockbuster rendition of *The Lord of the Rings*. Trees are sedentary creatures, once rooted (quite literally) – always rooted.

But even if they can't walk, they sure can talk, claims German forester, Peter Wohlleben in his unexpected gem of a book *The Hidden Life of Trees*. Or at least they can talk to each other. Plunging into the magical world of trees – reminiscent at times of the stage for Hermann Hesse's beautiful *Fairy Tales* that evoke the mysterious ways of the woods – Wohlleben describes how trees actually communicate amongst themselves: this is not an alphabet language as we know it but rather as almost secret codes based on chemicals, transmitters and scents that travel by air or bugs or via a network of fungi connecting the roots of trees.

For example, when a caterpillar takes a bite from a juicy green leaf, the leaf tissue sends

out electrical signals, just as human tissue does when it is hurt "However, the signal is not transmitted in milliseconds, as human signals are; instead, the plant signal travels at the slow speed of a third of an inch per minute." (p.8) Trees really live the 'slow lane', Wohlleben asserts flippantly. Everything takes much longer, as if in slow motion externally, and yet inside the bark, the **cambium** (that life-giving layer just under the bark) is busy transporting water from the ground up through the outer layer of trunk to nourish the branches and leaves or needles in a process called **xylem**.

These are some of the fun things that we learn from these simple but basic concept of natural processes without having to read the dense texts of a school book. This is perhaps Wohlleben's greatest achievement: through simple anecdotal language he brings to life the nature of trees and tickles our curiosity for a world that used to surround us when our ancestors lived in those woods that were inhabited by fairies and elves and demons and monsters. The Grimm *Fairy Tales* were inspired by the fear of living in such close proximity to those beings and ultimately by our fear of being around an essence that we cannot fully comprehend because we cannot see the forces that govern the life of trees.

Wohlleben describes the networks created in forest floors amongst the roots and the fungi that ransom sugars from the trees in return for transmitting chemical messages to their brethren through the soil; he depicts the race to the top to get the most light by the beech and spruce and pines because the sun is essential, indeed vital, for the incredible process of photosynthesis; he talks about the phytoncides that are pungent compounds that give that memorable smell to forests and that disinfect the air; and he tells of the mighty 'quaking aspen' in Utah that "has taken thousands of years to cover more than 100 acres and grow more than forty thousand trunks." (p.184) You don't believe me? Read the book! 🌀



IM FLANNERY
DHLLEBEN

en Life of EES



ey Feel,
ommunicate

n a Secret World

Facts versus Fairy Tales



WRITER:

Philippa Nuttall Jones

While many found *The Hidden Life of Trees* by Peter Wohlleben a fascinating insight into the lungs of the Earth, some readers have taken issue with the book for its apparent lack of scientific rigour.

One of the most vociferous critics of the bestseller is Professor Christian Ammer – a scientist studying forests at the Georg-August University in Göttingen, Germany – who even launched a petition against the book, which garnered just over 4,500 signatures.

His main gripe? “Claims,” “half-truths” and “biased judgements” being stated as scientific facts to create a “storyline that appeals to the mainstream”. The petition states that the book is “further proof of the sad situation that oversimplification and emotional explanations of complex matters are better received by a wide audience than factual information generated by thorough investigations”.

Wohlleben has denied the claims. He told *The Guardian* that he “deliberately anthropomorphised trees but everything he wrote was based on science”. He is adamant that his book is based on facts and that he is merely popularising the truth. He says that his aim is to simply make “everyone love trees and when you love trees you do the right thing”. Professor Ammer and his supporters, however, believe that the “unenlightened thinking” of the book will not help the environment or forests.

Sara Maitland, author of her own excellent book on trees *Gossip From The Forest: The Tangles Roots of Our Forests and Fairytales*, suggests in a review of Wohlleben’s book that the most important question raised by it is whether people will indeed “do the right thing” after reading the book. She asks: “what is the evidence that we, human beings, are more likely to protect, honour or nurture beings that we identify with?”, suggesting that we are “not doing too well with our own species”. Rather than loving and protecting trees because they are like us, she argues we “should protect trees precisely because they are not like us, but so very different”.

