BUSINESS ACTIONS FOR MITIGATING CLIMATE CRISIS

Prepared by ICC United Kingdom as reference for the COP26 Programme

ICC UNITED KINGDOM
INTERNATIONAL CHAMBER OF COMMERCE
The world business organization

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One of the most pressing issues of our time, climate change, threatens the lives of billions of people around the world. Natural disasters, environmental degradation, and extreme weather patterns disrupt harvests, deplete fisheries, erode livelihoods, and spur infectious diseases.

The private sector plays a crucial role in the transition to a net-zero economy and climate change can be the catalyst to help us rethink how we do business. Financial markets must provide the right incentives for a just transition; innovation leading to efficiency and less energy consumption; and global value chains with the potential to scale up transition.

As the institutional representative of 45 million companies worldwide, ICC recognises the urgent need to keep the global temperature increase below 1.5°C and achieve net-zero emissions by 2050. What's more, we are committed to advocating for coherent policy frameworks, in line with the Paris Climate Agreement and the latest climate science. We are also committed to raise global business ambition and mobilise action at scale.

Within this report you will find a selection of climate-related case studies, showing how companies of different sizes, from different jurisdictions and sectors, are working to reduce carbon emission, mitigate the impact of climate change, and build more resilient operations. By sharing best practices, and some of the business cases behind these initiatives, we hope to inspire more companies to act for the delivery of effective climate transition.

"We make climate action everyone's business"

– International Chamber of Commerce -

This report captures different approaches from business of all sectors on green transition. It aims to provide concrete business practices aligning to the UN Framework Convention on Climate Change and the United Nations Sustainable Development Goals to support green transition across industries.

ACKNOWLEDGEMENTS

ICC United Kingdom policy team would like to express our utmost gratitude to all the contributing companies for sharing their business cases with us in our call for submissions. We received over 80 business case studies in total from 22 countries. We would also like to extend special thanks to other ICC national offices, in particular ICC Sweden, ICC China, ICC Austria, and Confederation of European Paper Industries (Cepi), and Afep, for their support in collecting case studies.

CONTENT

Climate crisis is the most pressing challenge of our times, given that 2019 was the second warmest year on record, and global temperatures are projected to increase by 3.2°C by 2100. Despite having a 6 percent drop in greenhouse gas (GHG) emissions over the course of the global COVID-19 pandemic in 2020, there is still short of 7.6 percent annual reduction required to limit global warming to 1.5°C. We cannot afford to wait to act against the threat of climate change, biodiversity loss, and rising pollution. There is a big part for the private sector to play to build resilience into our economies, but the challenge is how to create economic opportunities while ensuring sustainable economic growth, environmental and social responsibility work together in a mutually reinforcing manner?

The 2030 Global Agenda (UN SDGs[1]), United Nations Sustainable Development Goal 13 (SDG 13), explicitly calls for the urgent action to combat climate change and its consequences. Climate ambition and commitment on its own is not enough, we need mutually reinforcing actions to minimise the trade-offs of SDGs in order to deliver the full potential of the global goals. Goal 9 (SDG 9), in complementary, provides a tangible direction for achieving SDG 13 with green transition through technology and innovation. SDG 9 calls for building resilient infrastructure, promote inclusive, and sustainable industrialisation and innovation. This will require overcoming constraints, strengthening existing capacities, and exploring innovative ways to solve development challenges in the context of major structural transformation, urbanisation, and digitalisation.

While transition to a greener economy means a vast business opportunity, it requires not only coherent policy frameworks, but also innovative sectoral approaches. Eco-Innovation, which incorporates green growth and sustainable development into knowledge-based innovation, is at the heart of green transition for businesses across different sectors. There is proven positive correlation between eco-innovations, and energy efficiency, productivity, and business opportunities.

Vatnajokull, Iceland by Theodor Vasile

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1 - The 17 United Nations Sustainable Development Goals (SDGs) provide a universal framework and set of common goals for all countries, all industries, all companies, and all individuals to achieve a truly sustainable world by 2030. https://www.undp.org/sustainable-development-goals#:~:text=The%20Sustainable%20Development%20Goals%20(SDGs)%2C%20also%20known%20as%20the,people%20enjoy%20peace%20and%20prosperity.

CONTEXT

As the world begins to recover from the devastating COVID-19 pandemic, it is vital to take the opportunity to build back better while addressing the climate issues. The 26th UN Climate Change Conference of the Parties (COP26), presided and hosted by the UK in Glasgow, will bring parties together to accelerate action towards the goals of the Paris Agreement, and the UN Framework Convention on Climate Change. Against this backdrop, the UK presidency has set four priorities[2]: i) securing global net zero by mid-century and keep 1.5 degrees within reach, ii) adapting to protect communities and natural habitats, iii) mobilising finance, and iv) working together to deliver. Five campaign themes are also developed along the priorities as follows:

1	2	3	4	5
ADAPTATION & RESILIENCE	NATURE	ENERGY TRANSITION	CLEAN & TRANSPORT	FINANCE
To encourage greater ambition, tools, finance, coordination, and commitments to support practical adaptation and resilience action supporting to the Adaptation Action Coalition[3], and UN High-Level Climate Champions' Race to Resilience Campaign[4].	**To raise ambition on tackling the drivers of climate change and biodiversity loss, mobilise financing to protect and restore critical ecosystems, and kick-start a just rural transition towards sustainable land use to benefit people, climate and nature supporting to the Leaders' Pledge for Nature[5].**	**To accelerate the transition to clean power in a just manner**	**To grow the market for zero emission vehicles**	**Highlights the action required by all stakeholders to address concerns about the quantity, quality, responsiveness, and impact of international climate finance.**

THE REPORT

In total, 56 case studies, from 22 countries are captured in this report. Through showcasing different innovative sectoral approaches adopted by businesses of all sizes, and sectors to mitigate climate crisis, this report also demonstrates how green transitions among the private sector contribute to the 2030 Global Agenda. In the run-up to COP26 in Glasgow, the report aims to reinforce the role of the private sector in mitigating climate crisis and exchanging best practices by showcasing business strategies on innovative green transitions. The case studies are structured in the five campaign themes outlined by the UK government.

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2 - https://ukcop26.org/cop26-goals/
3 - https://www.gov.uk/government/news/new-global-coalition-launched-to-address-impacts-of-climate-change
4 - https://racetozero.unfccc.int/race-to-resilience/
5 - https://www.leaderspledgefornature.org

COMPANY	PROJECT	PROJECT LOCATION	CAMPAIGN THEMES
Afep	Ambition 4 Climate	Global	1
AFRY	Wood chips and Sawdust create new Fossil-Free Alternatives	Sweden	3
Airbus	Seawing Project : Traction Wing for Commercial Vessels	France	3
Austrocel	World's Largest Wood-Based Bio-Ethanol Plant	Austria	4
AXA	AXA Impact 3 "Climate & Biodiversity" Fund to fight against climate change	Africa and Asia	1, 2, 5
Banka BioLoo	Bioloos and Fecal Sludge Treatment Plants - Climate-Complementing Sanitation Solutions	India	1, 2, 3
Barratt Development PLC	Biodiversity Commitment	United Kingdom	2
BAT	BAT – An Integrated Approach	Global	1, 2, 3, 4, 5
Beijing Forestry University Forest Science	Cuihu National Urban Wetland Park Design Project	China	1, 2
BNP Paribas	Curve 24,000 m^2 of Office Space in Wood Structure France	France	1
bp	BTC Pipeline and Tangguh Expansion Project	Azerbaijan, Georgia, Turkey, Indonesia	2
BT	BT and Openreach Transitioning to Zero Emissions Fleets	United Kingdom	1, 4
Clyde & Co.	Resilience	United Kingdom	1
Credit Suisse AG	Sustainable Transition Bonds: Financing Credible Transitions	Global	5
Decathlon	Signature biodiversité	France	2
Deloitte	Global 13 Impact Platform	Global	1
Dun & Bradstreet	Dun & Bradstreet ESG Solutions	Global	1, 5
Edenred	Supporting the Transition to Sustainable Transports	United Kingdom, United States, Finland, Belgium, and France	4
EIL	Reenergy+ System	Italy	1
Epson	Epson Environmental Vision 25	Europe	1
Essity	New Steel Yankee Dryer	Belgium	1
ETEX	Etex Sorbas Quarry Rehabilitation Programme	Spain	2
Fedrigoni Paper	New CHP: Gas Turbine and Steam Boiler, Arco Paper Mill	Italy	1, 3
Hamburger Containerboard	Steam Accumulator in The Paper Industry	Austria	1, 3
Hermès	Construction of an Energy Positive Leather Goods Factory	France	1
IBAT	The Integrated Biodiversity Assessment Tool	Global	2
INA	Enhanced Oil Recovery	Croatia	1, 3

COMPANY	PROJECT	PROJECT LOCATION	CAMPAIGN THEMES
Inner Mongolia Yili Industrial Group	Yili Practicing the Concept of Green Development and Leading Biodiversity Conservation with Actions	China	2
JTI	Sustainable Energy in Manufacturing	Global	1, 3
Knauf	Gypsum Quarry Restoration Markt Nordheim	Germany	2
Lecta Group	Solar Thermal Integration Project in Condat Paper Mill	France	1, 3
L'Oreal	Setting up a carbon zero project to reduce a factory's direct and indirect emissions	Italy	1, 3
Metsä Fibre	New Kemi Bioproduct Mill	Finland	1, 3
MICHELIN	BlackCycle Project	France, Germany, Greece, Spain and Switzerland	1
Nestlé	Ballast project: transporting Perrier brand products by rail	France	4
Net Zero Alliance	Ambition 2 Obligation	Global	1
Norske Skog	New Sustainable Energy Boiler	Austria	1, 3
Omya	Long Term Biodiversity Monitoring	Austria	2
Protecnica Ingenieria Sas	Magdalena River Nuts	Colombia	2
Quarzweke	Habitat Network Caminau	Germany	2
Rayonier	"High Added Value" Combined Heat and Power Project	France	1, 3
Rockwool	Delivering the Paris Agreement	Denmark, Italy, the Netherlands	1
Saint Gobain	Puchberg am Schneeberg	Austria	2
Sappi	Project Horse Sappi Lanaken Mill	Belgium	1
	Revolutionising Fibre-Based Packaging	Europe	1
Skanska	Skanska Climate Plan ACT	Global	1
Stora Enso	Heinola HTC	Finland	1
	PureFiber™	Sweden	1
The Navigator Company	Biomass Boiler and Decarbonisation	Portugal	1, 3
Total Energies	Production of Sustainable Polyethylene based on Carbon Captured from Industrial Waste Gas	Belgium	1, 3
UPM Communication Papers	Green Steam Hürth	Germany	1
Vivendi	Sustainable Buildings approach: Improving the energy and environmental efficiency	France, United Kingdom, Spain	1
Vodafone	Smart Forest	Romania	1, 2

** 1= Adaptation and resilience; 2 = Nature; 3 = Energy transition; 4= Clean and transport; 5= Finance*

Ambition 4 Climate

Region: Global
Starting Date: 2021
Project Status: Available

The ***Ambition 4 Climate*** is an initiative by AFEP, an online platform which gathers large companies wishing to demonstrate greenhouse gas emissions reductions throughout ongoing projects across their value chains. The initiative provides an illustration of concrete actions, and an analytical framework to describe precisely low-carbon projects. It also enables an informed dialogue with stakeholders. Currently, 114 low-carbon projects are presented from 64 participating companies published on the platform which will be updated 3 times a year.

The low-carbon projects are presented with factual data and figures and show the variety of recent investment decisions with a strong potential for reproducibility. Given their characteristics, they mobilise many players and encourage the diffusion of the climate ambition among their suppliers, customers, and partners.

To reduce carbon dependency, the projects are divided into 7 types of levers: energy decarbonisation, energy efficiency improvement, improvement of non-energy resource efficiency, sobriety in energy and non-energy resources, emission removal, financing of low-carbon issuers or disinvestment from carbon assets, and reduction of other greenhouse gases. For each project sheet, a methodology is used to define clearly the climate impact of the action implemented. To do so, it measures separately three characteristic variables: emissions reductions induced by the activity of the company, avoided emissions for customers, and direct and indirect carbon

The sharing of projects on ***Ambition 4 Climate*** platform encourages greater ambition, tools, coordination, and commitments to support practical climate actions, which direct to the "adaptation and resilience" campaign theme. This initiative also captures practical climate actions by significant private sector players and shares best practices for future reference.

"The platform Ambition4Climate provides stakeholders with a clear view of the characteristics of many low-carbon projects and facilitates a direct dialogue with companies." - Laurent Burelle, Chairman of AFEP

For all the projects, please visit: https://ambition4climate.com/en/ambition-4-climate-english/
https://ambition4climate.com/wp-content/uploads/2021/07/Methodological-note_EN.pdf
URL of AFEP: https://afep.com/en/

AFRY

Accelerate the transition towards a more sustainable society

AFRY is a European leader in engineering, design, and advisory services, with a global reach. We accelerate the transition towards a more sustainable society and strive to increase the share of renewable energy in the global energy mix by improving energy efficiency, expanding infrastructure, and upgrading technology for supplying sustainable energy services.

Wood chips and sawdust create new fossil-free alternatives

Region: Bureå, Sweden
Project Status: Available

In a closed down paper mill in the town of Bureå in north-east Sweden, AFRY is assisting Envigas with designing and building a new biocarbon plant, which is expected to be one of the largest bioplant in Sweden. The facility will produce several different biofuels which is often more commonly done in separate facilities or by burning forest residues to generate district heating.

"The process uses a thermochemical conversion process called pyrolysis, in which the biomass is heated in an oxygen-deficient environment, rendering a carbonized product called biocarbon. The same process also creates an energy-rich pyrolysis gas of which some fractions can be cooled and condensed into bio-oil. Combustion of the remaining non-condensable fractions can then be used for district heating and other heat applications. We also see potential for implementing this process in existing heat and power plants that use biomass as fuel," - explains Max Larsson, Business Section Manager of Heat & Power at AFRY.

AFRY has helped Envigas from the initial work on environmental permits for a small-scale prototype to today's ongoing project with a facility equipped for industrial production including project management and all technical disciplines.

"The process has been developed to create biocarbon of such high quality that it can replace fossil coal in more than 2,000 applications," says Tobias Brink, CEO of Envigas.

URL:
https://afry.com/en/project/wood-chips-and-sawdust-create-new-fossil-free-alternatives
https://afry.com/sites/default/files/2019-11/Sustainable-stories_eng-digital.pdf
Read more in AFRY's Annual and Sustainability report. Link: https://afry.com/sites/default/files/2021-04/AFRY_ENG_210401.pdf

Lund Open Sensoring City Project

Region: Lund, Sweden
Starting Date: June 2020
Project Status: Available

AFRY has partnered with the Municipality of Lund, in the south of Sweden, in a new innovation project. Consequently, Lund will become one of the first cities in Sweden to implement an integration platform with the aim of promoting a sustainable environment with a high quality of life. By linking and refining data from different systems with common storage, intelligent connections between traffic, weather and space data will be able to facilitate everything from traffic flows to energy efficient buildings. This will make Lund one of Sweden's most digital cities and will enable a more sustainable and seamless society within everything from infrastructure to energy usage.

In addition to working with making Lund a smart city, this project includes nearby villages Veberöd and Södra Sandby. These smart villages are connected to the same systems platform but function as separate entities. As a result of this work, Veberöd has become the first Scandinavian member of Fab City Global Initiative, which is a global network of cities, regions and countries who strive to be locally productive and globally connected.

The project is making an impact on sustainable transport systems, improved road safety and universal access to inclusive and accessible green and public spaces.

URL:
https://afry.com/en/newsroom/press-releases/afry-supports-digitalisation-lund-integration-platformRead more in AFRY's Annual and Sustainability report.
https://afry.com/sites/default/files/2021-04/AFRY_ENG_210401.pdf
https://smartabyar.se/en/
https://www.lund.se/nyheter-och-nyhetsarkiv/2021/veberod-blir-skandinaviens-forsta-medlem-i-globala-samarbetet-fab-city/ (Swedish only)

Seawing Project: Traction Wing for Commercial Vessels

Region: Toulouse and Nantes, France
Starting Date: June 2016
Project Status: Available

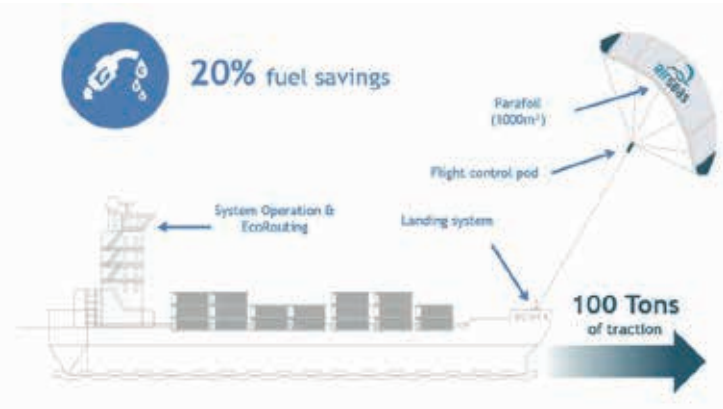
AIRBUS uses a multimodal logistics, particularly air, road and maritime, for the manufacturing of its aircraft.

In order to reduce these emissions, AIRBUS has launched the Seawing project, which consists of installing an auxiliary ship traction system using a captive flying wing. This device makes it possible to significantly reduce (more than 20%) fuel consumption and therefore the associated CO_2 emissions. The project aims to reduce fuel consumption and emissions from ships used in particular for the transport and logistics of supplying AIRBUS parts and equipment, by installing an auxiliary ship traction system using a captive flying wing.

Technically, the wing is installed at the front of the ships. It is fully automated and is integrated into operations thanks to a mission management support system, promoting the adoption of the system by crews.

The Seawing system reduces the power demanded from the main engines and controls the position, height and speed of the wing to provide the best thrust to the vessel in a given situation.

The aeronautical expertise of AIRBUS carried within AIRSEAS, combined with the best maritime know-how, made it possible to best manage the design of such a flying wing and to meet this technical challenge.



URL: https://www.airseas.com/
Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

World's Largest Wood-Based Bio-Ethanol Plant

Region: Austria
Project Date: late 2020
Status: Available

AustroCel recently completed the world's largest wood-based bioethanol plant. The €40 million production plant for advanced bio-ethanol fuel uses brown liquor, a by-product from the Sulphite Pulp Mill in Hallein, Austria, and has annual capacity of up to 35 million litres. Austrian oil company OMV blends the material into petrol, helping to reduce CO_2 emissions in the transport sector by up to 50,000 tons a year. This project was commenced following the launch of the REDII Directive in 2018, requiring fuel companies to add a certain portion of advanced biofuel to their products. AustroCel's majority stakeholder, the financial investor TowerBrook, and other private investors have supported the development of bio-ethanol from the very beginning, in 2018. The project was further supported by the Austrian central government and the Land of Salzburg, which granted about €3 million of subsidies.

The main reason for this project is to derive the maximum resource efficiency from the main raw material, spruce wood (residual wood from sawmills). Brown liquor is a waste residual from our pulp production and would normally be incinerated, so by producing bio-ethanol, the plant l adds significant value to this residual side stream (+10% revenues). AustroCel has reached their strategic objective of being a true bio-refinery, creating the Green AustroCel.

The bio-ethanol project is currently producing high-quality advanced biofuel at a rate of 25 million litres per annum (full capacity 35 million litres). The first deliveries have been made to OMV and successfully blended into petrol. The project was completed on time despite COVID, and within the budget. The payback for this strategic project is five years, which could be shortened as capacity can still be increased. A further benefit is that the concept of manufacturing bio-ethanol from brown liquor might also be used by other pulp mills in Europe which have similar production processes as AustroCel.

AXA Impact 3 "Climate & Biodiversity" Fund

Region: Africa and Asia
Starting Date: 2019
Project Status: Available

AXA was one of the first institutional investors to proactively engage in impact investing, an investment strategy that aims to generate objectively measurable and intentional environmental and social impacts alongside financial returns, both of which are explicitly and intentionally integrated into the management strategy.

In 2013, AXA committed $200M to launch its first impact fund, focused on financial inclusion, access to healthcare and education. In 2016, AXA allocated an additional $150M to create Fund 2, focused on environmental and social impact. In 2019, AXA launched its third impact fund with $350M, dedicated to biodiversity and climate change, and then in 2020 allocated $50M in a 4th fund promoting financial inclusion and access to healthcare in emerging countries, bringing the total commitment to approximatively $700M since 2013.

The AXA Impact 3: "Climate & Biodiversity" Fund was launched in May 2019 at the G7 Environment ministerial meetings with the aim of combating climate change and protecting biodiversity and ecosystems: natural capital, efficient use of resources, improving the resilience of communities vulnerable to the effects of climate change and biodiversity loss. In particular, it supports:

- Komaza is a timber production project with the ambition to become the largest sustainable forest enterprise in Africa. AXA's investment will contribute to the reforestation of 37,000 hectares of degraded land, thereby capturing 17.5 Mt of CO_2. This investment strengthens climate resilience by aligning the financial interests of local communities (50,000 farmers) with conservation.

- Forest Carbon Indonesia is a project developer specializing in the conservation and restoration of degraded tropical forests, peatlands and wetland ecosystems in Indonesia, Malaysia and Cambodia. The company has been operating for over a decade, with its most notable project to date being the Sumatra Merang Peatland Project in Indonesia. This project has led to the restoration of more than 74,000 hectares of peatland forest, captured 26MT of CO_2, generated 22MT of carbon credits, and protected more than 20 species. AXA has committed $11 million to forest carbon restoration projects for wetlands in Indonesia.

- Sanergy is a waste management company based in Nairobi, Kenya, founded in 2011 in a quest for a sustainable full value chain approach to addressing the sanitation crisis in slums. Sanergy's mission is in line with a circular economy, collecting and transforming organic waste into insect protein for animal feed, fertilizer, biomass briquettes. 1.2 million tons of waste will be disposed of and recycled by 2024, 50,000 tons of bio-fertilizer will be produced, as well as 51,000 tons of insect

protein, and 140,000 tons of biomass briquettes from waste, offering a sustainable alternative to charcoal. The greater scale will bring significant environmental benefits, avoiding 630,000 tons of CO_2 e emissions and favouring the complentary use of organic fertilizers over 51,000 hectares of land, with additional benefits in terms of soil biodiversity and productivity.

The fund invests to protect natural capital, promote resource efficiency and improve the resilience of vulnerable communities to the effects of climate change and biodiversity loss. It will invest $350 million of AXA's general assets - the doubling of its size was announced by AXA CEO Thomas Buberl at the United Nations General Assembly. The multiplication of its size is intended to finance entrepreneurial projects that deliver positive and measurable environmental results and financial returns.

This dedicated impact investment fund also promotes the financing of natural CO_2 storage projects (restoration and protection of forests, mangroves and natural ecosystems). The Fund was awarded the "Best Impact" initiative for ESG in the 2019 Sustainable Investment Awards.

Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

Bioloos and Fecal Sludge Treatment Plants - Climate-Complementing Sanitation Solutions

Region: India
Strating Date: 2012
Project Status: Ongoing

Climate adaptation, mitigation and resilience are not activities by themselves. India-based Banka BioLoo Limited is providing solutions and conducting operations that reduce carbon footprint and GHG emissions, recycle resources (or waste) while consuming minimal energy. The company's strategies, operational and management models are premised on CLEAN (tech), GREEN (support nature) and BLUE (safe water is essential to humanity).

The bioloo (bio-toilet) is an onsite sanitation system that treats the faecal waste in a bio-digester tank using cowdung-based bacterial culture placed underneath or beside the toilet. The system does not require energy or external infrastructure for treatment. In addition, the output of the bioloo is reusable water, that could be used for gardening or agriculture. With further treatment, the water can even be re-used domestically or industrially. Large-sized bio-digester tanks also provide biogas that could be used for heating and cooking. Thousands of bioloos have been installed across India in schools, households, offices and in varied settings.

Alternatively, the faecal sludge treatment plant, treats the faecal waste extracted from septic tanks and pit latrines, which emits minimal carbon footprint, and require limited electro-mechanical equipment and energy. The treatment process is nature-friendly, accelerated by solar power. The output biosolids can also be used as fertilisers.

"It took time for stakeholders to understand the vision of the Company; but with repeated dialogues, success was attained." – Sanjay Banka, Executive Chair

In 2020, the Company undertook qualitative and quantitative impact assessment of its solutions and models, through the Impact Lab of Business Call to Action[6], a UNDP initiative, and positive outcomes were reported.

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6 - https://impactlab.businesscalltoaction.org/

Biodiversity Commitment

Region: United Kingdom

CBD Strategic Goals: Reduce the direct pressures on biodiversity and promote sustainable use

Nature is in crisis. Over recent decades, the abundance and distribution of many species in the UK has fallen, with an astonishing 58% of UK species monitored for the State of Nature report decreasing in abundance since the 1970s (State of Nature 2019[7]) . Nature loss has been driven by a range of factors, including more intensive land management, urbanisation, pollution, loss of wetlands, invasive non-native species, and neglect of high nature value woodlands.

With the Government target of building 300,000 new homes in England each year, Barratt Developments PLC strives to find new and innovative ways to enhance biodiversity on developments; particularly integrated with other sustainability parameters to create meaningful win-wins. Businesses and Non-Governmental Organisations (NGOs) need to work together to address the environmental challenge we face and take action to secure our natural heritage.

Key sectoral challenges include:

- Integrating biodiversity into the built and green infrastructure along with other objectives
- Providing quality of place for homeowners
- Climate proofing and providing resilient communities

Barratt Developments PLC has committed to playing its part, becoming the first major UK housebuilder to set science-based emission reduction targets, and pledging to create a net positive impact for ecology and biodiversity across all its new developments that progress through planning from 2020 onwards. The RSPB works together with organisations and businesses, including Barratt Developments PLC, for a world richer in nature.

The RSPB-Barratt partnership brings together the experience of the UK's largest conservation charity and the UK's largest housebuilder to demonstrate how new housing developments can provide both space for nature and quality of place for residents. The RSPB and Barratt worked together to develop a number of new approaches:

- Guidance on to selecting new sites for development that have less existing value to nature
- Refining environmental assessments to ensure priority biodiversity is considered
- Landscape design that ensures green infrastructure delivers biodiversity priorities, provides amenity value and is sustainable

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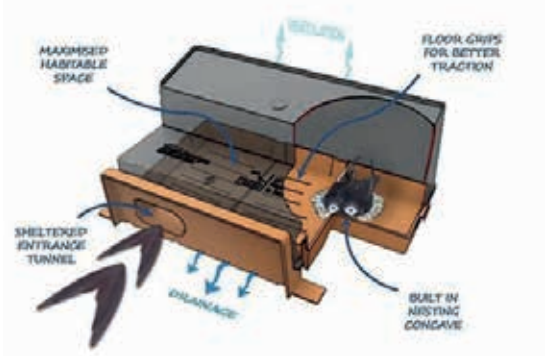
7 - https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf

• The RSPB works with the Barratt divisions to co-design landscaping to enhance greenspaces for species of conservation concern
• The partnership innovated a solution to providing nesting sites for the rapidly declining Swift (Apus apus); an integral cavity nest 'brick' that is cost effective and easy to install



In 2011, Barratt and David Wilson Homes (North Thames Division) joined with the RSPB and Aylesbury Vale District Council (now Buckinghamshire Council) to develop a pioneering nature-led approach to volume building of new homes at a new 2,500 home development on the outskirts of Aylesbury, Buckinghamshire. When complete, the Kingsbrook development will feature more than 60% greenspace and wildlife habitats (excluding gardens), and a 100 hectare nature site managed for wildlife and people.

The development features native wildflower verges, pocket parks, and sustainable drainage solutions that use surface water run-off to create wetland wildlife habitats. Kingsbrook breaks the mould; it is one of the foremost examples of how volume housebuilding can work with and for nature, and the Government featured it in its 25-year Environment Plan as an exemplar of nature-friendly development.

Kingsbrook continues to provide the partnership with the learning on which to base guidance and standards that have been rolled out across the Group. These include design principles for wildlife friendly gardens in every show home garden, the installation guides for swift nesting and bat roost bricks and the design guide for hedgehog highways across all of our developments, making sure these are standard across all developments.

The partnership between the RSPB and Barratt is built on shared commitments for nature recovery in alignment with Goal 15 of the UN SDGs, however it is not a single theme partnership. We share aspirations for sustainable development (Goal 11) and for enhancing people's well-being and quality of life (Goal 3).

The company has developed meaningful (SMART) and ambitious KPIs for delivering our joint work programme in pursuit of these goals, overseeing these through tight partnership governance chaired at executive level within the business and with CEO-CEO contact to ensure the programme is appropriately matched to each partners' own strategic objectives.

The outcomes are monitored in a number of ways.
- Data capture of metrics, such as numbers of swift bricks installed across the 27 Barratt divisions.
- Biodiversity monitoring of the baseline to understand scale and rate of response by nature to the measures being implemented.
- Social science research into homeowner attitudes to the measures proposed or being implemented.

All of these monitoring tools and methods are used to analyse impact and to adjust as necessary the approach at a project level.
This way we can respond quickly to changing circumstances.

Barratt Developments PLC disseminates learning through conferences, sector-oriented journals and through partnership publications.

URL: https://www.barrattdevelopments.co.uk/land/our-approach-to-land-buying/biodiversity

An Integrated Approach

Region: Global
Project Status: Ongoing

Addressing climate risks and opportunities across value chain is key to the sustainability of BAT's business. This means building an integrated approach that addresses the impacts across the value chain and the total lifecycle of the products – from raw materials sourcing, to how products are manufactured, to helping consumers to dispose of products properly at the end of life.

BAT has accelerated the previous science-based targets for reducing our carbon emissions and has set new environmental targets: BAT aims to be carbon neutral across the operations (Scope 1 and 2 emissions) by 2030 and across the value chain (Scope 3 emissions) by 2050. These are supported by the targets on renewable electricity, energy efficiency improvement projects, elimination of unnecessary single use plastic packaging, changes in product design, and take-back schemes for our devices. Examples of implementation of our climate strategy across their business includes:

Raw material sourcing - reducing and increasing resilience

BAT is helping their 84,000+ contracted farmers both to reduce emissions and to increase climate change resilience through more efficient curing technologies, smarter use of fertilisers and increasing yields. These all contribute to reduced emissions.

BAT supports their contracted farmers to promote the sustainable use of forest resources and to adopt sustainable agriculture techniques. Since 2016, 99% of wood used by the contracted farmers for tobacco curing fuels was from sustainable sources. And, in 2020, they held 24,000+ farmer training sessions with 144,000+ attendances to support climate resilience with best practice natural resource preservation, forest and soil management.

BAT's approach to protecting the environment is long standing - over 330 million tree saplings have been distributed over the last 40 years through our afforestation programmes in Bangladesh, Brazil, Pakistan, and Vietnam alone.

To demonstrate BAT's commitment and to advocate for further corporate action, in 2021, they became signatories to Business for Nature's Call to Action[8], a global coalition uniting business to amplify calls for collective action to reverse nature loss in this decade.

Manufacturing and fleet – reducing emissions and supporting the clean energy transition

BAT uses energy efficiency assessments to identify opportunities to reduce emissions in the operational sites where possible, such as by installing on-site energy generation,

implementing projects to increase energy efficiency, and buying renewable electricity. BAT has a strong portfolio of low-carbon energy solutions. For example, in 2020, the company delivered on-site solar energy generation at our factories in eight countries. BAT continues to optimise their logistics and fleet to improve vehicle performance and fuel efficiency. The company has also introduced hybrid or green vehicles in a selection of markets.

Products – a circular economy approach

BAT has adopted a Group-wide approach to accounting for the carbon and materials impact of our products. They have conducted life cycle assessments (LCAs) across a number of our key products to identify opportunities to reduce environmental impacts – such as with redesign of packaging or products, and moving our logistics from air freight to sea freight.

These steps have so far saved more than 1,000 tonnes of carbon dioxide equivalent (CO_2e) per year and, in 2020, 82% of our plastic packaging was reusable, recyclable, or compostable.BAT has committed by 2025 to eliminate unnecessary single use plastic packaging and to ensure 100% of our plastic packaging will be reusable, recyclable, or compostable. BAT's vaping product was the world's first global carbon neutral vaping brand[9].

Finance and risk

To support a successful economy-wide net zero transition, BAT recognises the importance of providing consistent and reliable climate-related information to investors and other stakeholders. BAT updated our Group Risk Register to include physical and transition risks of climate change.

BAT has introduced a shadow internal carbon price to elevate climate change impact as a core consideration for all proposals – alongside financial and quality criteria. BAT has mapped our Sustainability Agenda to the eight SDGs that are most relevant for our business and stakeholders, demonstrating our contribution to these crucial global priorities for 2030. This includes climate action.

Impacts

Together, these measures contributed to 30.9% year-on-year reduction in our total Scope 1 and 2 emissions in 2020 – in total, these equalled 540,864 tonnes, 37.4% lower than 2017, our baseline year.

The risks and opportunities presented by climate change can seem overwhelming, and BAT welcomes a holistic and collaborative approach in order to continuously improve and build long-term transformative solutions that can be adopted at scale. By embedding the values of a green economy, addressing climate risks and opportunities, using fewer natural resources, generating less waste, and protecting biodiversity and forest resources, we can help ensure the long-term sustainability of our business and build A Better TomorrowTM for all our stakeholders.

"By 2030, We aim to be carbon neutral across our operations, and across our value chain by 2050."

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8 - https://www.businessfornature.org/

9 - Based on ePod, ePen, eTank mini, and Alto devices and consumables internal sales forecast (calculated March 2021) for 12 months starting from April 2021.

Cuihu National Urban Wetland Park Design Project

Region: Beijing, China
Starting Date: 2007 - 2015
Project Status: Available

With the increasingly serious environmental problems and the improvement of the whole society's understanding of environmental protection, China attaches to a growing importance to environmental protection and has made positive contributions in the field of environmental protection. The establishment of the Cuihu National Urban Wetland Park is one of Beijing's active measures to deal with the challenges of the ecological environment.

Beijing Forestry University Forest Science Co.LTD started the design of Cuihu National Urban Wetland Park as the design bid winner in 2007, and completed the project construction in 2015. The design project is a landmark project for the ecological environment construction in the northern area of Haidian. With ecological protection as the core, popular science education as the feature, and the application of low-carbon and environmentally friendly materials as a means, this project creates a resource conservation park. The design strictly distinguishes the protected area from the activity area to avoid excessive interference and impact on the protected area created by the activities of tourists, so that the protected area can play its due role. In order to strengthen the unique landscape attributes of the wetland park, the design connects the existing water bodies, dredges and increases part of the water surface, forming a wetland water system combining lakes, streams, port branches, pit ponds, and beaches. The wetland water area of the park accounts for about 60% of the total area of the park. In the design and construction that lasted for many years, the Company has always been adhered to the principle of science and the goal of maximizing ecological benefits. Scientific and systematic ecological restoration work has been carried out from various aspects such as water body reconstruction, topography shaping, planting design, and facility construction.

"The Park is positioned as a signature demonstration of wetland restoration, a base for popular science research, a window for eco-tourism, a green heart for urban development and a functional area of water conservation".

After the completion of the park, it has become a huge oxygen source and carbon sink resource pool, greatly improving the water environment of the surrounding water bodies and basins, and expanding the animal habitats dominated by wetland birds. Adhering to the principle of ecological priority and public welfare as the mainstay, protection and minimal intervention as the management principle, after nearly ten years of continuous construction, management and conservation, an environmental space suitable for the development of biodiversity has been created, and the balance and stability of various resources such as wetland water bodies, organisms, and minerals are maintained.

According to an observation statistics in 2020, the current status of flora and fauna in the park is as follows:

1. Wetland plants have increased from 80 species to 525 species;
2. The number of aquatic animals has increased from about 40 species to 93 species of a complete aquatic animal system represented by Ophiocephalus argus Cantor;
3. Amphibians and reptiles increased from 3 to 15 species. Among them, the specially designed plain and mountain frog habitats attract 9 species of first and second grade protected animals in Beijing, including Eumeces capito and Rana chensinensis;
4. The wild bird species increased from about 40 species to 249 species in 47 families of 17 orders. Among them, there are 35 species of national first and second level protected birds represented by Ciconia nigra, Grus nigricollis, Grus japonensis, Otis tarda and Larus relictus, and 80 species of Beijing first and second level protected birds represented by Egretta garzetta, Ardea cinerea, Anser anser, Tadorna ferruginea, Anas platyrhynchos and Himantopus himantopus;
5. The number of mammals increased to 12 species, including Prionailurus bengalensis, a first-class protected animal in Beijing.

Curve: 24,000 m² of Office Space in Wood Structure

Region: Saint Denis, France
Starting Date: December 2017
Project Status: Available

With nearly 24,000 m² of office space out of 7 levels, Curve is one of the largest wood structure buildings in Europe. The building runs on seven floors and four basement levels and has 1960 workstations. Located near the "Stade de de France" station on the RER B, Curve offers a wide range of services (business centre, co working, fitness, concierge, contemporary coffee, etc.), including several accessible terraces and generous landscaping gardens. The trays of nearly 3,000 m² have a free height above 2.70m and a depth of about 18m.

The stairs and elevators cores are made of low carbon concrete (as are the infrastructure) and ensure the bracing and thermal inertia of the building. Mixed wood and concrete construction, as well as the implementation of the majority of CLT load-bearing walls (prefabricated), reduces the carbon impact relative to a traditional concrete structure and ensures carbon storage of 4,200 tons of CO_2.

This constructive method, which relies heavily on pre manufacturing, also offers the advantage of the speed of onsite installation, allowing for a gain in terms of the execution schedule. A dished aluminium sun-shadings also protect the façade.

Other examples of carbon optimisation:

- On technical batches: new generation refrigerant fluids generate a gain of 1,085 tons of CO_2 compared to standard fluids;
- On interior coatings: recycled sublayer carpets resulting in a gain of 180 tons of CO_2 compared to the reference values;
- Working with manufacturers committed to reducing their environmental and voluntary impacts for writing environmental and health declaration sheets (FDES);
- Tenant companies' participation for the carbon optimisation proposal on their lots.

The building is committed to 40% below RT2012 in terms of its energy needs, aiming for HQE certification under the NF referential for tertiary buildings - starts HQE from 2015, with an Exceptional level passport, the Effinergie + label as well as the E + C level E2C1 and the BBCA level Standard label.

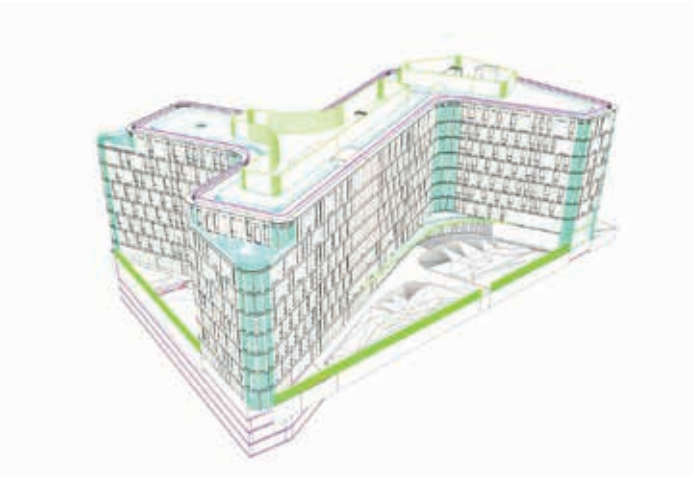
During the project, residents were able to enjoy a dry, silent and fast mounting. Four months were required in total to mount the seven levels pre-manufactured bone.

A 250 m² brewery will be installed at ground floor.

With its cinded facades and unfamiliar, winding appearance, Curve not only puts a spotlight on timber construction and technical know-how, but also on the Montjoie district, where the Woodwork worksite, also in wood, is being completed.

The building will now be the new headquarters of the ARS (Regional Health Agency). It will bring together teams once installed in the Millennium at Porte d'Aubervilliers and the Seine Saint Denis annex in Bobigny. The purpose of this internal gathering is to facilitate coordination and exchange in the deployment of operations in the different territories. The significant reduction in the rent generated will be reinvested to enable the development of new actions.

With a surface area of 24,000 m^2, Curve is one of the largest wooden buildings ever made in France. Delivered in September 2020 and occupied by the ARS (Regional Health Agency), this particularly exemplary building aligns with BNP Paribas Real Estate's environmental objectives, attributed to the numerous carbon optimizations integrated from the design stage.



URL: https://www.curve saintdenis.en/
Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

BTC pipeline and Tangguh Expansion Project

Region: Azerbaijan, Georgia, Turkey, Indonesia
Sarting Date: 2002 (BTC pipeline), 2014 (Tangguh Expansion Project)
Project Status: Available

The rich biodiversity of our planet is under threat. We understand that transformative change is needed and recognize there is also an intrinsic link between the need for global action on biodiversity and climate change. In June 2020, we launched our new biodiversity position, with our aim to be making a positive impact through our actions to restore, maintain and enhance biodiversity where we work. This aim includes three specific objectives:

- Aim to achieve a net positive impact (NPI) on biodiversity in our new projects. From 2022 onwards, new bp operated projects whose planned activities have the potential for significant direct impacts on biodiversity will be required to develop NPI action plans for those activities.
- Aim to enhance biodiversity around our existing major operating sites.
- Support biodiversity restoration and the sustainable use of natural resources in countries where we have existing and growing investments.

In addition, we committed not to operate any new oil and gas exploration or production activities inside the boundary of UNESCO World Heritage sites, Strict Nature Reserves (International Union for Conservation of Nature (IUCN) category Ia) or Wilderness Areas (IUCN category Ib) as listed on 1 January 2020.

Further details:
Biodiversity | Sustainability | Home (bp.com)

This position builds upon our existing biodiversity management practices. Two examples of our approach and focus on biodiversity are the BTC pipeline across Azerbaijan, Georgia and Turkey, and bp's Tangguh Expansion Project in West Papua, Indonesia.

The Baku-Tbilisi-Ceyhan Pipeline was constructed through Azerbaijan, Georgia and Turkey between 2003-2006 to carry crude oil and condensate from fields in the Caspian Sea and export to world markets through Mediterranean Sea. BTC Pipeline is located in the Caucasus Region which was among the Global 200 list of WWF and Conservation International's Biodiversity Hotspots. From early in the development of the BTC Project, desk studies and field surveys were carried out by local and international ecological experts. Over time these have helped to build up a picture of the ecology of the pipeline route and the marine terminal surroundings and ecological sensitivities to be mapped so that their relationship to the pipeline route and facilities were better appreciated.

- In the first instance, a pipeline route and sites for AGIs were selected to maximise avoidance of sensitive ecological features and modifications made to the design and construction schedule to take into consideration seasonal constraints on con-

struction activities.
• A range of measures were also taken to reduce ecological impacts, including measures to narrow construction corridors in sensitive areas and top soil management, and
• Restoring degraded habitats, translocation of rare species, as well as additionally, re-instatement practices also ensured that effects on natural habitats were minimised through adherence to erosion control and bio-restoration standards.

In addition to the above an Environmental Investment Programme (EIP) was developed to deliver the additional mitigation. This has involved national and international nature conservation NGOs, local communities and universities implement 33 biodiversity conservation projects across all three countries which are continuing today, this has included assistance in the ecological management of four wetlands and five forests area, three wildlife documentaries being shot, more than 200 publications and videos produced, and the training of more than 100 nature conservationists.

bp's Tangguh gas production operations are located in the Papua Barat Province of West Papua, Indonesia, about 3,000 km from Jakarta. The Tangguh site is in a remote location surrounded by lowland tropical forest, mangrove forests and a high diversity of fauna and flora. Since 2000, bp has been undertaking extensive biodiversity baselines survey and assessments to help understand the ecology of the area and help inform the necessary mitigation measures to reduce its impact on biodiversity, these surveys have recorded:

• some 980 plant species, of which 19 plants are species of conservation concern, including critically endangered plant species.
• 210 bird species, more than 80 mammal species, and more than 110 species of reptiles and amphibians (including three previously unknown species).
• Nearly 100 different fish species were identified during different surveys over the years.

Due to this high biodiversity around the operations, Tangguh is committed to biodiversity conservation and the sustainable use of natural resources as described in its Biodiversity Action Plan, which was first developed in 2003. The project to expand the site to meet the increasing regional demands for natural gas then committed in 2014 to achieve no net loss (NNL) in biodiversity. The detailed Biodiversity Action Plan has now been expanded and covers a wide range of mitigation measures which focuses on the priority species and associated critical habitats.

Image: Eksisu Marshes, Erzincan, Turkey (Credit: Cuneyt Oguztuzun)

Image: Yumurtalik Wetlands, Adana, Turkey (Credit: Osman Erdem)

Tangguh operational site, in West Papua

Forest rehabilitation at Tangguh, West Papua

BT and Openreach transitioning to zero emissions fleets

Region: United Kingdom
Starting Date: 2019
Project Status: Available

BT has been on a climate action journey for almost three decades, and was one of the first companies in the world to set a science-based target aligned to a 1.5° degree Celsius pathway.

BT has set a 2030 net zero target for its own operations and a 2040 net zero target for its supply chain and customer emissions. - BT has already cut the carbon intensity of its operations by 57% since 2016/17 and is on track to achieve its 87% intensity reduction target by the end of March 2031. BT is also cutting its supply chain emissions by 42% in that same timeframe. BT is reinventing the way it runs its business to get to net zero. BT has switched to 100% renewable electricity, BT is transitioning to a low carbon fleet and is decarbonising its buildings.

"Our products and services that help customers reduce their carbon emissions are already contributing to around 25% of the revenue and our commitment to tackling climate change and environmental challenges can also help us attract and retain talent as more people want to work for a business that champions sustainability."

As the world looks to recover from the COVID-19 crisis, BT has an opportunity to use its technology, innovation, and influence to put climate action at the heart of the economic recovery. BT's infrastructure is powering the UK's road to net zero. BT is investing in full fibre broadband and 5G networks that will pave the way for lower carbon ways of life and work. BT's products and services help consumers and businesses shrink their environmental footprint. And BT's new green tech innovation platform fosters breakthrough technologies to cut carbon in the public sector.

BT is partnering for change with suppliers, customers, peers, government agencies and others to inspire wider climate action and solutions. Leading by example on climate positions us favourably with customers and investors, who are increasingly looking to companies' credentials and contributions towards a low carbon society. BT is aiming to increase demand for our products and services by showing BT is a communications provider that can enable others to decarbonise.

BT's biggest decarbonisation challenge is around its fleet. BT and Openreach together operate the UK's second largest commercial fleet. The company has around 33,000 vehicles on the road (the majority of which are in Openreach), to keep homes and businesses connected. Over two-thirds of its direct emissions (GHG scope 1) come from its fleet.

BT aims to transition its fleet to electric or zero emissions models by 2030, where it is the best technical and economic solution, and will pursue other ultra-low emission solutions where EVs are not viable. Openreach is aiming to switch a third of their fleet

to electric or zero emissions by the middle of this decade and want to be all-electric or zero emissions by 2030. To do so, the company needs suitable electric vans, currently in short supply, and a reliable nationwide charging infrastructure that is not yet in place. BT is working with others to help tackle these challenges. BT is a member of the EV100 group and in 2020, BT including Openreach joined forces with the Climate Group to launch the UK Electric Fleets Coalition. The Coalition now has over 30 member organisations with over 815,000 vehicles on UK roads and together successfully campaigned to end the sale of new conventional petrol and diesel vehicles by 2030, reflected in the recent announcement by the UK Government, with exceptions made for specific vehicles where it is not feasible.

But, there is more to do and the transition to a low carbon economy will only happen if businesses, organisations and Government come together, and BT sees supportive policies introduced to help the transition to low emissions vehicles such as:

- Stimulating supply, investing in R&D and rolling out national charging infrastructure.
- R&D investment: prioritise EVs within the Industrial Strategy: Make EVs, charging, grid infrastructure, and larger commercial vehicles a major pillar within the UK's commitment to invest 3% of GDP invested in R&D.
- Incentive framework: continue purchase grants for electric vehicles and charging installations until price parity is reached. Extend incentives for electric vans (including more attractive grants for more expensive vans) and maintain capital allowances for companies. (Update Framework by end of 2021).
- Fiscal measures: set long-term incentives for EV uptake by guaranteeing the continuation of favourable vehicle excise duty and emissions-based company car tax regimes. And give long term certainty for the Benefit in Kind relief for company vehicles.

URL: Our reports and policies - Digital impact & sustainability | BT Plc

Resilience

Region: Global
Project Date: 2018
Project Status: Available

Resilience

Resilience is the name of Clyde & Co's global efforts to address manmade perils and climate change.

As a large, international organisation, we understand that our day-to-day operations run the risk of contributing to and exacerbating the problem of climate change. As the law firm of choice for many clients in our core sectors of insurance, transport, energy, infrastructure, and trade & commodities, we also understand that our clients operate on the frontline of climate change and keenly feel its impact on the international business community. It is, therefore, incumbent on us to take climate action ourselves and in support of our clients.

Resilience encompasses both our internal and external climate action.

Internal Resilience

We are focused on cutting our emissions to net zero, in line with science-based targets. We are signatories to the UN Global Compact and take a precautionary approach to our environmental impact. Indeed, our environmental policy sets out the areas we have identified as our most significant impacts and, correspondingly, our necessary commitments in these areas: (i) reducing our energy consumption; (ii) monitoring and reducing our travel and resource use; and (iii) reducing our waste.
We also operate a global network of environmental champions driving initiatives in their offices and departments, supported by a Global Environment Committee.
To underscore our commitment to action on climate change, we are signatories to nu-

merous environmental commitments, including:

- the Net Zero Lawyers Alliance, where we are on the steering committee, and also are engaged in the associated "Race to Zero campaign" in the run-up to COP26;
- the Legal Sustainability Alliance, a collaborative network in which members share best practice and work together to ensure law firms play a full part in tackling the climate crisis;
- the Legal Renewables Initiative, which commits signatories to source 100% certifiable renewable energy in all UK offices by 2025;
- the Business for Nature commitment, an initiative that demonstrates our commitments to call for ambitious and collective action for nature; and
- the United Nations' "Statement from Business Leaders for Renewed Global Cooperation".

External Resilience

One of the most important ways we can help to combat climate change is through the use of our legal skills, which we are deploying in numerous ways.

Our Climate Risk and Energy Transition teams help clients understand their current risks in regard to climate change, prepare their business for future risks, and evolve in a way to capitalise on the opportunities created by the transition to a low-carbon economy. Examples of this work includes our HR EcoAudit, our TCFD offering, and our work with clients on climate conscious contracts, entitled "Contracts for Climate Change".

We are also at the forefront of the renewable energy market, advising both companies and financiers across the renewable energy spectrum, including more traditional companies who are looking at growth in the renewables area.

The firm works closely with other climate change industry leaders to maintain cutting edge climate knowledge and a strong network for our clients, for example: Chapter Zero: the Directors' Climate Forum; Willis Towers Watson; the Geneva Association; the Insurance Development Forum; Cambridge Institute for Sustainability Leadership; and, the Global Association of Risk Professionals. We are also a founding member of the Coalition for Climate Resilient Investment, launched at the September 2019 United Nations Climate Action Summit in New York, which aims to transform infrastructure investment by integrating climate risks into decision-making.

In the pro bono sphere, we have a specific Climate Change Group focusing on pro bono projects. One such project involved advising NGOs to develop innovative climate risk insurance policies to protect up to 1.3 million people in West Africa from catastrophic drought.

We are also close collaborators with pro bono organisation The Chancery Lane Project in drafting climate-conscious contractual clauses to assist businesses in achieving net zero goals.

Our Resilience Hub contains further resources and information that we as a firm have produced: https://resilience.clydeco.com/

URL: https://resilience.clydeco.com/

CREDIT SUISSE AG

Sustainable Transition Bonds: Financing Credible Transitions

Region: Global
Starting Date: 8 September 2020
Project Status: Available

Credit Suisse has jointly developed a pioneering Sustainable Transition Bond concept framework in partnership with the Climate Bonds Initiative (CBI), aiming to develop a blueprint that will underpin a scalable and robust market for "transition"-labelled instruments. To date, green financing frameworks and capital flows have been principally directed at activities which can be considered "already green", with significantly less investment into transitioning activities and assets that are associated with higher carbon-emitting industries and businesses. These large GHG emitters have a vital role to play in reducing global emissions and are often key constituents in mainstream investment portfolios. Without a unifying definition of 'transition', however, the challenge is that those sectors with the greatest potential for improvements in their carbon footprint lack access to the sustainable financing market, while sustainability- minded investors looking to catalyse such improvements often lack the opportunities to put their capital to use.

Credit Suisse's "Financing Credible Transitions" White Paper seeks to support the market by providing confidence for investors, clarity for bankers, and credibility for issuers. As this market grows, investors want to be sure that the "transition" label is being used to identify activities that are having an impact and making a substantial contribution to reducing global emissions, while differentiating those issuers who can credibly align themselves to a carbon transition and offering a financing avenue to do so. The aim is for the framework to ultimately lead to a more inclusive segment of the sustainable finance markets: uniting investors looking for sustainable opportunities with a wider choice of use of proceeds, and transitioning issuers with no access to the green finance market.

Approach

The "Financing Credible Transitions" paper has two primary purposes: it (i) defines "transition" by establishing five principles for what constitutes an ambitious and credible transition, and (ii) puts forward a framework on how the transition label can be used in practice at both an entity and activity level.

Specifically, the five principles lay out the prerequisites for developing pathways to transition towards the goals of the Paris Agreement: (1) all goals and pathways need to align to a 1.5 degree trajectory; (2) all goals and pathways need to be established by science; (3) offsets don't count towards a credible pathway; (4) technological viability trumps economic competitiveness in seeking solutions; and (5) a credible transition is backed by action and quantifiable operating metrics rather than commitments or pledges.

The transition framework aims to capture the diversity of what transition means to different entities and activities, where the solutions, pathways and alternatives for lowering carbon emissions can vary widely. Five distinct economic activities are identified: (1) activities already at or near net-zero emissions; (2) activities needed beyond 2050 that have a clear 1.5-degree decarbonisation pathway; (3) activities that are needed beyond 2050 but currently do not have clear 1.5-degree decarbonisation pathway; (4) interim activities that are currently needed but should be phased out by 2050; and (5) stranded activities that cannot be brought into line with global warming targets and have an alternative, low-emissions substitute.

Taken together, these five principles and activity types provide issuers with a clear guidance on how to classify and align their strategies and operations towards a transition label, and offer investors a framework for assessing the credibility of such transactions. The White Paper expands on this by examining each principle and activity in depth, alongside practical examples of how they can be applied across industries and financing instruments.

With the ultimate goal to create an industry-wide adopted standard for transition, Credit Suisse gathers inputs from leading influencers and experts on the Energy Transitions Commission, the Transitions Pathways Initiative, the EBRD, AIIB; as well as key market participants and investors including BlackRock, AXA and Amundi. At launch, the framework was also endorsed by Mark Carney in his capacity as the Governor of the Bank of England and Bloomberg.

Impacts

Green and sustainable bonds – and increasingly sustainability-linked bonds – have increasingly become important tools to help finance the activities needed to combat rising greenhouse gases and changes in climate that lie at the heart of the UN SDGs. As the market has grown, so too has the breadth of activities that is being financed to cover a more diversified cross-section of the global economy. Large carbon emitters, however, are still largely absent, presenting an opportunity for the markets to aid their sustainable transition. As such, we believe our White Paper and Framework marks an important milestone in defining what credible transition is, bringing hard to abate sectors into the sustainable financing discussion and crucially catalysing additional capital at scale to fund these transition pathways.

URL: The White Paper is available at Financing Credible Transitions (White Paper) | Climate Bonds Initiative

DECATHLON

Signature Biodiversité

Region: France
Starting Date: 2016
Project Status: Available

CBD Strategic Goals: Reduce the direct pressures on biodiversity and promote sustainable use; Enhance implementation through participatory planning, knowledge management and capacity building

The principal impact (scope 1) of retail store is the land use, the first pressure of lost biodiversity. The challenge for Decathlon is to continue their production in the supply chain without conversing too much land in man-made land or break ecological corridor.

The aim of the Signature Biodiversité® accreditation is to assess and measure the environmental footprint of existing developments, and build a specific biodiversity restoration programme that is tailored to individual projects. There are 74 environmental performance indicators within the frameworks of five themes (blue, green, brown, etc.). The accreditation provides scores to the action plans reported, with a minimum acceptable standard of 50% for building labelling.

Decathlon Saint-Malo (France) is the 1st example of fitting out a store labelled by Signature Biodiversité. The steps to preserve biodiversity were integrated from the design of the site, with in particular a reflection concerning the management of rainwater, the reduction of the waterproofing of the land by the use of infiltrating materials, the establishment of beehives in order to improve the pollination of the local environment, the planting of various species of trees and bushes, the creation of an area wetland environment and an educational route allowing us to share our unifying commitment with our visitors. The assessment carried out provides precious indicators to the real estate teams and shows that the environmental impact of this Decathlon store is positive.

On top of the Signature Biodiversité project, Decathlon is also part of the Fashion Pact's Operating Committee, a global coalition of companies in the fashion and textile industry (ready-to-wear, sport, lifestyle and luxury) including their suppliers and distributors, all committed to a common core of key environmental goals in three areas: stopping global warming, restoring biodiversity and protecting the oceans. Decathlon measures biodiversity before and after construction. Because of measures they put in place, they in fact increased biodiversity on the site of this store.

In addition, Decathlon has signed up to the 10 principles of the "Act4nature" France initiative. This strategy from the French government brought together 38 businesses in December 2019 so that they could sign up to a continuous improvement effort to help preserve biodiversity. This commitment follows on from the initial efforts conducted by Decathlon at its St Malo and Lorient stores, two projects where biodiversity is incorporated right from the construction phase, earning it the Signature Biodiversité

accreditation.

Furthermore, the company has also joined the multi-stakeholder association ORÉE, advisors at both the national and international levels. By becoming a member of this network of experts, Decathlon teams will be able to access upskilling support in the field of biodiversity.

"This will boost our awareness of how biodiversity is being eroded, along with the ecosystem services it provides. These services help us every day to fulfil our purpose: 'To sustainably make the pleasure and benefits of sport accessible to the many'."- Antoine Lablée, Decathlon's Biodiversity Project Manager

URL: https://www.decathlon.com/blogs/inside-decathlon/decathlon-is-committed-to-preserving-biodiversity
https://signature-biodiversite.com/projets

Goal 13 Impact Platform

Region: Global
Starting Date: 2020
Project Status: Available

The urgency to act in mitigating climate change represents a significant opportunity for business to lead and take immediate action to improve operational efficiencies, development new business strategies to adapt to a lower carbon future, engage empower talent, enhance capital market attractiveness, and build resilience for future climate disruption.

"As climate action increasingly becomes a business imperative, now is the time for organisations to reimagine their business models and how they engage with their customers, stakeholders, investors and suppliers." – Sharon Thorne, Global Board Chair, Deloitte LLP (September 2020)

Deloitte, in partnership with the Confederation of British Industry, Chapter Zero, The Prince's Accounting for Sustainability Project, Dell Technologies and the Met Office, has established the Goal 13 Impact Platform, which aims to stimulate cross-sector collaboration by providing pragmatic and transparent information about the most impactful climate related initiatives in place, highlighting significant gaps in progress, and encouraging more ambitious commitments and action.

The vision of the platform is to support organisations in managing the transition to a low carbon, resilient and valuable future, encouraging both ambitious commitments and pragmatic action. It is an international, free, and open repository of climate commitments, actions, approaches to organisation, learnings and barriers, all based on interviews with organisation leaders. The platform publishes company insights, inspiring further climate commitments and action, and facilitating collaboration. Insights are based on ongoing research with businesses of all sectors and sizes, initially in the UK but now expanding globally.

The partners have undertaken research globally with c.250 companies to date (April 2021), with respondents including strategy, sustainability, finance, and procurement leaders, executives, and board directors. Interviews have captured company-specific insights into climate commitments, the organisation of climate programmes, the most

impactful initiatives, their climate and commercial impact, barriers to progress and lessons learned. The main benefits for businesses taking part will be to amplify their own progress, galvanise their sector and business partners, and have access to a compelling set of insights and collaboration opportunities.

The Goal 13 Impact Platform will serve as a powerful channel to 'matchmake' organisations, who are working on similar initiatives and challenges, so that we can accelerate progress through cross-sector collaborations. As such, the platform is engaging organisations of all sizes and sectors, and intends to share the findings both through the platform and at partner events.

URL:
https://www2.deloitte.com/global/en/pages/strategy-operations/articles/goal-13-impact-platform.html

Dun & Bradstreet ESG Solutions

Region: Global
Starting Date: Q2 2021
Project Status: North America currently available with expansion to Europe, Asia, the Middle East and Latin America later this year.

Global changes have impacted countries and companies everywhere. From climate change, the Covid-19 pandemic, resource constraints and demographic fluctuations, stability is a rare factor, but still a very valuable one. We need our economies and societies to be resilient, consistent and responsible. It is important to measure and track this resiliency, especially for companies who are often the cornerstones of both local and international economies. For Dun & Bradstreet, this means extending its efforts around business transparency to generate Environmental, Social and Corporate Governance (ESG) intel that can help customers, investors and other stakeholders identify which companies are preparing for a different and hopefully more sustainable future.

Approach

The first phase of D&B ESG Solutions includes its ESG Rankings dataset, which covers 2.8+ million public and private companies and evaluates companies based on different E, S and G criteria. The ESG framework underpinning the Rankings is based off several sustainability reporting frameworks, including the Sustainable Accounting Standards Board (SASB), Global Reporting Initiative (GRI), Taskforce for Climate-related Disclosure (TCFD), UN Principles for Responsible Investment (UN PRI) and the UN Sustainable Development Goals.

The ESG Rankings dataset is complimented by an ESG Self-Assessment feature that allows companies to provide additional data as well as learn about what sustainability topics need to be prioritized in their organizations. These ESG solutions capture data on climate change preparedness, biodiversity impact, energy management, transportation, and financial stability, but are primarily focused on the COP theme of Adaptation and Resilience through the E, S and G dimensions.

Impacts

The ESG Rankings and ESG Self-Assessment allow companies to identify risk hot spots and areas to prioritize engagement or initiatives. It also allows the comparison of ESG performance over time and compared to peers. By capturing ESG data and engaging companies directly via the Self-Assessment, entities can baseline, monitor, and set goals in regard to their own sustainability KPIs and targets, including those focused on the UN SDGs.


D&B ESG RANKINGS AND SOLUTIONS
Coverage
– 2.8+ million North American entity coverage of public and private companies
– Current expansion into Europe, Asia, Middle East and Latin America
D&B Verified Data
– Majority of data is from D&B's global data cloud of checked and verified company data
– Other data sources go through D&B's rigorous quality assurance process
Strategic Metrics
– Provides insight on companies, including a consistent outperformance for companies with good ESG Rankings
– No judgement-based indicators used, only analytical
Real-Time
– Data is updated weekly and distributed monthly in order to provide the most up-to-date snapshot on companies
Company Engagement
– To complement the ESG data universe, the ESG Self-Assessment serves as an additional data aggregator and opportunity for companies to learn more about ESG
Continuous Evolution
– D&B is committed to providing full end-to-end ESG solutions for a variety of ESG data use cases, from supplier identification to insurance underwriting
dun&bradstreet
Dun & Bradstreet's ESG Capability

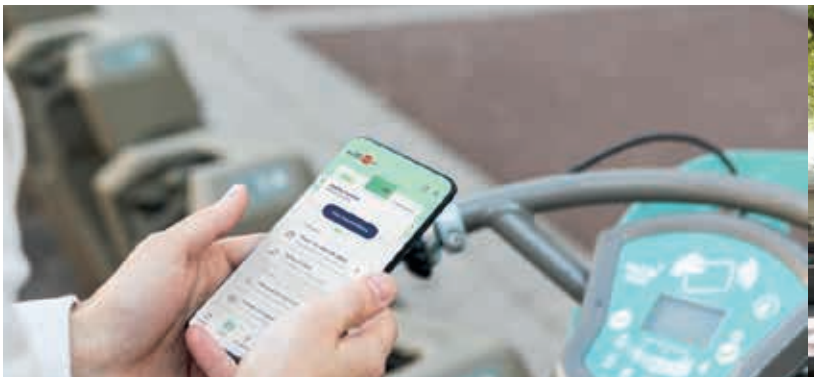
Supporting the transition to sustainable transports

Region: UK, USA , Finland, Belgium and France
Starting Date: 2018
Project Status: Available

Among the various solutions, the commuter Benefits card offered by Edenred USA lets corporate clients help their employees cover transportation costs through a subsidy or tax-free salary contribution. Employee users who benefit from subsidies can qualify for an income tax exemption by replacing the use of their private car with other forms of transportation, such as bus, subway, bicycle, scooter, etc. By the end of 2020, close to 6,000 corporate clients and 300,000 employee users had opted for this solution. In 2020, nearly 26,000 bicycle vouchers were issued to encourage to use bicycle for business travel. It is estimated that each participant saves around 7 litres of petrol a day by using the Edenred solution.

Edenred develops solutions to encourage employees to opt for a clever mobility with a lower impact on the environment. With its specific mobility solutions, Edenred optimizes employees commutes by facilitating access to transportation alternatives other than the car.

By encouraging intelligent and sustainable mobility, Edenred's solutions contribute to the SDG12 "Responsible consumption and production" and SDG13 "Fight against climate change". With specific mobility solutions, the Group also offers companies the opportunity to allocate funds to their employees for use in public transport and contributes to SDG11 "Sustainable Cities and Communities".



Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

Reenergy+ System

Region: Italy
Project Date: 2014
Project Status: Available

Reenergy+ inaugurates an autonomously controlled, integrated production model especially dedicated to paper mills and tissue companies, capable of guaranteeing important improvements in production efficiency and environmental sustainability. With an innovative system that integrates the gas turbine inside the hood, Reenergy+ is the only plant that allows the recovery of exhaust fumes, reinserting them into the production cycle to use them for the paper drying phase. Reenergy+ is an autonomously guided, completely integrated system controlled by innovative software, managed by a team of specialised technicians who guarantee continuous 24h assistance anywhere in the world. The system reduces emissions into the atmosphere by 80%.

The paper producer will generate electricity for free without increasing gas consumption, saving a proportional quantity of CO_2.

The Reenergy+ control system is capable of collecting all available energy data. The customer can check its efficiency status at any time. The cost is proportional to daily production, and the payback period depends on local energy costs; indicatively it pays for itself within three years without any subsidies. It can be installed anywhere in the world and is already designed to work with hydrogen-powered turbines.

Epson Environmental Vision 25

Region: Europe
Starting Date: April 2021
Project Status: Available

Epson has made major commitments to reduce its total emissions in line with the 1.5 scenario by 2030 and it has just announced it will become carbon negative and underground resource-free by 2050. It has set aside 100 billion Yen to achieve this aim over the next ten years with a focus on decarbonization, resource recycling, and an accelerated partnership programme to develop innovative environmental technologies.

"Our commitment to sustainability runs through everything we do. Our people, technology, operations, supply chain and organisational structure are all focused on reducing environmental impact with clear scientific targets aligned to each of the 17 UN Sustainable Development Goals."

Epson has published a new Environmental Vision 2050, which sets out its target to reduce direct emissions by 19% (scopes 1 and 2) and indirect emissions (scope 3) by 44% before the end of 2025. Epson also aims to reduce greenhouse GHG emissions in the supply chain by more than two million tonnes. It has already committed to achieving 100% renewable electricity across the entire Epson Group by 2023 and is delighted to join the RE100, a global initiative of like-minded businesses committed to 100% renewable electricity.

In printing, Epson's unique PrecisionCore micro piezo inkjet technology is playing a huge role in reducing business environmental impact. The heat-free printhead technology reduces energy consumption by more than 80% compared to laser printers, requires fewer consumables, is less wasteful and much simpler to maintain. If all European businesses switched to Epson inkjet technology, we could save 1 billion kWh a year, equivalent to a €151 million energy saving and, more significantly, reduce carbon impact by over 410 thousand tonnes of CO_2. This same volume would require 18 million trees a year to absorb.

Epson's EcoTank inkjet printer uses no cartridges, eliminating cartridge production, shipping and disposal impacts and creating only a tenth of the waste of traditional printer models. As a result, to date it has saved around 1.1 million tonnes of plastic-based consumables through the sale of over 50 million cartridge-free EcoTank printers worldwide.

This year in Europe, Epson has announced the first sale of PaperLab, the world's only in-office secure paper recycler that closes the resource loop by turning wastepaper into new paper using virtually no water. More than this, its dry fiber technology on which Paperlab is based, is creating new opportunities for naturally derived (plastic-free) materials that have numerous applications in manufacturing, logistics and packaging.

Epson is in the vanguard of more sustainable solutions for the fashion industry. The industry produces 20% of global wastewater and 10% of global carbon emissions. Localising fashion using more on-demand digital printing can save up to 4Kg of CO_2 per item. Its digital textile printers reduce water use by up to 90% and energy use by up to 30%.

Epson's on-demand inkjet label printers can save businesses considerable amounts of energy, reduce massive material and ink waste and make labelling operations far more efficient and sustainable. New independent research suggests that if businesses switched to using on-demand inkjet labelling, energy savings of 28.7 million kWh could be achieved each year, the equivalent of lighting 95,960 homes and equal to a reduction of 6.7 million tonnes of CO_2. On-demand inkjet label printing can also eliminate 180 million square metres of label waste, the equivalent covering of 25,264 football pitches, and will cut ink waste by an estimated 619 tonnes.

Epson projectors are designed to reduce power consumption and extend lamp life. The Light Optimizer function automatically adjusts lamp brightness based on the projected image, so power consumption is reduced as much as 27% when projecting dark images and eco mode can reduce power consumption by as much as 29%.

Other areas of its business such as manufacturing solutions are also emerging as sustainable choices. As economies across Europe build their recoveries, increased use of localised automation is resulting in less dependency on carbon-heavy offshore production. Robots are meeting the requirement for safe, socially distanced production, while at the same time allowing people to concentrate on more creative work.

Looking ahead, Epson is committed to developing technologies and initiatives that help customers achieve their goals and reduce carbon impact. These environmental initiatives are defined by four categories:

1. Decarbonization: Focus on renewable electricity use and invest in energy-saving facilities to reduce greenhouse gas. Engage with suppliers to further this initiative and promote carbon-free logistics.
2. Close Resources Loop: Improve effective use of resources by reducing size and weight and using recycled materials along with minimizing production losses and extending product service lives through refurbish and reuse.
3. Customer Environmental Impact Mitigation: Product products with lower footprint and extended lifecycles with lower power consumption and fewer consumable parts.
4. Environmental Technology Development: Invest in dry fiber technology applications and naturally derived (plastic-free) materials.

URL: https://global.epson.com/newsroom/2021/news_20210318_2.html; https://global.epson.com/newsroom/2021/news_20210318.html; https://global.epson.com/newsroom/2021/news_20210316.html; https://global.epson.com/newsroom/2021/news_20210525_3.html

New Steel Yankee Dryer

Region: Belgium
Project Status: Available

Essity is a leading global hygiene and health company, dedicated to improving well-being through their products and services. At their Belgium site, Essity produces toilet paper and facial products, with an integrated cycle that starts from virgin pulp.

For many years, Essity have been introducing comprehensive measures to reduce CO_2 emissions and to increase overall energy efficiency. To reach these ambitious goals, it has created an energy and material saving program (MESave Program) with the aim of optimising energy consumption and reducing material waste, in full compliance with the circular economy philosophy. One of their main projects, is the installation of a new dryer cylinder on their paper machine number 2, which makes toilet paper. Essity Belgium chose to install a new-generation dryer cylinder: the Steel Yankee Dryer (SYD). The SYD transmits the heat to the paper sheet more efficiently than the old cast-iron cylinders, minimising the loss of energy in the steam loop and in turn reduced its CO_2 emissions by 25%

Increase the paper machine's efficiency, reducing the environmental impact of toilet paper production. The implementation of SYD has increased the paper machine's efficiency, reducing energy consumption by 6%. Furthermore, thanks to this project, Essity cut the entire mill's annual CO_2 emissions by 5%.

Etex Sorbas Quarry Rehabilitation Programme

Region: Sorbas, Almeria, Spain
Starting Date: 2009
Project Status: Ongoing

CBD Strategic Goals: Reduce the direct pressures on biodiversity and promote sustainable use; To improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity.

Industrial processes, from material extraction, product manufacturing to product disposal, have an adverse impact upon the environment. Gypsum is a construction mineral eternally recyclable, quarried worldwide and used in an outstanding sustainable way in buildings. Gypsum materials are used in all construction types (residential, non-residential, new, or refurbished), ranging from complex high-tech systems to easy-to-install products adapted for use by the great public. The gypsum outcrop has vascular flora with a high variety of exclusive species restricted to gyposophytes, and some rarities on gypsum soils like lichens and bryophytes. Although the cicatrizing potential of gypsophytes is well known, not all the species are able to recolonise worked out quarries. In Etex Sorbas quarry, an ecological Restoration based on the knowledge of the species spectrum on site is favoured, thus avoiding alien species to reach the goal of biodiversity enhancement.

The ecological restoration of the Etex Sorbas gypsum quarry aims to recolonise worked out quarries, favouring the species spectrum on site and avoiding alien species. The variety of vegetal cover is remarkable. The Etex Sorbas quarry rehabilitation programme sees the preservation of the gypsum flora as a priority. All the seeds, plantations and cuttings come from species originally from the quarry itself to avoid the risk of introducing alien species into the outcrop. The restoration of the quarry encompasses the complete system. This quarry is a mosaic habitat, and all species must be used, especially those peculiar to the gypsum outcrop and the most vulnerable.

Works started in 2009. 200,000 m³ of soil was moved to create slopes from 7.5% to 27%. The used material is Gypsum. Holes and drains were made, and several hundred plants were planted and watered. Seeds and plants picking was organised on-site according to a calendar covering the seeds ripening (April-December). An off-site nursery, able to produce 80,000 plants a year, was erected in collaboration with Exploitation Rio de Aguas (ERA) and the University of Almeria. Plants production is a process based on three procedures: plants, seeds, propagation by cuttings, all of them collected in the quarry itself. The site is located within the Zona Especial de Conservación "Sierra Cabrera" (Natura 2000 Area).

URL: https://www.eurogypsum.org/biodiversity/
https://www.etexgroup.com/en-gb/ways/raw-materials/

New CHP: Gas Turbine and Steam Boiler, Arco Paper Mill

Region: Italy
Project Status: Available

The project consists of replacing a gas turbine (7 MW electric), a boiler and a diathermic oil boiler with a new, state-of-the-art gas turbine. Arco paper mill (Fedrigoni Group) produces coated fine papers for global markets. Electrical energy is distributed in the plant at medium and low voltage, and thermal energy is distributed through steam and used to dry the paper. A cogeneration system is installed to reduce the cost of steam and electrical energy. The gas turbine is connected to the main gas distribution at 21bar. The new system has an 8MW gas turbine generator, which sends its exhaust fumes (at about 500°c) to a recovery/post-combustion boiler. It is also equipped with fresh air. The new cogeneration system reduces gas consumption and CO_2 emissions. It was launched in November 2020 and will run 356 days/year (~8,500 hours / year).

This project significantly reduces gas consumption, and cuts CO_2 emissions (Scope I + Scope II) by ~3,350 tons per year. More importantly, the turbine could be powered in the future by a mix of methane and hydrogen, delivering additional benefits on CO_2 emissions. The stakeholders are Provincia Autonoma di Trento, Comune di Arco (TN) and APPA di Trento, who were involved from the design phase to start-up. It was very challenging to complete the project in only 10 months and start up the new system without halting production, particularly considering the pandemic. Internally the Fedrigoni Group Board, CEO, COO, Energy Manager, Purchasing Department, Plant Manager and Maintenance were involved; external consultants and the community participated through a workplace platform.

The exceptional part of this project is the technology of the new turbine compared with the old one, as well as the ability to use a mix of methane and hydrogen. This investment is part of a larger corporate decarbonisation plan and using a mixture of methane and green hydrogen would fit with the Group's target of reducing CO_2 emissions by 2030.

Steam Accumulator in The Paper Industry

Region: Austria
Starting Date: 2020
Project Status: Available

Hamburger Containerboard is investing in a state-of-the-art technology for energy-and-resource saving paper production in their Pitten mill. With the commissioning of a new steam storage facility at the site at the end of 2020, Hamburger is taking a further step towards energy efficiency and saving resources in its production.

By adding a steam accumulator (boiling water storage tank) as a buffer installation, it can prevent valuable steam from being lost during web breaks on the paper machines. In addition, loss times and reject quantities can be significantly reduced because of the faster availability of process steam from the steam accumulator. One positive side effect is that energy appliances at a low thermal level (e.g. building heating) can be supplied via the steam accumulator instead of consuming expensive primary energy.

The more efficient use of energy also reduced the amount of primary fuel required for steam generation in the form of hard coal by more than 3,500 tonnes. Annual emissions of fossil CO_2 from the paper mill were thus reduced by 9,600 tonnes. The precise load control concept improves the boilers' fuel efficiency, and thus indirectly saves even more fuel. Hamburger has invested more than €2.7 million in the new installation.

Construction of an Energy-Positive Leather Goods Factory

Region: Louviers, France
Starting Date: September 2020
Project Status: Available

This project contributes to the following SDGs:

- SDG 7 Affordable and clean energy: by eliminating all sources of fossil fuels and allowing the building to be self-consuming;
- SDG 8 Decent work and economic growth: by providing new jobs in this energy positive leather goods factory;
- SDG 11 Sustainable cities and communities: by rehabilitating a brownfield site;
- SDG 13Climate action : by achieving the objective of an energy positive leather goods factory (energy consumed ≤ energy produced), the Maroquinerie de Louviers also aims to obtain the E4C2 label (energy performance and greenhouse gas reduction).

The environmental responsibility of Hermès is asserted in the construction of this building, which will be positive energy (energy consumed ≤ energy produced). The building is partially self-consuming and the surplus electricity is fed into the grid.

Most Hermès leather goods factories use natural gas and electricity for their processes and to produce heat and cold, or domestic hot water. Recent buildings mainly use electricity or renewable energy, but have not yet reached the Positive Energy objective. The Maroquinerie de Louviers aims to achieve this target as well as the French E4C2 label (energy performance and greenhouse gas reduction).

This 6,400 m^2 bioclimatic building, designed to make the most of its location and environment, is made up of triple row north-facing sheds that will provide natural and stable light, reducing energy requirements. Analysis of natural flows (wind, rain and sun) has enabled the architect to significantly reduce heating and cooling requirements.
In order to preserve the biodiversity of the site, most of the trees will be kept in the gardens and others will be planted.

Since 2015, Hermès real estate department has developed a sustainable construction framework based on 5 pillars:

1. Controlling the carbon impact
2. Biodiversity balance
3. Air quality
4. Environmental quality
5. Local sourcing

It is reflected in the quality of our spaces and the well-being of our employees and craftsmen.

The Louviers project will be the Group's first positive energy building, with the objective of achieving the French E4C2 label (including process energy/water consumption).

To offset the energy consumption of the new leather goods factories from the point of view of the electricity grid and to reduce the associated CO_2 emissions, Hermès is building the first positive energy leather goods factory in Louviers (Normandy). This 20th leather factory will not use any fossil energy for its operation and will generate at least as much energy as it consumes.

Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

The Integrated Biodiversity Assessment Tool

Region: Global
Starting Date: 2005
Project Status: Ongoing

An Alliance between BirdLife International, Conservation International, International Union for Conservation of Nature and United Nations Environment Programme - World Conservation Monitoring Centre.

The IBAT Alliance organisations directly report towards two SDG Indicators. BirdLife International, IUCN, and UNEP-WCMC are the data providers of the Sustainable Development Goals (SDG) 14 and 15 indicators: 14.5.1: Coverage of protected areas in relation to marine areas, 15.1.2 Average proportion of Freshwater Key Biodiversity Areas (KBAs) covered by protected areas (%), 15.1.2 Average proportion of Terrestrial Key Biodiversity Areas (KBAs) covered by protected areas (%), 15.4.1 Coverage by protected areas of important sites for mountain biodiversity, and 15.5.1 Red List Index. These indicators are all highlighted in the IBAT Country Profiles factsheets in relation to each of the core biodiversity datasets: https://www.ibat-alliance.org/country_profiles.

IBAT allows companies to avoid impacts to biodiversity and now facilitates the private sector to directly contribute towards the GBF (aligned with the science-based targets network), through the Species Threat Abatement and Restoration Metric.

Nature underpins our societies and economies, but pressures on nature continue to grow and to degrade the world's life-supporting functions. Businesses are increasingly expected to contribute to positive outcomes for nature. To do this, they need to be able to assess and report on their conservation impacts. Effective measures are needed that are informative yet easy to use and that can be shared across business, government, and civil society with a stake in conservation.

The Integrated Biodiversity Assessment Tool (IBAT) is designed to facilitate access to accurate and up-to-date biodiversity information to support critical business decisions. The tool is the result of a ground-breaking conservation partnership between BirdLife International, Conservation International (CI), International Union for Conservation of Nature (IUCN) and United Nations Environment Programme - World Conservation Monitoring Centre (UNEP-WCMC). IBAT is based on three globally authoritative datasets: The World Database on Protected Areas, The World Database of Key Biodiversity Areas and The IUCN Red List of Threatened Species. These geospatial data, alongside additional interpreted data layers, are provided through tailored reporting options, data download and API functionality.

IBAT is currently recognised as the leading biodiversity tool and is one of the longest standing with the concept of IBAT dating back to 2005. To date, over 9,000 users

have signed up to IBAT across a large range of economic sectors. IBAT supports a significant proportion of the finance sector and extractives industry with their risk screening. Institutions like the World Bank Group have adopted IBAT as a routine in-house risk-screening tool and a bespoke Performance Standard 6 and Environmental and Social Standards 6 Report has been developed in IBAT for finance-related project screening.

The new Species Threat Abatement and Restoration (STAR) metric in IBAT focuses on addressing the threats driving species extinction risk, a key concern for nature conservation and a central element of the post-2020 Global Biodiversity Framework and the Sustainable Development Goals. Through IBAT, companies can use a STAR Report to generate an estimated score for both Species Threat Abatement and Restoration potential for any given Area of Interest on the terrestrial surface.

The impacts of achieving threat reduction and restoration are directly aligned with the global biodiversity framework and companies can use IBAT STAR Reports to set ambitious targets for positive biodiversity action. For example, these targets can be focused on species extinction risk, for a particular site, portfolio, country or corporate. The STAR score within an Area of Interest represents the potential contribution that a business or investor could make towards reducing species extinction risk (and this particular action, if achieved, represents a certain percentage of the global STAR Score - a measure of what it would take to alleviate the threats to all threatened species globally.

STAR is freely available to all through a Beta Phase (early access period) for the remainder of 2021. From 2022, STAR will continue to be accessible through IBAT's subscription model, which is designed to recover costs of maintaining the global biodiversity datasets.

URL: https://www.ibat-alliance.org/
https://www.ibat-alliance.org/star
To access any aspects of IBAT, from the global databases to risk screening reports and the STAR Metric, users can contact ibat@ibat-alliance.org for further details.

INA – INDUSTRIJA NAFTE, D.D.

Enhanced Oil Recovery

Region: Zagreb, Croatia
Starting Date: 2014
Project Status: Available

Reducing carbon dioxide emissions is at the heart of the energy transition. INA's Enhanced Oil Recovery (EOR) project, as a Carbon Capture Utilisation and Storage (CCUS) project, has been identified as a key technology to achieve EU low-carbon economy by 2050, and efficiently lower emission levels to mitigate the rise in global temperature.

It involves the injection of CO_2 and water into depleted oil fields in monthly cycles, which contributes to increasing production. The project has an important environmental aspect as it involves injection and permanent underground storage of CO_2, which reduces air emissions. The world will need to store many gigatons of carbon dioxide per year as part of a broad package of solutions to get to net zero emissions.

EOR project provide quicker development of surface and injection facilities due to the more favourable economic parameters. EOR has been implemented in the Ivanić field since 2014, and in the Žutica field since 2015.

The EOR project considers dehydration, compression and transmitting of 600,000 m^3/day of CO_2 by gas pipeline. The source of CO_2 is at the Gas Processing Facilities Molve from where, after compression and dehydration CO_2 is transported (in gaseous state) by an 88 km long pipeline to the Fractionation Facilities of Ivanić Grad. After its compression and liquefaction, CO_2 is further transported by pipeline at maximum pressure (200 bar) from the Fractionation Facilities of Ivanić Grad to the injection wells of the fields Ivanić and Žutica.

The EOR Program Team monitors and optimizes the injection and production systems and works on extending EOR technology to more fields and transitioning projects to carbon capture, utilization and storage (CCUS).

Since the beginning of its implementation in 2014, more than 1.8 million tons of CO_2 have been permanently stored, which is equivalent to around 30% of annual passenger car emissions in Croatia. Since then, daily hydrocarbon production has increased two times on Ivanić and three times on Žutica North. Over 190 million m^3 of CO_2 was injected in 2020 into the three fields, bringing the total over 1.1 billion m^3 since the start of EOR.

INA's latest target for implementing CO_2 EOR technology is the Šandrovac oil field. A pilot project has been initiated in 2020 and during the following two years a series of well workovers, well logging, production and pressure tests will be performed in order to acquire valuable data for defining the future possibilities of a full-field EOR application.

Six-year experience with CO_2 injection into the reservoirs of the Ivanić and Žutica producing fields has resulted in valuable methodologies and skills which will be the base for designing similar projects in the near future.

Gaining experience in EOR Project implementation enabled creation of future local business activity, sharing good practice, helping create CCUS infrastructure (geological CO_2 storage capacity in depleted hydrocarbon fields) in order to achieve the emissions reduction.

CO_2 compressor station at Molve

Membrane separators for CO_2 separation from natural gas

URL: www.ina.hr
https://www.ina.hr/en/home/about-ina/core-business/exploration-and-production/eor-project

Yili Practicing the Concept of Green Development and Leading Biodiversity Conservation with Actions

Region: China
Starting Date: 2010
Project Status: Available

CBD Strategic Goals: Reduce the direct pressures on biodiversity and promote sustainable use; To improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity; Enhance implementation through participatory planning, knowledge management and capacity building.

Yili, the first Chinese enterprise to sign the Company's Commitment to Protect Biodiversity under the UN Convention on Biological Diversity, has been working towards the UN 2030 Sustainable Development Goals through their green industrial chain project, biodiversity conservation in six aspects (habitat conservation, response to climate change, species diversity conservation, sustainable utilization of resources, environmental governance and advocacy of ecological conservation), a conservation and management system, and biodiversity conservation and management throughout the life cycle.

Habitat and Species Diversity Conservation

In 2020, Yili Satine cooperated with WWF to carry out the wetland bird resources monitoring project, in which records were made for a total of 16,526 birds of 57 species in 14 families and 8 orders, which were observed at 33 bird monitoring points in Jilin Xianghai National Nature Reserve and Momoge National Nature Reserve. Two of the species, namely oriental white stork, and red-crowned crane, are under national first-class protection, and 8 species are under national second-class protection (circus melanoleucos, platalea leucorodia, common crane, anthropoides virgo, circus cyaneus, accipiter gentilis, anser albifrons and cygnus). Aythys nyroca, a near threatened species listed by the IUCN, was spotted for three years in a row, and aythya baeri, a critically endangered species listed by the IUCN, was recorded for two consecutive years.

Response to Climate Change

Yili has been actively undertaking its responsibility of emission reduction by reducing energy consumption, developing new energy, adopting cleaner production processes, and carrying out carbon inventory, so as to effectively reduce greenhouse gas emissions and air pollution and contribute to the goal of limiting temperature rise to 1.5°C under the Paris Agreement. Yili is the first enterprise with independent carbon inventory capability in the industry. It independently started a comprehensive carbon inventory in 2010, verifying the greenhouse gas emissions of each production division in the production process in strict accordance with ISO14064-1 standard, and compiling the annual Carbon Inventory Report. With 2010 as the baseline year, Yili has reduced its emissions by 6.51 million tons of CO_2 equivalent over 11 years, laying the foundation for achieving the corporate goal of carbon neutrality by 2060.

Sustainable Utilisation of Resources

Upholding the principle of green factory construction, Yili takes environmental protection into consideration in every link from architectural design and building materials procurement to energy consumption and resource utilisation in the operation process, and integrates the concept of environmental protection into the production, manufacturing and logistics processes, so as to minimise pollution and reduce resource consumption. For example, in terms of water resource management, Yili has actively carried out water resource recycling and water-saving projects, and constantly advanced water balance testing and water resource demonstration projects in factories, so as to improve the water use efficiency and benefit while improving its water management, and promote the sustainable utilisation of water resources.

Environmental Governance

Yili has implemented an alfalfa planting model that combines planting and breeding in the 55,000-mu high-quality forage grass production base in Ar Horqin Banner, Inner Mongolia. With advanced technology and equipment, Yili adopted artificial grassland to control wind-borne sand at the sources, thus effectively managing the degradation and desertification of grassland, increasing the vegetation coverage, thoroughly improving the soil, vegetation and ecological environment in the project area, and promoting ecological restoration of natural grasslands. The annual production of high-quality alfalfa and oaten hay exceeded 40,000 tons, and 46,000 mu of degraded grasslands have been improved. In addition to providing high-quality roughage for cows, the desertification of grassland has been brought under control, thus bringing good economic, social and ecological benefits.

Advocacy of Ecological Conservation

Yili actively enhances the understanding of the value of biodiversity among interested parties such as employees, managers, shareholders, partners, suppliers, consumers and industrialists and businessmen, as well as their awareness of protection through a variety of channels and methods. Yili Satine, together with WWF and local scientific research institutes, carried out a research on the restoration and sustainable management of degraded grassland at the test site in Fuzi Village, Qian'an County, Jilin Province. After one year's vegetation restoration, the research team conducted a biodiversity survey on the grassland at the test site in 2020. By comprehensively comparing the average height, coverage, density and productivity (fresh weight), the team found that the vegetation restoration had been quite effective in the artificial seeding experimental area compared with the grazing and unseeded control grassland and the grazing prohibition and unseeded grassland; the dominance index and the diversity

index after restoration were significantly higher than that before restoration by calculating the biodiversity index of vegetation; and a total of 45 species of vascular plants, 26 species of vertebrates and 16 species of insects were found. The vegetation and biomass of the sample areas showed an increasing trend.

In the future, Yili will further fulfill the nine commitments in the Company's Commitment to Protect Biodiversity, promote its partners along the industrial chain to form an eco-friendly growth model, advocate a green lifestyle to the public and consumers, and raise the whole society's awareness of biodiversity conservation.

JT INTERNATIONAL (JTI)

Sustainable Energy in Manufacturing

Region: Global
Starting Date: 2019
Project Status: Available

As with most industries, JTI has a two-way relationship with the environment: The environment has a direct impact on its supply chain and its operations. JTI is well aware that its operations impact the environment, through resource usage, emissions, and waste generation, but it acknowledges and strives to minimise this impact. By implementing sustainable business practices, JTI is able to conserve resources, reduce waste, manage costs, and meet the growing consumer demand for more sustainable products – bringing benefits to both the environment and its business.

In terms of the environment, climate change is, today, the single biggest challenge facing society and its business. The effects of climate change, such as global warming and changing weather patterns, could have serious implications for its tobacco and non-tobacco supply chains. JTI is committed to tackling this issue and it is reducing our GHG emissions to support the Paris Agreement on global climate change, with the longer-term aim of achieving net zero carbon emissions from our operations. JTI is clear that the serious challenges that our planet faces can only be resolved through collective action. Although JTI is committed to playing its part, success will only be achieved if governments, the private sector and consumers work together.

JTI is part of the JT Group (JTG). As a Group, JTG has set a strong target, to reduce GHG emissions from its own operations by 32%, between 2015 and 2030. The target was independently validated by the Science Based Targets Initiative (SBTi) and the company measures and reports its progress on an annual basis. To contribute to the Group target, the Tobacco Business has a commitment to reduce its emissions from its own operations by 35% over the same period. By the end of 2020, the Tobacco Business had reduced its emissions by 29%.

Key to meeting those targets is reducing energy consumption and changing where energy comes from, through on-site generation and the sourcing of third-party renewable energy.

Through its Energy Opportunities Scheme, between 2015 and 2020, JTI's factories identified over 220 no- or low-investment energy reduction projects. These avoid over 8,000 tons of GHG emissions and represent a cost saving of over USD 1.6 million, with an average payback of three months.

Where feasible, JTI has invested in renewable energy generation and will continue to invest in projects and technologies that increase its use of renewable resources. Renewable energy opportunities are included in its business planning and in our feasibility study for the 2030 Science Based Target. Where on-site generation options are limited, JTI also identifies the options to purchase zero or low-carbon energy tariffs

and green energy certificates. By the end of 2020, 45% of electricity used in JTI's factories came from renewable sources (either purchased or generated on-site).
Some examples of its renewable energy initiatives are as follows:

Green Energy in Vårgårda, Sweden

This program minimises energy consumption and GHG emissions at the factory by combining green energy alternatives with a range of cost-effective energy-saving projects. The factory is connected to a nearby bio-steam facility, which heats the factory by burning CO_2 neutral woodchips. The factory also uses a steam-to-hot-water conversion system to heat the offices. 99% of the factory's energy now comes from renewable sources.

Solar Steam Generation in Amman, Jordan

JTI's factory in Jordan was awarded the "Environmental Stewardship Award" by the World Bank, as the first tobacco factory in the world to use direct solar steam generation. A rooftop-mounted collector, steam storage, and a steam-driven absorption chiller provide the site with energy and building heating and cooling. The solar steam installation provides approximately 20% of the factory's steam demand, with a reduction in GHG emissions of approximately 100 tons per year. The factory's ultimate ambition is to be 100% carbon neutral.

Solar Electricity Generation in Batangas, Philippines

In the largest single-site installation of a self-consumption rooftop solar system in

South-East Asia, 16,080 solar panels convert the sun's energy into usable electricity (almost 4,000 MWh per year). The use of solar energy helps avoid approximately 3,220 tons of GHG emissions annually. However, in December 2020, JTI, in partnership with Total Solar, kicked-off its solar expansion project, with planned installation of a further 6,548 panels. This will increase solar capacity by 60% and avoid a further 2,400 tons of GHG emissions annually.

URL: https://www.jti.com/news-views/sustainable-energy-manufacturing

Gypsum Quarry Restoration Markt Nordheim

Region: Franconia, Bavaria, Germany
Starting Date: 2008
Project Status: Available

CBD Strategic Goals: Reduce the direct pressures on biodiversity and promote sustainable use.

Aiming to plan and quarry in an agricultural area to connect different existing biotopes and Natura 2000 areas, the Knauf quarry is covered by Natura 2000 in course of renaturation. The solution was a technical restoration and forming morphology step by step, followed by partly succession or hay sowing, as well as grazing by old cattle breed. A hiking trail with information boards about renaturation and quarries as wildlife habitat was included. 10 years monitoring (2008-2018) proved the successful settlement of types of semi-arid and dry grassland in the former quarry (formerly used for agriculture).

The project takes place among several protected biotopes and Natura 2000 areas. The renatured area of the quarry was designated as a Natura 2000 area and enlarges and connects now the already existing protected areas.

https://www.eurogypsum.org/biodiversity/

Solar Thermal Integration Project in Condat Paper Mill

Region: France
Project Status: Available

Condat is part of the LECTA Group, a leading European maker and distributor of special papers for labels and flexible packaging, coated and uncoated paper for publishing and commercial printing, and other high added value printing media. Condat has developed a decarbonisation project with the company: building a plant that produces heat from solar energy, supplying the paper mill with hot water for its paper production process and reducing the consumption of fossil energy. This project is the first step in their energy transition to a low-carbon site. The project is innovative not only from a technical point of view, but also commercially, as the solar thermal plant is built, owned and operated by the company. This project also made it possible to rehabilitate an area previously used for the storage of carbonated sludge. It integrates state-of-the-art technologies from suppliers such as Savosolar, which makes flat plate collectors used in largescale solar thermal applications, and Exosun, a supplier of solar tracking technology. The project was promoted by LECTA management both internally and externally and was also supported by local authorities.

The decarbonisation project consisted in building a greenfield solar thermal plant featuring 4,211 m^2 of solar panels with a peak heating capacity of 3.4 MW. The solar thermal plant aims at reducing natural gas consumption though the supply of renewable hot water to the Condat paper mill. Overall, this project has also improved energy efficiency and reduced operating costs.

Main features of this project are i) a production of about 3,900 MWh/ year of renewable heat, ii) a decrease of fossil use in steam boilers (equivalent to a reduction of carbon emissions of 1,000 t/year) and iii) an improvement of steam management at the paper mill thanks to higher flexibility of steam production facilities. This solar thermal plant is the largest installation in France and also the first of its kind in the world though the use of solar tracking systems. This project has become a benchmark for the production of solar heat, and similar projects may be developed in the company and elsewhere in France and Europe.

L'ORÉAL

Setting up a Carbon Zero Project to Reduce a Factory's Direct and Indirect Emissions

Region: Settimo Torinese, Italy
Starting Date: 2015
Project Status: Available

SDG 7: The factory is 45% heated by biogas (biogas obtained by the treatment of urban waste). The rest comes from the town's district heating network, to which it is connected and of which the feedstock is uniquely biomass (for example, wood and organic waste) generated from within a 30km radius of the site. Two thirds of its electricity needs are covered by a biomass plant, with the remainder coming from 14,000 solar PV panels installed on the site (self-consumption). The installation of biomass produces more energy (electricity and heat) than is needed for the operation of the site. As a result, this represents 23GWh/year of renewable heat injected into the district heating network, and 2GWh/year of electricity injected into the national grid. During the site's periods of inactivity (particularly at the weekend), the excess production arising from the solar PV panels is injected into the grid, contributing to its decarbonisation (around 0.5 GWh/year).

SDG 8: The projects established by the Settimo factory (partnerships and investments) have enabled the creation of employment in the clean energy sector (for example, the running of the biomass plant employs at least two full-time staff), but also the development of other sectors (for example, to collect the organic waste). In addition, the construction and maintenance of the assets required a specific type of labour (for example, the installation of 14,000 solar panels on the site took nearly six months).

SDG 9: The factory achieved carbon neutrality in 2015 attributed to its innovative energy mix. It is 45% heated by biogas, with the remainder coming from the town's district heating network, to which it is connected. Two thirds of its electricity needs are covered by a biomass plant, with the rest derived from 14,000 solar PV panels installed on the site. In 2017, the Settimo plant was able to further increase its energy efficiency by taking advantage of its programme to reduce water consumption. The heat from the cleaning water is now recaptured and reused, and the energy needs of the wastewater treatment station's fans have been reduced by a third. In 2018, the factory became a 'Waterloop factory'. The concept of 'Waterloop Factory' consists in only using public water supplies for human consumption and for the production of high quality water used as a raw material for the composition of products. All the water needed for production (cleaning equipment, production of steam etc) comes from water reused or recycled (through the site's wastewater treatment facility) in a closed loop on the site.

SDG 12: Through the Sharing Beauty With All (2013-2020) and L'Oréal for the Future (2020-2030), the L'Oréal Group encourages, among others, its businesses to produce sustainably and significantly reduce their impact on the environment. By 2020, all the Group's production sites were tasked with reducing their consumption of water, waste and GHG emissions by 60%, compared to 2005. In terms of figures, in 2020, the Settimo plant reduced its water consumption in litres per finished product by 44% compared to 2005 and is a 'Waterloop factory'. It creates value from 100% of its waste, and uses 100% locally produced renewable energy (hence it is carbon neutral).Through the L'Oréal for the Future programme, the Group is continuing its efforts and has set itself ambitions new goals to achieve by 2030.

SDG 13: The L'Oréal Group and all its businesses take important measures to reduce their impacts on the environment and on our planet. Having sought to reduce the Group's direct impact by 2020 through its Sharing Beauty With All programme, L'Oréal is going even further in its environmental ambitions through its L'Oréal for the Future programme. This is a strategic programme through which the Group aims to assume a greater responsibility, mobilise its entire ecosystem (employees, suppliers, customers etc) and show that businesses can be part of the solution, in the face of the challenges confronting the world.

This programme is based around three pillars:

- Transforming our activity to respect planetary boundaries.
- Engaging our ecosystem in our transformation, helping our partners transition to a more sustainable model.
- Contributing to addressing planetary challenges by addressing the most pressing social and environmental needs.

The Settimo factory has been carbon neutral since 2015.

Established in 1959, the Settimo factory specialises in make-up and haircare. It achieved carbon neutrality (by improving energy efficiency and using 100% renewable energy) in 2015 attributed to the following measures implemented on the site:

• The installation of a biomass plant to produce electrical and thermal energy for local needs (for the factory and town) at less than a kilometre from the factory. The boiler is managed by a third-party business (Riesco) and its feedstock is exclusively biomass (for example, wood and organic residues, and wood derived from forest maintenance, rather than purpose-grown) generated in the 30 kilometres surrounding the site. The production has a capacity of around 33 GWh/year of thermal energy and 9 GWh of electrical energy. The factory uses 10 GWh/year and 7 GWh/year of thermal and electrical energy, respectively. The thermal energy produced by the biomass plants is injected into the district heating network and replaces the use of methane boilers. Additionally, the renewable electricity produced by this plant replaces the consumption of electrical energy from the national grid (of which the mix is still carbon-based – emission factor in Italy is 0.331 kg CO_2/kWh – source IEA). What is not consumed by the factory is injected into the network (heat and electricity).

• The optimisation of renewable thermal energy use (the installation of heat exchangers to heat buildings in winter and absorption chiller unit for the air-conditioning of buildings in the summer). This technology has an advanced efficiency, which has enabled us to make 30% energy savings (compared to the old methane boilers).

• Photovoltaic panels on the factory roof (14,000 panels) for direct use on the site (35% of electrical energy consumed by the factory – 3 GWh/year). The excess (during the factory's downtime) is injected into the grid (around 0.5 GWh/year).

• Partnership with a local biogas supplier (biogas obtained via the treatment of wet urban waste – 6 GWh/year). This biogas is used to produce technological steam at 140°C to heat and sterilise the production and packaging lines (the heat from the district heating network didn't allow for this, as it was between 80°C and 100°C). The supplier also provides heat and electrical energy (cogeneration) to the surrounding population (the town of Pinerolo).

• Reduction of energy consumption – optimising processes (for example, cleaning processes for production equipment), LED lighting throughout the whole factory (1,110 LED bulbs), high efficiency electrical installation (for example, more efficient engines in case of replacement or new installations), recapture of the compressor heat and the boiler exhaust, as well as involving and raising awareness among employees. In conclusion, since establishing the carbon zero project, the site's thermal energy is comprised of 45% biogas (biogas from the treatment of urban waste) needed for production processes. The remainder (heating and air-conditioning of buildings) is ensured by the district heating network to which it is connected. Two thirds of electricity needs are met by a biomass plant. The remaining third is delivered via 14,000 photo-voltaic panels on the site (self-consumption).

In 2018, the factory became a 'Waterloop Factory'. The concept of 'Waterloop Factory' consists in only using public water supplies for human consumption and for the production of high-quality water used as a raw material for the composition of products. All the water needed for production (cleaning equipment, production of steam, etc.) comes from water reused or recycled (through the site's wastewater treatment facility) in a closed loop. The factory has also improved its energy efficiency by taking advantage of its water consumption reduction programme. The heat of water used for cleaning is recovered and reused, and the wastewater treatment station's energy needs have been reduced by two thirds.

The carbon zero project established at the Settimo factory aims to achieve carbon neutrality by working on an innovative energy mix – the factory is heated in winter and air-conditioned in summer by the town's district heating network to which it is connected. Thermal energy needed for production processes is produced with biogas, two thirds of the electricity needs are met by a biomass boiler (the same one that sup

ports the district heating network), and the remaining third by 14,000 photo-voltaic panels on the factory roof.

This project within the Settimo factory enables the company to reduce the environmental impact of the factory and the town. It contributes to SDG 7 Clean and affordable energy, SDG 9 Industry, innovation and infrastructure, and SDG 12 Responsible production and consumption. The biomass plant used for the factory and the town of Settimo's district heating contributes to SDG 13 Climate action. In addition, it enables the creation of employment and therefore contributes to SDG 8 Decent work and economic growth.

This is a model and a case study of a zero-emission factory (creation, culture).

URL:
https://www.youtube.com/watch?v=zcsHAhRSsAw
https://www.loreal.com/en/news/commitments/turning-loreals-settimo-torinese-plant-into-a-dry-factory/
Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

New Kemi Bioproduct Mill

Region: Finland
Project Status: Available

Metsä Fibre, part of Metsä Group, is using a unique bioproduct concept to build a new fossil free bioproduct mill in Kemi, Finland. The value of the investment is 1.6 billion, and the new mill will create an industrial ecosystem for new biobased products manufacturing, while generating about 2.5% of the country's electricity. The mill uses best available technology, including artificial intelligence, digitalisation, and electrification.

In addition to the fossil-free Kemi bioproduct mill, Metsä Fibre is currently building the world's most modern sawmill in Rauma, Finland. The new pine sawmill enables both the Rauma sawmill and the pulp mill to operate without any fossil fuels. With these investments, Metsä Group meets the needs of forest owners and our customers even better than before, across the entire forest industry value chain, and will play a significant role in combating climate change.

During these projects there has been an active, positive dialogue with stakeholders including the national government, parliament and NGOs, as well as local authorities and citizens. These investments are also a significant step towards Metsä Group's 2030 sustainability targets.

The Kemi bioproduct mill will produce 1.5 million tonnes of softwood and hardwood pulp per year, as well as many other bioproducts. It will also produce 2.0 TWh of renewable electricity per year, about 2.5% of Finland's total electricity production.

The Kemi mill will increase the annual value of Finland's exports by €500 million, and the positive annual income effect in Finland will be at about the same level. The new mill will secure the current 250 jobs at the Kemi pulp mill for decades to come, and the mill will create 1,500 new jobs along its entire direct value chain in Finland. All in all, about 2,500 people in Finland will work in the direct value chain.

Ballast Project: Transporting Perrier Brand Products by Rail

Region: France, Germany, Greece, Spain, and Switzerland
Starting Date: May 2020
Project Status: Available

Horizon2020
European Union Funding
for Research & Innovation
Grant agreement N°869625

The ambition of the BlackCycle research project, expressed at the time of its launch, is to reduce the carbon footprint of the manufacturing of new tyres. Indeed, the initial prognosis of the project is to allow a reduction of CO_2 per unit mass of substituted material equal to 1 kg CO_2/kg.

The BlackCycle project constitutes a unique European public-private partnership that will demonstrate the technical, environmental, and economic viability of these circular processes. The consortium will develop specific solutions to produce sustainable tyre feedstocks: collection of end-of-life tyres and selection of the feedstock, optimisation of pyrolysis, refining and recovery of the oil, optimisation of the kiln processes and performance evaluation of the sustainable tyres created. The project's medium-term goal is to ensure that nearly one out of two end-of-life tyres in Europe will be incorporated into this virtuous circle. BlackCycle will build a circular economy for the tyre industry on a European scale, with the potential of leading to the creation of sustainable jobs in Europe.

Background

Every year, 1.6 billion new tyres are sold worldwide, representing over 26 million tonnes. The same amount enters the end-of-life tyre category each year, offering a great potential for material recovery, which is only partially exploited. The current processes for treating end-of-life tyres produce only limited amounts of raw materials that can be reused in the tyre industry. Furthermore, in the absence of robust solutions for recovering materials from end-of-life tyres in Europe, more than half of these are exported to other countries.

The BlackCycle project brings together 13 organisations, including seven industrial partners, five research and technology organisations (RTOs) and an innovation cluster in a European consortium across five countries to establish a comprehensive and massive circular economy for used tyres by designing one of the first ever manufacturing chains for making new tyres from used tyres. Coordinated by Michelin, the world's leading tyre manufacturer, this project will offer an economically and environmentally viable alternative to existing linear manufacturing processes.

Ballast Project: Transporting Perrier Brand Products by Rail

Region: Vergèze & Port of Fos-sur-Mer, France
Starting Date: October 2018
Project Status: Available

SDG 7:"Affordable and Clean Energy" by reducing dependence on diesel, switching from trucks to 80% electric train journeys.

SDG 9:"Industry, Innovation and Infrastructure", by innovating and investing in greener and more sustainable transport modes.

SDG 11: "Sustainable Cities and Communities", by relieving road congestion between the Vergèze plant and the Port of Fos-sur-Mer, but also by reducing transport-related noise pollution by 10-15% for the local population.

SDG 12: "Responsible Consumption and Production" by reducing the environmental impact of our products, since the volumes now transported by train represent 43%* of the global volumes of the Perrier brand.

* According to the LCA study conducted by RDC on 2018 volumes.

Through Ballast, Perrier is responding to more global issues. Last July, the brand committed to achieving carbon neutrality by 2022. This neutrality is one of the components of the Nestlé Group's commitment to reach net zero emissions by 2050 in compliance with the Paris agreements. As transport accounts for around 39% of the Perrier brand's emissions*, Ballast is therefore part of the group's efforts to reduce emissions.

The relaunch of the rail line between the industrial site of Vergèze (Gard) and the port of Fos-sur-Mer (Bouches-du-Rhône) enables the Perrier brand to transport 70% of its maritime exports by rail, i.e. nearly 13,500 containers per year.

As a result, the Ballast project is having a positive impact on reducing the brand's carbon footprint by switching from diesel trucks to an 80% electric train, reducing Perrier's dependence on oil.

This process also improves the traffic flow. The Ballast project has a positive impact on urban areas by relieving congestion on the roads linking the plant to the port of Fos-sur-Mer, an area that is particularly saturated between Monday and Friday.

The three main categories that make up Perrier's carbon footprint are logistics (including transport) at 41%, packaging at 41% and manufacturing at 12%.

URL: https://www.lantenne.com/Nestle-Waters-Vergeze-Fos-en-train-juste-retour-aux-sources-pour-Perrier_a44813.html
Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

Ambition 2 Obligation

Region: Global
Starting Date: 2020
Project Status: Ongoing

The Race to Zero seeks to coordinate climate action by non-state actors, including private sector. The Net Zero Lawyers Alliance (NZLA) is an accredited Race to Zero initiative (pending) to accelerate private sector climate action by ensuring that the commercial lawyers and law firms provide net zero aligned legal services to clients who have committed.

NZLA is a coalition of 30+ law firms, initially headquartered in the UK, employing over 100,000 lawyers, has broad and deep impact. It is firmwide, including energy, natural resources, construction, banking, finance, project infrastructure, project finance, corporate and disputes lawyers across all sectors globally.

NZLA members are required to commit to Race to Zero both operationally and through alignment of legal services offered to their clients. In order to achieve alignment of legal services, law firm member lawyers are required to complete capacity building training, and to provide pro bono services and support to a series of large scale, systemic projects for mapping and transitioning contractual systems and modernizing standard form templates to reflect net zero objectives, in line with the SDGs.

Approach

NZLA is a coalition of commercial law firms. Its governance comprises a steering committee of senior law firm leaders, a larger steering group of climate champions from within each member law firm and ancillary expertise, and an advisory group of broader stakeholders. The advisory group is well represented by corporate inhouse counsel.

NZLA members recognise, in accordance with the best available science, that there is an urgent need to accelerate the transition towards global net zero emissions and for commercial law firms and lawyers to play their part to help achieve the goals of the 2015 Paris Agreement and ensure a just transition.

NZLA members further recognise the need for collaborative initiatives to develop methodologies and supporting clients to take action towards Net Zero. They agree to collaborate with each other and clients via such initiatives so that clients have access to best practice, robust and science based approaches and standardised methodologies, and improved data, through which to deliver these commitments through legal services.

NZLA members commit: to support the goal of Net Zero greenhouse gas (GHG) emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5°C (Net Zero); to amplify Race to Zero law firm membership (in less developed states in particular); and to support aligning commercial clients' legal contracts and terms, and their enforcement, with Net Zero.

Specifically they commit to:

- Develop (and encourage and support law firms in less developed countries to develop) verifiable Net Zero 1.5 aligned emissions targets.
- Work with clients to offer legal services, where possible, that align with and facilitate client decarbonisation goals consistent with Net Zero, which will be achieved through:
  - enhanced capacity building and training, and
  - industry-wide collaboration to facilitate systemic change in law and legal practice to transiton to Net Zero by working to convert net zero ambition to obligation
- Set an interim target for implementing firm lawyer capacity building and training in accordance with NZLA training modules, or equivalent, and monitor its impact on our firm's legal services.
- Set an interim target for participation in collaborative initiatives aimed at facilitating systemic change in law and legal practice to facilitate transition to Net Zero and monitor the impact of these on our firm's legal services.
- Continue through the NZLA to look for innovative ways to work together cooperatively to advance commercial law instruments and services, including in close collaboration with the UNFCCC Race to Zero and its official Partnerships.
- In order to fulfil these commitments, NZLA member law firms and lawyers:
  1. Where possible, offer clients information on how to embed their own decarbonisation goals into their legal contracts and deal structuring
  2. Provide legal services to all clients that take into account climate legal risk, including regulatory and litigation risk, where relevant
  3. Collaborate within the legal industry and across industries and sectors in systemic change initiatives in law and practice to facilitate transition to Net Zero
  4. Upskill lawyers and support professionals on client decarbonisation goals, climate change law, policy and science
  5. Engage with actors and initiatives key to the legal system including regulatory bodies, legal and other relevant industry associations to ensure that standard industry practises for lawyers and legal services develop in a manner that it consistent with the aim of achieving global Net Zero by 2050 or sooner
  6. Continue actively to engage in and provide pro bono resources for, where appropriate, cooperative legal initiatives to embed decarbonisation goals into private law instruments, with a goal to formulating modern, fair, harmonized rules on commercial transactions, including conventions, model laws and rules.

Impacts

As commercial contracts are the connective tissue in the climate transition pathways, it is through commercial legal services that private sector net zero ambitions really do become reality. Working to ensure alignment also with the SDGs, the NZLA has the capacity to drive real sectoral and behavioural change.

URL:
https://www.businessgreen.com/news/4033730/net-zero-lawyers-alliance-group-aims-boost-legal-support-net-zero-transition
https://www.globallegalpost.com/news/coalition-of-top-firms-pledge-to-halve-operational-greenhouse-gas-emissions-by-2030-17446231
https://www.gov.uk/government/speeches/cop26-president-speaks-at-closing-event-of-london-climate-action-week

NORSKE SKOG

New Sustainable Energy Boiler

Region: Austria
Starting Date: 2019
Project Status: Ongoing

Norske Skog is investing €72 million in a new waste-to-energy boiler at its paper mill in Bruck, Austria. The new boiler will replace the steam production of existing natural-gas-fired boilers used for paper operations, reducing fossil CO_2 emissions by about 150,000 tonnes per year. In addition to supplying heat to the paper mill, the boiler will also provide steam to the district heating network in the city of Bruck. With an annual capacity of 160,000 tonnes of waste, the boiler will meet the increasing incineration demand within the EU and Austria for refuse-derived fuels (RDF) and sludge and reduce the amount of material going to landfill. The boiler starts up in the first half of 2022 with an annual positive profitability effect of around €19 million, coming from revenue from incineration fees, energy savings and reduced CO_2 emissions.

The boiler increases Norske Skog Bruck's long term competitiveness through energy saving, reduces its carbon footprint and diversifies its revenues by generating revenue from the combustion of RDF, rejects and sludge from the Austrian pulp & paper industry. The boiler will provide Norske Skog Bruck's industrial operations with cost-efficient and sustainable steam, and is an important steppingstone for further strategic and green investments at the Bruck site.

The investment decision of €72 million for the waste-to-energy boiler was taken by Norske Skog in June 2019. Construction of the boiler and related infrastructure are currently ongoing, all on budget, with start-up planned for the first half of 2022. The boiler operations will have a strong regional sourcing concept, with around 90% of RDF and sludge being sourced within 200km.

Long Term Biodiversity Monitoring

Region: Gummern, Austria
Starting Date: 2004
Project Status: Ongoing

In the year 2004, Omya GmbH has decided to implement an environmental observation program at the Gummer site. The decision was made to go with the WWF and E.C.O. The goal was to develop a monitoring program based on the biodiversity index of an area. The LBI (long term biodiversity index) is a measurement and control instrument and is based on the red list types and reflects a value that is related of an affected project area compared to the surrounding area. This means that the nature conservation value of the habitat types in the quarry can be represented by means of a value. Subsequently, other mining locations can be compared with this value in terms of their nature conservation value. This comparison can be used to forecast the environmental impact of mining activities on the biodiversity of an area.

Over the last 15 years, it has been shown that the observation of plants and birds can give a reproductible figures for the development of the biodiversity of a project area. In addition to this basic data the experiences on the site of Gummern showed that the evaluation of several years of special species can give very import information regarding the rehabilitation. For example, over several years species like arachnids, bats and herpetofauna were observed by external specialists.

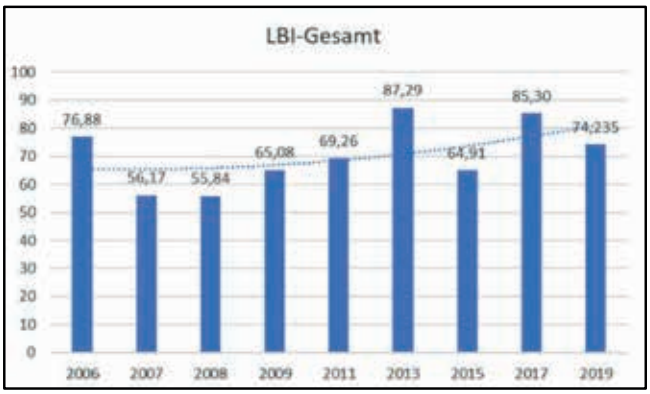
In order to ensure objectivity for several monitoring rounds, a grid was laid over the entire investigation area for the vegetation analysis. The observation spots are randomly selected for each zone.

For each of these spots, all vascular plants were collected on an area of 10 m^2. In addition, a species list is drawn up for each assessment zone. For the ornithological surveys, the study area was divided into 2 areas (mining and surrounding area). In the case of amphibians and reptiles, the same habitat classification is used as for the vegetation. Based on these regular evaluated data the LBI as coefficient between project area and surrounding area is calculated. It is logic that because of the climate changes within years the calculated LBI can various. After 15 years of experience with the LBI it can be stated out that an observation program over several years is necessary to document clear trends.

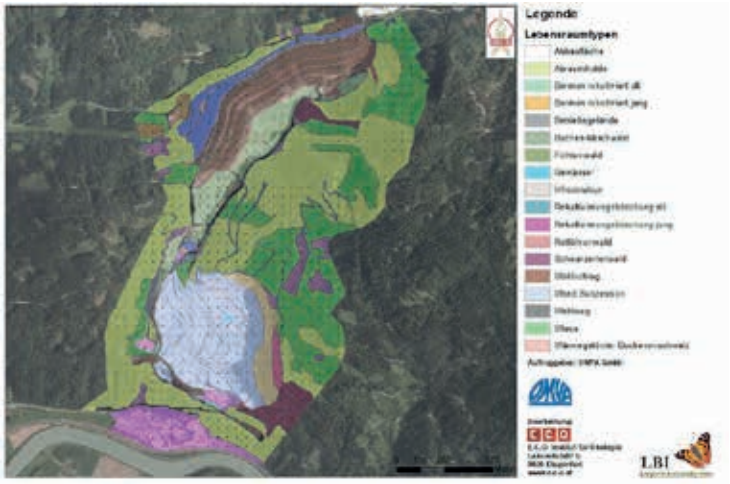
This long-term experience enables the local management to choose proper and effective ways for renaturation of projects areas. Over the last years it can be shown that the biodiversity in the project area (quarry and waste dump) is close the biodiversity of the surrounding area. The forecast of for the future shows even a higher biodiversity than the surrounding areas. In addition, this scientific documentation was very helpful for the planning and authorization processes of other mining project within Omya group. A long-term monitoring system (since 2004) shows the success in restoration and reclamation efforts. Through the monitoring, the rehabilitation can be adapted to the needs at any time. This can ensure that the rehabilitation of the project

areas is carried out in consideration of the long-term biodiversity.

- Proof of success for the nature conservation work
- Early warning system for possible undesirable developments
- High acceptance by stakeholders and authorities because of measurable facts regarding the ecological impact and rehabilitation works
- Good cooperation and discussion platform between NGO´s and mining companies. This is also creating trustful relationship between this kind of organizations



Long-term development Biodiversity Index (Positive Trend)



Definition of habitat types

Rehabilitation Examples:

Biotope – mineral waste disposal area

Fire salamander (endangered species)

Emerald lizard (endangered species)

Final benches – Quarry

PROTECNICA INGENIERIA SAS

Magdalena River Nuts

Region: Valle del Causa, Colombia
Starting Date: 2018
Project Status: Available

SDG 5 Gender Equality
- Incorporation of 55 single mothers to the manual peeling process for walnuts.

SDG 5 Gender Equality/ SDG 8, Decent Work and Economic Growth
- Establishment of an association which allows 45 single mothers access to a structured work environment, generating an alternative source of income.

SDG 8, Decent Work and Economic Growth
- Generation of alternative incomes in 12 towns which reach 200 farmers
- Training programs and development of skills in agriculture for farmers

SDG 8, Decent Work and Economic Growth/ SDG 10 Reduced Inequalities
- Training programs in developing business and soft skills for single mothers.
- Development of an alternative business model for 45 single mothers.

SDG 15 Life on land
- Protection of the Lecythis Minor species, a type of tree originated in the Lower Magdalena River basin, whose fruit is not edible, through the development of a project we manage, which aims in ceasing logging activity, protecting biodiversity and its surroundings

SDG 13 Climate Action/ SDG 15 Life on land
- Protection and preservation of ecosystems.

CBD Strategic goals: Reduce the direct pressures on biodiversity and promote sustainable use; To improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity; Enhance the benefits to all from biodiversity and ecosystem services

The Magdalena River originates in the high mountains, specifically in the Andean Mountain range, with a length greater than 1,500 km. It crosses different thermal levels, and it is composed by a variety of geographical landscapes, making it a unique spot filled with biodiversity. Historically, the ancestral natives populated its banks and they called it ¨Rio de la Vida¨. It is precisely at the end of its journey, in the valleys, in the Colombian Caribbean where its waters allow different species to develop in the wild. One of them is the tree that gives rise to their project: Magdalena River Nuts - Lecythis Minor Monkey Pot (known as Monkey Pot).

The tree's fruit (the Magdalena River NUTS) has a high concentration of natural Selenium which makes it unique in the world. Low-income communities settle around these valleys, seeking to survive through fishing and in many cases, develop activities which evolve into consequences such as, deforestation of native species in the area. PROTECNICA INGENIERIA SAS was able to determine their components, which include Selenium in its natural state, and a series of other vital components for humans. Considering the aspects previously mentioned, Magdalena River NUTS serves several purposes:

- The protection of biodiversity, we avoid the falling of this tree species
- Community development, more than 200 collectors and 55 single mothers.

The supply of products derivatives is 100% natural oil and Selenium

Founded in 1978, PROTECNICA INGENIERIA is a leading company in the development, production, marketing, and export of chemical specialties. It is part of the PROCHEM GROUP which is composed by 7 companies in 5 countries, Colombia, Ecuador, Peru, Chile and the United States. It has a wide international recognition in the cosmetics and home care ingredients, food ingredients, sugar and fermentation, and industrial line areas, and possesses specialized application laboratories, highly trained technical staff, and exclusive area of R + D + i. Since 2018, the Magdalena River NUTS project is part of the natural ingredients program of "Colombia + Competitiva, a joint initiative by the Swiss Embassy in Colombia, Economic Cooperation and Development (SECO), the national government and the Swiss Foundation for Development Cooperation (SWISSCONTACT). Its purpose is to improve competitiveness and diversify the national economy through the productive sector (natural ingredients) and create a favourable business environment.

The Magdalena River NUTS project has been able to receive validation for different processes, advice of international experts, and compliance with the requirements for the export of nut derivatives, thus contributing to the development of low-income communities, and also to the cosmetics industry with ingredients derived from Colombia's biodiversity.

In 2020, the company has received the Green Ingredient Award from in-cosmetics Global, for producing a 100% natural ingredient that comes from a sustainable source and impacts the populations that develop it.

Currently these derivatives are exported to countries such as Germany, France, Korea, the United States and Central and South America.

URL: www.magdalenarivernuts.com
Documentary Film: https://www.youtube.com/watch?v=bT4_XnlnWhw
Project Results: https://www.youtube.com/watch?v=PEnXiiSEt_4
Commercial Film: https://www.youtube.com/watch?v=rg6r_LI9-t0

Habitat Network Caminau (Biotopverbund Caminau)

Region: Saxony, Germany
Starting Date: 2005
Project Status: Available

CBD Strategic Goals: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society; To improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity.

- Around 200 case studies identified mineral companies that deliver on multiple SDGs
- Each case study / project delivers in average in 3 to 4 SDG

The mining & extractive sector is facing a massive challenge to demonstrate their role as net contributors in biodiversity conservation during and at the end of their operations while having to consume a small part of land temporarily (in EU is estimated 0.1%).

In 2008, a biodiversity statement was agreed within the minerals industry which provided a foundation for Quarzweke to address the biodiversity challenges.

The project developed prior to the start of quarry operation describes the proposal of various mitigation measures such as ecological restoration, which aim is to mitigate the negative impacts of a project on the environment. The aria prior to the project, is a Grasslands and lands dominated by forbs, mosses or lichens (EUNIS classification) and by the end of the project implementation will:

1. Create Natura2000 habitat network (listed in Annex I of the Habitat Directive);
2. Develop a Natura2000 reach species (Falco subbueto, pandion haliaetus, tringa ochroptus which are listed in Annex IV of the Habitat Directive);
3. Contribute to protection of other international status for: Bats: Nyctalus noctula, Eptesicus serotinus, Barbastella barbastellus, Pipistrellus pygm (e.g. IUCN Red List, CITES).

The post mining landscape has been configured so that it blends harmoniously with the landscape and has a high aesthetic landscape value. The Habitat Network with its individual habitats has a higher value than the areas prior to their utilisation for mining.

- The creation of a connection between nature and learning
- The creation of habitats for numerous species (see banner below)
- Settlement of protected/strictly protected/endangered/highly endangered species by means of special biotopes
- The following have been put in place: A dendrological nature trail, a herb bed, the who's who of brooding, an island pond with a hiking trail, arboretum sinensis (a plant collection of Asian origin), a castle hill with castle ruins in which there are viewing platforms, saliceum (a willow structure), a deadwood park, an amphitheatre, a forest playground, a green classroom and a sound garden.
- The biodiversity restoration activities contribute directly to the SDG15: (Life on

land) but also to the SDG11: (Sustainable Cities and communities); SDG9: (Industry Innovation and Infrastructure)

The minerals sector has developed a Sustainability Development Charter in 2006. This charter presents the sector driven commitment, defines the long-term vision and helps to map ongoing initiatives as well as trace concrete actions.

Project pictures: Island pond with a hiking trail; Forest playground; Castle ruins in which there are viewing platforms



URL: https://www.oberlausitz-heide.de/erleben/unesco- biospharenreservat/umweltbildung/biotopverbund-caminau/?cok

"High Added Value" Combined Heat and Power Project

Region: France
Project Status: Available

Rayonier Advance Material, is one of the world's largest producers of specialty cellulose pulp, manufacturing high added value products with multiple applications (e.g. food, inks, paints, varnishes, concrete), used by the pharmaceutical and cosmetics industries. Rayonier carried out a decarbonation project in its biorefinery located in Tartas (France), consisting in the implementation of a new a "high added value" combined heat and power system to:

i) better valorise by-products of cellulose pulp,
ii) improve low temperature heat recovery,
iii) improve overall energy efficiency of the process dedicated to the production of bio-based products and bio-fuels (also reducing the share of fossil fuels) and,
iv) modernise the site in preparation of further transformation projects.

This decarbonation project was promoted by Rayonier AM Management both internally and externally and was also supported by the Ministry. Rayonier AM was granted feed tariff for the production of renewable electricity and received subvention from the Region.

The decarbonation project consisted in i) installing a steam turbine to increase renewable electricity production and ii) implementing a low temperature heat recovery system on biomass boiler fumes.

Main impacts of this project were i) an increase in the efficiency of biomass boilers, ii) a drying of solid biomass (used as a fuel) from low temperature heat, iii) a reduction of fossil energy consumption and iv) an increase of electricity generation.

Overall, this decarbonation project performed in the biorefinery has reduced carbon emissions and environmental impact, while improving energy efficiency and reducing operating costs.

The project will increase energy efficiency of the biorefinery by 8%:
- Recovering 185 Gwh/year of low temperature heat;
- Reducing water consumption by 850,000 m^3/year;
- Increasing renewable electricity production by 20 GWh/ year;
- Reducing fossil energy consumption by 5% of the overall site energy consumption

The implementation of the project has been efficient regarding cost control (no cost overruns with regard forecasted investment of €24 million), and deadlines (sale of electricity on time). The biomass dryer installed at Rayonier AM is the largest in Europe and has become a reference for optimising the energy efficiency of all solid biomass heaters.

Delivering the Paris Agreement

Region: Denmark, Italy and the Netherlands
Project Status: Ongoing

The built environment accounts for 39% of global CO_2 emissions – a huge proportion which has to be reduced to meet governments' net zero targets. Even with the growth in renewable energy, saving one kilowatt hour (kWh) through installing insulation is much less carbon-intensive than producing one kWh through green methods. To decarbonise the buildings in the most efficient way, fabric retrofits needs to play a central role.

The ROCKWOOL Group creates safe and sustainable products, working to address the most pressing climate and sustainability challenges for the built environment. Headquartered in Denmark, ROCKWOOL is a business of 11,500 colleagues across 39 countries, with a core goal of making climate neutrality by 2050 possible. Under the ROCKWOOL umbrella are five brands:

- ROCKWOOL – insulation
- Rockfon – ceilings
- Rockpanel – cladding
- Grodan – horticulture
- Lapinus – flood solutions

The pandemic has presented an opportunity to recover in a greener way and ROCKWOOL sees retrofitting as a key tool for creating green economy jobs. However, there are real challenges to overcome to retrofit at the speed required to reach net zero. Governments need to put in place long-term commitments through retrofit programmes which span the next 5 – 10 years. The general public will also need financial support for adoption to be at a mass-scale. ROCKWOOL seeks to work with governments to find the best solutions to long-term funding, whilst also working with industry partners to raise public awareness of how to cut emissions.

ROCKWOOL's corporate strategy is concentrated on the following five campaign themes:

1) Energy efficiency
   1. At the core of ROCKWOOL's business is energy efficiency – creating buildings that require less energy to heat and cool them.
   2. In 2020, ROCKWOOL provided building insulation products that in their lifetime will save 186 million tonnes of CO_2 worldwide – equivalent to the annual emissions of the Netherlands.

2) Green recovery
   1. Renovation programmes support international ambitions to 'build back better'. For every €1bn invested in building renovation, 18,000 'shovel-ready' local jobs can

be created.
2. In Italy, to relaunch the economy in response to Covid-19, the Government established the Superbonus 100% scheme, a renovation programme which decreed that a building had to increase by two energy classes to be eligible for funding.
3. However, taking advantage of this scheme isn't always easy: eligibility is often an issue and documentation can prove complicated. To address these challenges, ROCKWOOL created a team to help applicants and other stakeholders through project applications, planning and implementation.

3) Adaptation and resilience

1. Urban flooding caused by more frequent and severe storms is one of the most serious consequences of climate change.
2. Lapinus' sustainable urban drainage system helps prevent extreme rain events from turning into floods. It can quickly absorb up to 95% of its volume in water – 950 litres per m^3 – before gradually releasing it back into the system.

4) Nature and sustainability

1. As the world's population continues to grow, pressure on natural resources will increase. In the building sector, for example, construction and demolition waste accounts for more than a third of all waste generated in the EU, so circularity is an important strategic pillar for ROCKWOOL.
2. ROCKWOOL stone wool can be recycled indefinitely and we have clear targets to strengthen our circular business model.

5) Industrial decarbonisation

1. ROCKWOOL is a net carbon negative company, in that over the lifetime of its use, the building insulation we sold in 2020 will save 100 times the carbon emitted in its production.
2. ROCKWOOL is one the few energy-intensive manufacturing companies in the world with emission reduction targets verified and approved by the Science Based Targets initiative.
    i. Reducing factory absolute greenhouse gas emissions by 38 percent by 2034 (relative to baseline year 2019)
    ii. Reducing non-factory, absolute lifecycle greenhouse gas emissions by 20 percent by 2034 (relative to baseline year 2019)

ROCKWOOL has aligned its whole value chain to the SDGs and it went to great lengths to show this in its 2020 Sustainability Report (pg. 9). The business is tackling both owned emissions and helping others reduce theirs through ROCKWOOL products. For instance, ROCKWOOL is aligned with SDG 13 by reducing all Scope 1, 2, and 3 emissions by one-third by 2034.

At the end of ROCKWOOL's value chain, in the use of its products, by enabling more carbon-efficient buildings and industry, by creating more energy-efficient buildings and industry, and by providing local jobs and economic growth, the company is aligned with SDG 13, SDG 7 and SDG 8 respectively.

ROCKWOOL is also charting well against the goals it has set itself:

• 9% towards reducing CO2 emission intensity from our production facilities by 20% by 2030
• 11% towards reducing non-factory, absolute lifecycle greenhouse gas emissions (Scope 3) by 20% by 2034

• By the end of 2020, landfill waste was down by 50%, against a target of 40% by 2022

Installing a Rockflow system in the Netherlands.

URL: https://www.rockwool.com/

Puchberg am Schneeberg

Region: Puchberg am Schneeberg, Austria
Project Status: Ongoing

CBD Strategic Goals: Reduce the direct pressures on biodiversity and promote sustainable use.

The objective in the Puchberg am Schneeberg gypsum quarry is the protection of red-listed flowers present in the area. Indeed, cultural landscape and nature conservation are often compatible. The planning of a new extraction site requires a precise consideration of environment and economy, thus creating value for society at large. As the extraction process is temporary, the final condition of the site is an essential part of the planning process. The Puchberg quarry is in an area with red list flowers within Natura 2000 sites. The solution was found in the transplantation of meadow and the restoration of typical countryside with artificial hills and dips. As a result, the annual monitoring of the area shows that flora can be protected and preserved.

Area sensitivity: The project occurs in Natura 2000 area.

URL: https://www.eurogypsum.org/biodiversity/

Project Horse Sappi Lanaken mill

Region: Belgium
Starting Date: 2019
Project Status: Available

In 2019, Sappi launched Project Horse tasked with rebuilding its Lanaken mill's PM8 into a world-class machine for woodfree coated fine papers in the light grammage ranges. In line with the company's strategic target to reduce its CO_2 footprint by 25% by 2025, the rebuild had also reduced the mill's primary energy consumption.

After its two month rebuild, PM8 was back operational in mid-June 2019. The major investment was showing good results not only in new quality but also in reduced energy usage,reduce primary energy consumption by 8.4%, continuing its long-time efforts in various voluntary agreements with the Flemish Government (Benchmarking Covenant in the past, and EBO at present).

Revolutionising Fibre-Based Packaging

Region: Europe
Project Status: Available

Sappi's product innovation focuses on providing the market with fibre-based packaging solutions for applications that have traditionally relied on films, aluminium and multi-layer laminates. Their expanding range of functional papers supports the shift away from fossil-based materials towards renewable, paper-based packaging solutions. The papers deliver barriers to oxygen, water vapour, grease, aromas and mineral oil, which radically expands the scope for paper-based packaging applications and offers a viable replacement for fossil-based and non-recyclable materials. While fibre-based packaging is not new per se, what is new in Sappi's development is incorporating new functionalities within the paper structure. Providing a barrier that fully delivers the protective function of packaging is essential if paper is to replace films or multi-layer laminate structures. Developing the innovation required to deliver heat sealability within functional papers also eliminates the need to add further sealing coatings or layers.

Moreover, it is essential that the paper can run at high speeds and on existing machines without cracking or other damage. This is made possible by Sappi's close partnership with OEMs, during which packaging machines are individually adapted to the properties of the barrier papers.

By developing functional papers, Sappi strives to deliver fibre-based packaging solutions that provide exceptional product protection, run on existing packaging technol-

ogy and contribute to a circular economy by being recyclable in the paper waste stream.

In collaboration with leading brand owners, Sappi's functional papers have been launched in a number of applications, particularly in the areas of confectionary and tea.

Skanska Climate Plan ACT

Region: Global
Starting Date: 2021
Project Status: Available

The construction sector has always been an important player in global emissions, given that it contributes to approximately 40 percent of global energy-related carbon emissions. Skanska aims to be part of the solution. In line with Paris Agreement, Skanska aims to achieve net-zero carbon emissions in their operations and value chain by 2045 with Science Based Target.

Since 2015, Skanska had by end of year 2020 decreased their carbon emissions by 34 percent and the carbon intensity by 36 percent. That decrease carries on in 2021, and for first quarter of the year, Skanska has already reached 40 % reduction. To build a strong foundation and set the road forward, Skanska launched the Climate plan, ACT, which built upon market research, industry benchmarks and data analysis. ACT consists of three building blocks: Awareness, Customer success and Transformation.

Awareness

Skanska reckons the significance to raise awareness of sustainable construction and development in building a climate smarter society. With the sectoral competence possesses by Skanska, the company started with pioneering internal organisational changes, including structures, data, and business decisions. They aim to transform businesses to spread awareness and transform the business towards a more conscious one.

Customer success

A successful cross-industry collaboration on sustainability innovation is necessary to mitigate the climate crisis. Zero carbon solutions will only happen with efforts are made collaboratively among stakeholders in the increasing use of digital tools, smarter energy solutions and low-carbon offerings. Skanska develops sustainability standards, including third party certification and measurement, for buildings and infrastructure industry which are important drivers for customer offering.

Transformation

In Skanska, carbon emissions reduction is embedded throughout the entire building production process, starting from planning, construction to demolition. The company is aware of its choice of materials, methods to attain resource efficiency, as well as circularity model. It is also transiting into renewable fuels by sourcing renewable electricity, seeking green transport solutions with greater use of electrification and automation, and establishing partnership for innovation solutions.

By adopting the strategies, Skanska has reduced internal energy demand by 25 precent and has increase the use of renewable energy by 57 percent since 2015. The company also manages to use 42 precent less energy on average in building commercial buildings comparing with the certification system LEED's established baseline.

Climate performance measurement and evaluation is key in developing solutions to reduce the emissions. Skanska has been monitoring and reporting on its carbon emissions since 2008. The reports now cover scope 1, scope 2 and 3 carbon emissions. Over the past few years, Skanska has been expanding and improving the quality of their scope 3 data.

Examples of the pioneering energy-positive construction projects conducted by Skanska in smart smarter future are the Kendeda Building project in USA and the Powerhouse Brattokaia project in Norway.

Kendeda Building

The Kendeda Building has been certified with both LEED Platinum and Living building challenge. It is the first academic and research building in the Southeast USA to pursue Living Building Challenge 3.1 certification – the world's most ambitious green building program. The Building will only need one-third the energy in operation comparing with other similar building, it generates more electricity from solar panels on its roof than it has to consume on an annually . The roof also captures and treats rainwater for all purposes, including drinking. Skanska's partnership with the Kendeda Fund, will allow this project to continue to inspire architects, civil engineers, business and policy leaders for generations to come.

Powerhouse Brattokaia

World economic forum have named Powerhouse Brattørkaia one of the most climate advanced buildings that exists. Powerhouse Brattørkaia is an energy positive building, and this office building generates more energy than it consumes over a 60-year life span including energy and carbon emissions from material production, the construction process and building operations. Brattørkaia was produced by Powerhouse, a collaboration of companies dedicated to creating energy-positive, low-carbon buildings. The solar panels on Brattørkaia's roof and facade produce about 500,000 kWh annually – more than twice as much electricity as the building needs daily, on average. After Brattørkaia meets its own energy needs, excessive energy flows via a microgrid to adjacent buildings and to charging equipment for electric buses, cars, and boats. The building's frame of low-carbon concretely absorbs and retains heat and cold, which helps to regulate office temperatures naturally. Also, the structure's enormous oval opening pulls sunlight into interior offices, minimizing the need for artificial lighting

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1 - URL: https://livingbuilding.gatech.edu/
2 - URL: https://www.powerhouse.no/en/prosjekter/powerhouse-brattorkaia/

Heinola HTC

Region: Finland
Starting Date: 2019
Project Status: Available

Sludge is a by-product of processes in industry and agriculture, which is difficult to dispose due to its high-water content. In 2019, Stora Enso conducted a pilot project at its Heinola Mill in Finland to address this challenge in the spirit of the bio-based circular economy. The mill used to burn biosludge at its power station for thermal power, but because of its highwater content, a fossil-based fuel was needed to support the burning process – an obstacle to the mill's long-term goal of achieving carbon neutrality.

An industrial-scale pilot plant was built at the mill, using a technology developed and patented by the Swedish company C-Green Technology AB. For the first time, biosludge is dried in an energy-efficient way with pressure and heat, making it a clean and odourless biofuel. It can then be burned without additional fossil-based fuel. Alternatively, there is a possibility to use it as a growth medium.

With the pilot plant, Stora Enso is investigating how much CO_2 emissions can be reduced with the treatment of bio sludge. Stora Enso's goal is to reduce the use of fossil fuels and get as close to zero levels of CO_2 emissions as is commercially feasible. A high proportion of biomass is already used in internal energy production at most of our mills.

The dried biosludge offers many possibilities. For instance, it promotes the circular economy by providing an opportunity to reuse the nutrients it contains. For example, this can be realised by using the final product as a growth medium. The HTC plant can also accept other sludges from outside the Heinola mill, contributing on a larger scale.

PureFiber™

Region: Sweden
Starting Date: 2020
Project Status: Available

In 2020, Stora Enso started production in Sweden of ready-made formed fibre single-use packages. The products are produced directly from pulp using a thermoforming technology where pulp is pressed directly into its final shape. The raw material used is wood pulp from sustainably managed forests in Scandinavia. PureFiber™ is Stora Enso's next generation of formed fibre eco-productswhich can be made in almost any shape where today conventional PE, PET and other plastics are used. That means PureFiber™ can be used in a wide range of applications including single-use

food packaging items such as plastic-free cups, bowls, clamshells, plates and coffee cup lids.

These products promote food safety by having a transparent supply chain, offering plastic-free and PFAS-free products. They are produced in Sweden with 100% fossil-free electricity, using local sourcing of raw material, short transport routes of raw material and creation of job opportunities in Europe. Stora Enso's PureFiber™ products can either be recycled or composted after use. A critically reviewed LCA study shows that the PureFiber™ product line enables an approximately 75% lower CO_2 footprint compared to alternative packaging materials such as plastic or bagasse.

THE NAVIGATOR COMPANY

Biomass Boiler and Decarbonisation

Region: Portugal
Project Status: Available

The Navigator Company recently inaugurated a new biomass boiler at its Figueira da Foz industrial complex, in an overall investment totalling €55 million. This investment will allow the company to cut its fossil carbon dioxide emissions at this complex by around 150,000 to 200,000 tonnes CO_2 per year.

The new biomass boiler will phase out the consumption of fossil fuels for steam generation needed for the pulp and paper production process in Figueira da Foz, and thus replacing the capacity previously assured by the natural gas combined cycle power plant and old biomass and natural gas boilers.

Around 400,000 tonnes of biomass will be consumed each year to operate this new biomass boiler. Half of this is comprised of bark and sawdust, residues from wood handling operations (debarking and screening), coupled with 200,000 tonnes of residual forest biomass acquired from abroad from operations involving forest management and the cleaning of rural areas.

This investment is part of the decarbonisation strategy of the company, who decided in 2019 to meet European targets early and achieve carbon neutrality at all of its industrial complexes by 2035, achieving an 86% reduction in its CO_2 emissions by this date.

Using residual forest biomass, the new boiler will generate thermal energy for the company's production processes, making power generation significantly more renewable based and efficient, using co-generation technology. The new biomass boiler will have a higher capacity and much more rigorous environmental performance, as a result of The Navigator Company's investment in the best technology currently available for this purpose.

The Figueira da Foz mill will be the first of the group with electricity and heat produced entirely from renewable sources. Navigator's remaining mills will trend towards producing 100% of the electricity they consume from renewable sources, reducing fossil CO_2 emissions using new technologies, decreasing specific energy consumption and, finally, offsetting the remaining CO_2 emissions.

Production of Sustainable Polyethylene based on Carbon Captured from Industrial Waste Gas

Region: Antwerp, Belgium
Starting Date: November 2020
Project Status: Available

The objective is to provide Polyethylene (PE) users with a "drop-in" solution that is a perfect substitute (in terms of mechanical performance, food safety approval, etc.) for conventional fossil fuel-based PE while reducing considerably its environmental footprint (LCA). PE carbon footprint reduction will come from substitution of fossil oil by a less carbon intensive feedstock.

TotalEnergies' Polymers activity has fully committed to taking on this challenge by innovating to reduce the carbon footprint of its products, particularly polyethylene (PE), by using feedstocks other than fossil oil. With this in mind, TotalEnergies worked with L'Oréal and Lanzatech, both players in the value chain, to develop this ambitious project. The first major deliverable of this world premiere involved a pilot-scale proof of concept of the very first sustainable packaging produced from captured and recycled carbon emissions.

The ultimate objective of this project is the industrial production of PE from ethanol, obtained via a biotech process based on the bacterial fermentation of industrial waste gas. To achieve this, TotalEnergies is using an innovative dehydration process developed with IFP-EN and Axens to transform ethanol into ethylene, which is then polymerized to turn it into a PE that has all the technical specificities of its fossil fuel-based counterpart.

The aim of the project is to implement a value chain, from the ethanol obtained from recycled carbon produced by a variety of sources (including waste gas from the industry) to the marketing of PE made from this feedstock.

It will enable us to propose plastics that are just as effective and more sustainable than fossil fuel-based solutions, and that fit into a circular economy, including the recycling of the product obtained.

The realization of the pilot-scale proof of concept was a key element, to demonstrate the technological feasibility of the dehydration process needed to transform the ethanol into polymer-quality ethylene.

This innovation paves the way for carbon capture and recycling to produce materials (PE) thereby avoiding industrial waste gas and the use of fossil resources. In addition, this PE is perfectly recyclable at the end of its lifecycle via existing and well-established schemes, meaning that it fits into a complete circular value chain.

Lanzatech, TotalEnergies and L'Oréal have developed an innovative solution to reduce the carbon footprint of Polyethylene (PE). They have achieved a world first in producing the very first packaging made of sustainable PE using captured and recycled car-

bon emissions. The aim of this project is to scale up the production of this sustainable PE and thereby reduce the amount of plastic made from fossil fuels.

This project could offer an economic and circular outlet to ethanol produced by biotechnology with a twofold benefit: it helps reduce the carbon emissions of certain industrial activities (CCU approach) and it enables the polymer industry to no longer use fossil oil as a raw material to produce polymer. Owing to these prospects, a number of industries could initiate projects to produce ethanol from waste gas and TotalEnergies could use this ethanol as a substitute for conventional feedstocks obtained from fossil oil refining.

TotalEnergies polymer site, Antwerp

Lanzatech unit

Photo of the container made by L'Oréal

Pres Release October 27th, 2020 - https://www.totalenergies.com/fr/medias/actualite/press-releases/lanzatech-total-et-loreal-annoncent-une-premiere-mondiale-la
Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

Green Steam Hürth

Region: Germany
Project Status: Available

UPM Hürth is the world's most modern newsprint mill, with annual production capacity of 330,000 tonnes of newsprint-grade paper made entirely from recycled fibre. The mill is located in an industrial park near Cologne, Germany, in a region that is today shaped by industrial scale lignite extraction and related industries. Lignite has also been the fuel used to provide steam and electricity for a number of companies, including UPM Hürth.

Together with German utility E.ON, UPM initiated a project to establish a green power source to provide process heat for paper production at the mill and green power for a large number of surrounding companies. E.ON is building a wood-fired biomass plant with a total generation capacity of 20MW of electricity and 87MW thermal generation capacity. Upon ramp-up in 2022, this power plant will replace the current lignite-based generation, contributing to an annual reduction of Scope 1 CO_2 emissions of 300,000 tonnes for UPM alone.

This project supports UPM's ambitious climate targets of a net emission reduction of 65% by 2030 and the company's long-term pledge to achieve carbon neutrality by 2040. What's more, it is also an enabler for the transition of the German power system away from fossil power generation by providing a stable and sustainable power generation, which is needed to support efficient use of the increasing capacity of fluctuating renewable power generation sources in Germany. Thus, UPM Green Steam Hürth is a cross-stakeholder project that enables a positive contribution of the pulp and paper industries to solving the global climate crisis.

Sustainable Buildings Approach: Improving the Energy and Environmental Efficiency

Region: France, United Kingdom, Spain
Starting Date: 2015
Project Status: Available

SDG 7: "Clean and affordable energy" by improving the energy efficiency of the building stock;

SDG 9: "Industry, innovation and infrastructure" by making more rational use of resources and environmentally friendly materials;

SDG 11:"Sustainable cities and communities" by improving air quality;

SDG 13: Measures relating to the fight against climate change.

The "Sustainable buildings" approach deployed at the Group's headquarters consists of a set of actions aimed at guaranteeing optimal use of energy on the site. This is reflected in particular by the following actions:

- Implementation of a dual ISO 14001 (environmental management) & ISO 50001 (energy management) management system, including the deployment of an environmental and energy policy accompanied by indicators allowing a thorough management of the energetic performance;
- Establishment of an environment and energy "Green Team" (also composed of site service providers) whose role is to lead and continuously improve the efficiency of the environmental and energy management system;
- Launch of regular information campaigns for site employees related to eco-gestures (poster campaigns, creation of an e-learning module dedicated to the environment-energy approach, events, etc.);
- Implementation of actions on infrastructure equipment: relamping campaigns, more precise control of heating and air conditioning, implementation of sub-metering systems to improve the tracking of energy consumption, optimization maintenance actions (removing sludge from circuits, etc.), removing or replacing obsolete equipment with more efficient devices, etc.
- Optimization of waste sorting channels;
- Systematic integration of an analysis of the potential energy gain in the specifications of all works carried out on site.

Vivendi has implemented a "Sustainable buildings" program aimed at improving the energy and environmental efficiency of its buildings, thereby reducing the carbon footprint of the sites.

The objectives of the "Sustainable buildings" approach are to reduce the environmental footprint linked to the use of sites via:

• Raising employee awareness about “green” energy practices (and generally good environmental practices), in order to fully involve them in the process;
• The guaranteed optimal compliance with environmental regulations, and in particular those relating to infrastructure equipment (lighting, air conditioning systems, heating);
• Optimization of the site’s operating processes and equipments in order to reduce the associated energy consumption (electricity, steam, etc.) and reduce the greenhouse gas emissions generated by them.

Full project details can also be found on Ambition4Climate initiative: https://ambition4climate.com/en/all-projects/

Smart Forest

Region: Romania
Starting Date: 2020
Project Status: Available

Romania has confronted illegal logging for the past three decades. The issue has kept the public attention and interest over the years, as people have seen the forests as a key factor for healthy communities which prevent floods, preserve the habitat for some of the last large carnivores in Europe such as bears, bob cats and wolves, and preserve biodiversity etc. The European Commission urged Romanian authorities to stop illegal logging initiating infringement proceedings[10].

One of the big challenges is to identify the place which deforestation is happening and intervene before it is too late – this is exactly what Vodafone Romania's smart forest solution addressed.

As a Purpose-led brand, Vodafone is committed to connect for a better future by enabling inclusive and sustainable digital societies. Vodafone believes that urgent and sustained action is required to address the climate emergency. The company sources 100% of their electricity in Europe from renewable sources (and by 2025 for our whole geographical footprint), has set a 2030 Science-Based Target and a 2040 Net Zero ambition. Vodafone Romania's network became 100% green in April 2020.

Vodafone Romania also powered the first "smart forest", to prevent illegal logging. The "smart forest" solution is based on a system developed by the non-profit start up, Rainforest Connection. This system communicates with the Vodafone network and consists of a series of devices called "digital guardians" which has acoustic sensors that capture a wide range of sounds from the environment. The captured data is sent, via the Internet, to a cloud platform equipped with Artificial Intelligence, where the AI recognises the specific sounds of logging. The system then sends real-time alerts with geolocation to an app installed on forest administrators' or rangers' phones, so they can intervene immediately.

URL: https://www.vodafone.ro/primapaduresmart/

[10] *https://ec.europa.eu/commission/presscorner/detail/en/inf_20_202*

GLOBAL BUSINESS AND THE CLIMATE CHALLENGE

The International Chamber of Commerce (ICC)—on behalf of 45 million institutional members—recognises that climate change is a growing emergency and wholly endorses the findings of the Intergovernmental Panel on Climate Change (IPCC) on the urgent need to keep the global temperature increase below 1.5°C. ICC is committed to supporting the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement in accelerating the transition to an inclusive and sustainable net zero emissions future. More companies than ever before are placing climate action at the heart of their business strategy, investments and operations, embracing the opportunity to drive innovation, increase competitiveness, enhance risk management and stimulate growth. They are also calling for policy frameworks that support the alignment of their operations with the transition to an inclusive and sustainable net zero emissions future.

To achieve our collective climate goals and secure a just and inclusive transition to a resilient, net zero emissions future, business urges governments to:

• Recognise the urgent need for a significant increase in climate action by keeping climate change high on the political agenda and providing the short and long-term policy coherence required to stimulate investments towards a net zero emissions economy consistent with efforts to achieve the SDGs. - Raise the ambition of the Nationally Determined Contribution (NDC) targets and long-term strategies to reach carbon neutrality by 2050 in light of the IPCC Special Report on Global Warming of 1.5°C.

• Commit to a just transition of the workforce and decent jobs in NDCs, and implement fully participatory planning processes—inclusive of governments, businesses, workers and communities—to ensure that no one is left behind in the transition.

• Encourage a robust and transparent international framework on the use of market-based approaches, which ensures environmental integrity, avoids double counting and gives markets full information on climate risks and opportunities. Strong carbon markets and pricing signals will increase investment in solutions and strengthen the efficiency and economic benefits of the transition.

• Include business in the development and implementation of climate change policy at national and international levels given the role of business as a key actor and source of experience, advice and resources in

tackling climate change while also increasing competitiveness, creating jobs and promoting sustainable economic growth.

• Develop regulatory frameworks that are integrated across government portfolios, and that support and stimulate the transition to a net zero emissions future.

• Prioritise the design of mechanisms, including through national public finance instruments, to de-risk flows of private capital into climate change adaptation and mitigation investment opportunities, particularly in developing countries.

• Channel finance to support the acceleration and encouragement of private sector innovation and breakthrough technologies, as well as the scale-up of technology research, development and deployment including through appropriate fiscal policies.

• Commit to clean energy access for all and support energy efficiency through education, incentives and forward-looking policy frameworks.

• Align and integrate trade and climate rules, frameworks, institutions and policies to be mutually consistent, mutually supportive and mutually reinforcing.

Photo credit: Markus Spiske

CBD

The Convention on Biological Diversity (CBD) is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources" that has been ratified by 196 nations.

Its overall objective is to encourage actions, which will lead to a sustainable future.

COP26

The 26th session of the Conference of the Parties, also known as the 2021 United Nations Climate Change Conference.
https://ukcop26.org/

ECO

The Energy Company Obligation (ECO) is a government energy efficiency scheme in Great Britain to help reduce carbon emissions and tackle fuel poverty.

EV

Electric vehicles (EV) have different types including Battery Electric Vehicles (BEVs); Plug-in Hybrid Electric Vehicles (PHEVs); and Hybrid Electric Vehicles (HEVs).

GBF

The Post-2020 Global Biodiversity Framework

GHG

Greenhouse gases (GHGs) are any gases which absorb infrared radiation from the Sun and trap the heat in Earth's atmosphere. The most commonly greenhouse gases include carbon dioxide (CO_2), Methane (CH4), Nitrous oxide (N2O) and fluorinated gases, such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

ICC

International Chamber of Commerce (ICC) is the official UNFCCC Focal Point for Business and Industry

Net zero

Achieving an overall balance between GHG emissions produced and taken out of the atmosphere of the earth.

SBTs

Science-based targets (SBTs) are the emission reduction targets if it is developed in

line with the scale of reductions required to keep global warming below 2°C from pre-industrial levels.

SDGs

Sustainable Development Goals (SDGs), also known as the Global Goals, are the 17 Goals adopted by the United Nations in 2015, as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. https://sdgs.un.org/goals

STAR

Species Threat Abatement and Restoration (STAR) metric documents the contribution of specific conservation and restoration actions in specific places by businesses, governments, civil society, and other actors towards global goals for halting extinctions. STAR helps identify actions that have the potential to bring benefits for threatened species, and it supports the establishment of science-based targets for species biodiversity.

UNFCCC

United Nations Framework Convention on Climate Change

WWF

World Wide Fund for Nature (WWF) is an international non-governmental organization founded in 1961 that works in the field of wilderness preservation and the reduction of human impact on the environment.

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INTERNATIONAL CHAMBER OF COMMERCE

ICC is the world's largest business organisation representing 45 million companies and 1 billion employees in over 100 countries.

ICC is the only business organisation with UN Observer Status and acts as a leading voice for business at the UN, G20, World Trade Organization and other major international institutions. ICC has three central roles:

1. Promote inclusive, sustainable, greener trade
2. Provide the rules and standards that self-regulate international business
3. Help companies and states settle international disputes

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