One of the main principles of winning a campaign is to provoke a conversation in society, according to UK communications guru Chris Rose, author of *How to Win Campaigns*. He believes that if you want something to spread you need people to talk about it. With his book, Wohlleben has very much succeeded in doing this and so whether trees really do have feelings or not is probably somewhat of a mute point. If people are reading the book and discussing it, either negatively or positively, they are probably, at the very least, more aware of trees than they were before. This is most definitely a good thing. How they then act on that knowledge, however, is another story. 🌀

Give Music a Chance



WRITER:

Philippa Nuttall Jones

Most of us recycle our glass, paper and plastic, or at least we try... Some of us give our clothes to charities for those in greater need and to decrease the waste of our products. But how many of us have ever thought to offer a new life to a musical instrument? This is what the Belgian non-profit Music Fund is doing: collecting musical instruments, repairing them and then offering them to music organizations in Belgium, in conflict zones and in various developing countries.

Music Fund was the result of a collaboration between Oxfam Solidarity and Ictus – a Brussels-based contemporary music ensemble. Since 2002, Ictus has been regularly sending musicians to reinforce music schools in Palestine, Israel and Mozambique. While on mission in Palestine, Lukas Pairon, manager of Ictus, became aware of the difficult conditions in which the musicians there worked and the dire need for them to have access to more musical instruments. ►

"ESPACE MASOLO", KINSHASA, CONGO.





Repurposing

- From this, the idea of organizing campaigns to collect instruments emerged. In 2005, up to 500 instruments of all kinds were received with the support of Oxfam Solidarity. The first shipment to Palestine and Israel took place at the end of the year, distributed by lorries bearing the slogan “Give Music a Chance”.

Other shipments to the Middle East and Africa soon followed. The organizers, however, wanted to go a step further. They decided to set up training programs for musical instrument repair technicians, thereby giving partner organizations the ability to maintain the instruments themselves.

Since then, the Music Fund has grown and now boasts two full-time employees and a large number of part-time and voluntary workers in Belgium and abroad. The work is led by an administrative team in Brussels, a workshop in Marche-en-Famenne, Belgium, where the instruments are repaired and an instrument storage place in Jemelle, Belgium.

The organization's fantastic work is widely recognized and in 2010 the European Commission selected it as demonstrating “Best Practice in Culture and Development”. 



▲ TRAINING IN GAZA: THE USE MUSIC AS A PEDAGOGICAL TOOL.



▲ KINSHASA-BASED BAND TBETA MBONDA, CONGO.



▲ MAPUTO, MOZAMBIQUE.



▲ MUSIC FUND TRAINING CENTER, BELGIUM. © KOEN BROOS

The Music Fund Achievements

Since its inception, the Music Fund has:

Collected
6,000
musical instruments

Fixed and donated
3,000
musical instruments

Partnered **13**
organizations in Palestine, Israel,
Mozambique, DR Congo, Morocco
and Haiti

Trained **16**
instrument repair technicians

Supported **9**
permanent repair workshops within
partner organizations

Created **18**
collection centers in 6
European countries



▲ CHRISTIAN BERTRAM. © ROMAIN ROBERT

Interview with Christian Bertram

Coordinator of
the Music Fund



Do you collect all kinds of musical instruments?

At the beginning, we received all types of instruments, but most often we are given guitars and violins probably because they are the ones most played by children.

Our projects in southern countries sometimes ask for rare instruments, which are difficult for us to find. We are very interested in receiving oboes, bassoons, all kind of brass and wind instruments, double bass, viola, cello, drums and electric(tronic) instruments.

Music affects people in a positive way;

it helps them to forget the conditions of their life

and allows their mind to enter a parallel world.

Music is good for everyone.

Christian Bertram

We refuse eight out of 10 pianos because they are too fragile, too old or need too much work, especially given the cost of sending them to countries such as Haiti, the Democratic Republic of Congo, or Palestine.

How does a project work?

A typical Music Fund project starts with an investigation year during which we search for the best partner, for instance a music school, a cultural center or a social project. We then deliver around 100 to 300 instruments. We send in experts for a couple of years to repair the instruments and train students of the school/center/project to maintain the instruments. The last step is to find the money to offer the best students intensive training for 3-6 months. We offer training in four disciplines: guitar, violin and wind repair, and piano-tuning.

Can you tell us about a favorite project in a developing country?

The last project in the Democratic Republic of Congo took place in the small town of Bukavu and it was fantastic! The Music Fund has been present in the country since 2007 and after a long period working in Kinshasa, we decided to move to the East of Congo and to help a very small project called "Ndaro Culture".



▲ MAPUTO, MOZAMBIQUE.



▲ TRAINING IN GAZA: THE USE MUSIC AS A PEDAGOGICAL TOOL.

Repurposing

I am a guitar-maker and in August I went to Bukavu to give a guitar repair course to seven students. At the same time, Mando Lyve Mengi, a young student who we had trained in Kinshasa in 2014-2016, came to give his first training in his own country.

This is exactly what we hope will happen everywhere: that our students take over and we can leave a project in good hands.

What projects are you leading in Belgium?

I manage a project in the prison of Marche-en-Famenne. We first sent instruments there in 2014, I gave guitar repair training to the inmates in 2015, a ukulele-making training in 2016, and in 2017 and 2018 a complete guitar-making training to six prisoners.

Music affects people in a positive way; it helps them to forget the conditions of their life and allows their mind to enter a parallel world. Music is good for everyone.

How can I get involved?

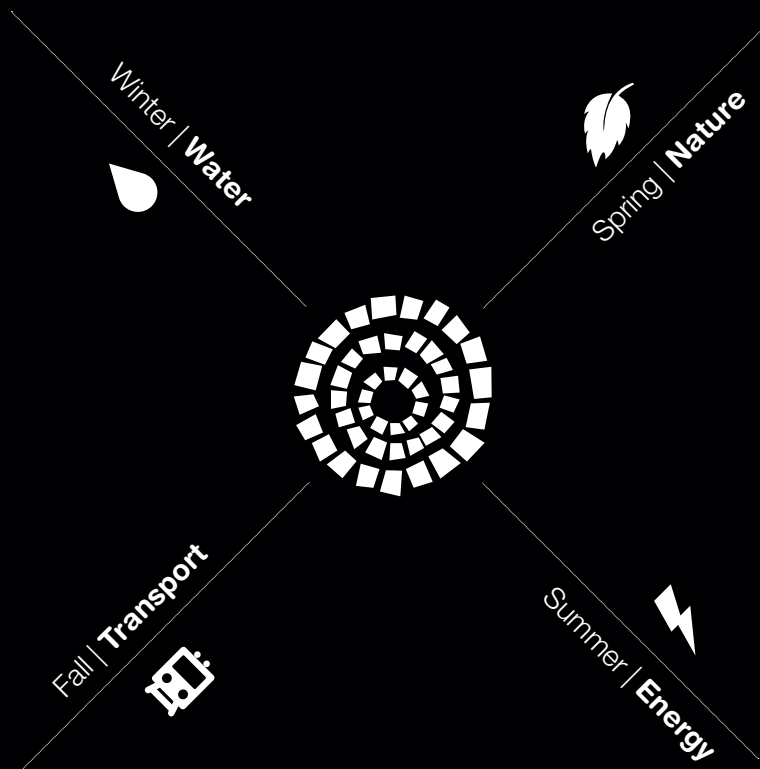
We have a lot of drop off points in Belgium where you can leave instruments. You can also come and meet us at our family-friendly music festival "Give Music a Chance" that will take place on 26 May at the Scandinavian School in Waterloo, Belgium. Last year's event brought together over 600 people and raised funds for two projects run by the Hedda Foundation (a Norwegian non-profit), in Vietnam and Myanmar. This year we hope to welcome 2,000 to 3,000 people, with proceeds going to support our work in the Congo and elsewhere! 🌍

To find out more:

www.musicfund.eu/depot

www.givemusicachance.eu





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**NETWORKING
VILLAGE**
06.06 to 07.06



21

MARCH

The International Day of Forests

Join the United Nations annual  #IntlForestDay

2018 Theme: Forests and Sustainable Cities

FOREST CITY PROJECT

An initiative by REVOLVE



International Forum

Bringing together city-planners, international associations and agencies to advance the value of forests in making cities more sustainable and combatting climate change.

Photo Exhibition

Highlighting the latest and tallest buildings made of timber from around the world as well as showing the beauty of forests and the devastation of deforestation.

BRUSSELS

FORUM: 21 March 2018 • 3pm, Residence Palace

EXHIBITION: Spring 2018 • Cinquantenaire Park



Strategic partners:

