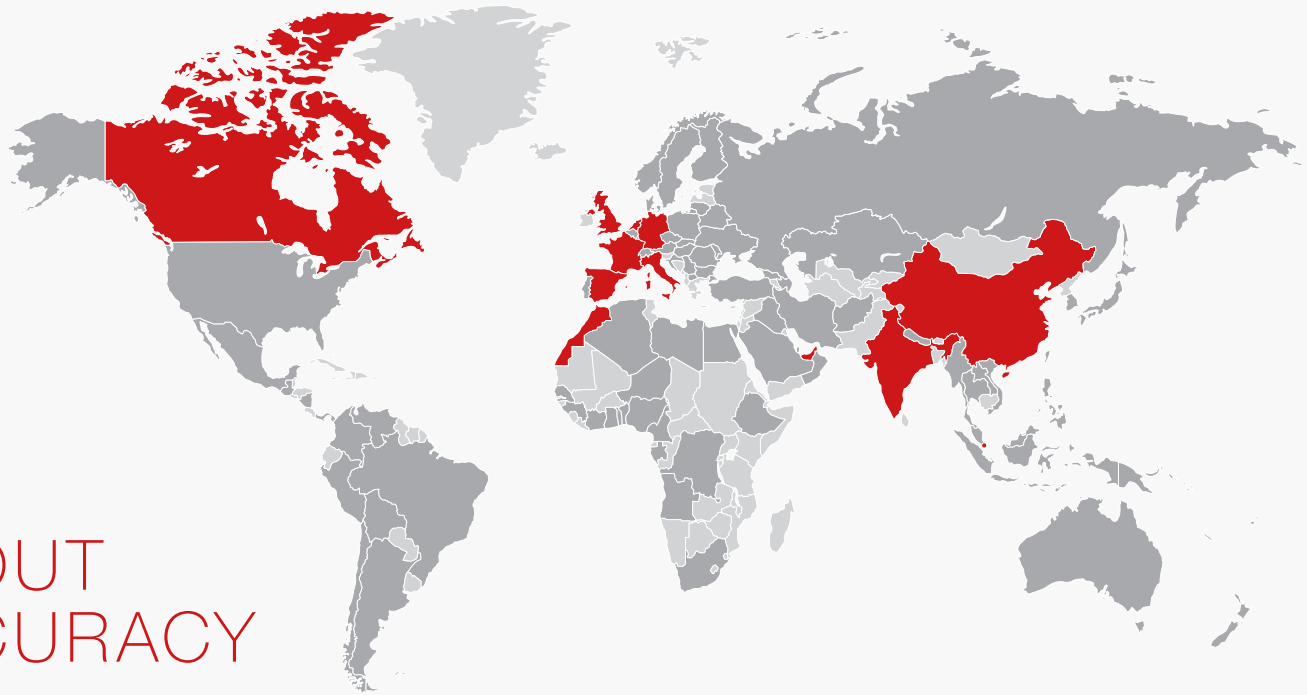


# Building tomorrow: **The COP of Action**

*Recommendations for COP 28 from the construction sector*



April 2023



## ABOUT ACCURACY

Accuracy is a wholly independent international consulting firm providing advice to company management and shareholders for their strategic or critical decisions in four main areas - Transactions, Corporate Strategy and Finance, Business Performance and Disputes & Crises.

At Accuracy, we see the world changing rapidly in myriad ways, with technological developments, climate crises, and geopolitical tensions, to name but a few. We help our clients navigate the challenges associated with this changing world, and we do so ensuring sustainability is at the core of what we propose. We understand that sustainable business practices are critical to long-term success and economic growth, and our goal is to help companies build resilient, sustainable businesses that create value for all stakeholders, now and in the future.

The World Economic Forum considers climate change to be the biggest risk facing us over the next few decades.

As a responsible corporate citizen, Accuracy is supporting its clients to achieve net-zero emissions. Our team of sustainability experts works closely with our clients to develop practical, science-based solutions that help them reduce their carbon footprints and achieve their sustainability goals. We believe that by working together, we can build a more sustainable future for all.

Accuracy's strength is to connect strategy, facts and figures. Our teams are international and multicultural; they combine various skills to provide bespoke services to our clients.

Accuracy is present in 13 countries in the Middle East, Europe, North America, Asia and Africa and leads engagements all over the world.

“ Sustainable business practices are critical to long-term success and economic growth, and we are committed to helping our clients navigate the challenges of a rapidly changing world.

The Executive Committee ”

# TABLE OF CONTENTS

Foreword	4
About this report	5
Executive summary	7
<b>CHAPTER 1: Policy &amp; regulations</b>	9
<b>CHAPTER 2: Financing &amp; investments</b>	17
<b>CHAPTER 3: Education &amp; awareness</b>	24
Accuracy initiatives to raise awareness	29
Call for action – no looking back	30
Acknowledgements, special thanks & disclaimer	31



# FORWARD

The world's population is expected to reach 10 billion by 2050.<sup>1</sup> That represents an increase of 2 billion compared with the population today. Did you know that it took 123 years for the global population to grow from 1 billion to 2 billion people? Now, an increase of 2 billion can take place in less than 17 years.

To support the largest wave of urban expansion in human history, experts anticipate adding 230 billion m<sup>2</sup> of new floor area to the world's building stock.<sup>2</sup> That equates to adding an entire New York City to the planet every month for 40 years! If we were to translate that into CO<sub>2</sub> emissions and what it would mean for our planet and for us, our minds would likely struggle to comprehend the magnitude of the figures and the enormity of the consequences. I will not go there. I will instead simply mention that the construction industry is responsible for almost 39% of global energy-related carbon emissions.<sup>3</sup>

It is incumbent on us now to build a new economy and society that cares for the environment and fights inequalities so that all 10 billion people in 2050 can be housed, fed and connected.

If we hope to achieve net zero by 2050, the construction industry will have to adopt environmentally friendly practices at a very fast pace. However, we must acknowledge that the building industry, as well as its level of advancement, differs by region. We must therefore rethink the way we do things. We must question everything and adapt current practices as we push towards the objective of reducing global emissions. We must first embrace consumption reduction – doing more with less. We must all fully commit to making the decarbonisation of our buildings an absolute and clear priority on all new projects. And we must work together across the value chain from the outset to make this happen.

The upcoming 28<sup>th</sup> Conference of Parties is a critical moment for the world to come together and take concrete action to address the urgent climate crisis. As we approach this important event, it is essential that all stakeholders – from individuals to governments and corporations – understand the importance of collaboration across the entire value chain to achieve the ambitious goal of halving emissions in the built environment by 2030.

Governments, non-profit organisations, corporations, academics, young people, we all have a responsibility to lead the way in raising awareness and taking action to address the climate crisis. Governments must create policies and regulations that incentivise sustainable practices and penalise those that harm the environment. Financial institutions and investors have to unlock and structure the financing of sustainable projects to drive economic growth. Non-profit organisations must work to educate the public about the climate crisis and engage them in meaningful action. Corporations must show leadership in promoting sustainable practices and reducing their carbon footprints.

This work for a more sustainable future for ourselves and future generations should have started long ago. But I believe that it is not too late to save our precious planet.



**Zulema Sanchis**  
*Director, Accuracy*

## References

- [1] 2022 Revision of World Population Prospects - UN.
- [2] Global Status Report 2017, from the Global Alliance for Buildings and Construction.
- [3] Bringing embodied carbon upfront - World Green Building Council.

# ABOUT THIS REPORT

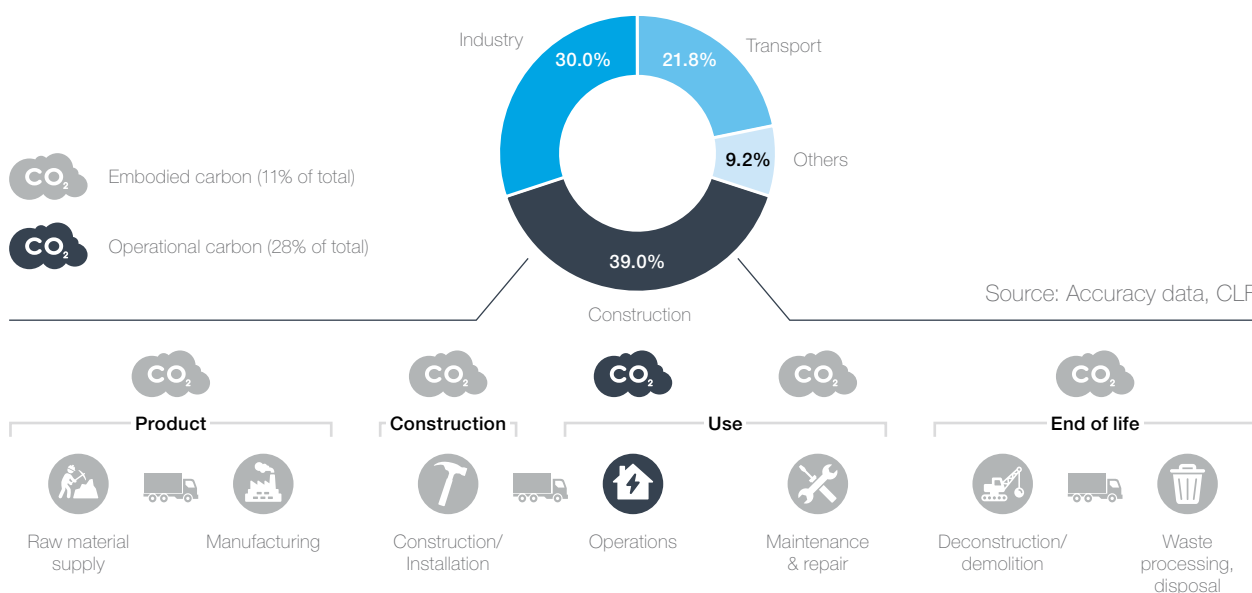
This report introduces Accuracy's key recommendations and guidelines on three specific topics that the construction sector needs to address to move towards sustainable practices and achieve net zero by 2050.

The intent is to outline the areas where COP 28 should focus to enable and accelerate the implementation of best practices in the region, as well as foster innovation within the sector.

Dr Sultan Al Jaber, the president of COP 28, said: *"We have a short window of opportunity to deliver a system-wide transformation. But if we make the right investments, we can create a pathway for sustainable growth, where climate & economic progress go together"*.<sup>4</sup>

But what is net zero and why does this report focus on the construction industry? To answer the first question, net zero refers to the process of minimising greenhouse gas emissions and compensating for any remaining emissions by removing them from the atmosphere, for example, via forests and oceans. The scientific consensus indicates that to avoid the most catastrophic effects of climate change, global warming must be limited to no more than 1.5°C above pre-industrial levels. Currently, the Earth has already warmed by 1.1°C since the late 1800s, and emissions continue to rise.<sup>5</sup> To stay within the 1.5°C limit outlined in the Paris Agreement, we must reduce emissions by 45% by 2030 and reach net zero by 2050.

To answer the second question, the construction industry is an essential part of reducing carbon emissions. It contributes 39% of total greenhouse gas emissions: 28% comes from operational carbon and 11% from embodied carbon, that is to say, the production of construction materials, extraction of raw materials, and the construction and renovation of buildings.



## References

- [4] [https://single-market-economy.ec.europa.eu/industry/sustainability/buildings-and-construction\\_en#:~:text=Greenhouse%20gas%20emissions%20from%20material,of%20total%20national%20GHG%20emissions.](https://single-market-economy.ec.europa.eu/industry/sustainability/buildings-and-construction_en#:~:text=Greenhouse%20gas%20emissions%20from%20material,of%20total%20national%20GHG%20emissions.)
- [5] IPCC, 2022: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.







# ABOUT THIS REPORT

However, as the world's population grows (10 billion projected by 2050, 25% more than the current population), these numbers will switch, and embodied carbon will be the primary source of carbon emissions in the industry. The priority is therefore to act now.

By working collaboratively and finding a balance between economic progress and environmental protection, we can create a sustainable future for generations to come.

Accuracy is well placed to assist in the decarbonisation of the construction industry. Through its advisory services, it assists public institutions and the private sector in:

-  lowering carbon emissions from construction projects by defining a technology road map for each player;
-  using frameworks to operate in a way that is environmentally friendly, socially responsible and economically viable;
-  developing opportunities through sustainable finance;
-  developing key collaborations with organisations to raise awareness and create a collaborative environment to educate and involve people and drive a change of mindset. - e.g. [ZERO](#).

The topics and recommendations addressed in this report result from discussions, round tables and working groups that took place during an event organised jointly by Accuracy and ZERO<sup>6</sup> on the topic “Towards a Net Zero Construction Industry”.<sup>7</sup> The event gathered representatives of all stakeholders in the construction value chain – bringing together developers, consultants, contractors and sustainable practitioners – to determine the main pain points the construction industry is facing when trying to achieve net zero by 2050.

## [Towards Net Zero in the Construction Industry](#)



### References

[6] A non-profit organisation whose mission is to create a new construction industry culture that continuously measures and manages embodied carbon through all project stages.

[7] <https://www.linkedin.com/feed/update/urn:li:activity:7039190967446347776>.

# EXECUTIVE SUMMARY

Currently, **buildings contribute 39% of total energy-related CO<sub>2</sub> emissions**, when considering their entire life cycles. This can be broken down into two components: **28% from operational carbon and 11% from embodied carbon**.

The goal of achieving net zero embodied carbon requires the creation of highly resource-efficient buildings and infrastructure assets, with operational carbon minimised and all remaining embodied carbon reduced or offset over the life of the structure. **This presents a considerable challenge for the construction industry**, which must embrace innovative and sustainable practices to achieve this goal.

To address this challenge, we have relied on our in-depth expertise of the construction industry and have engaged with a wide number of representatives across the whole value chain of the built environment. When exchanging with these representatives, we (i) raised the issues that they are facing and (ii) explored pragmatic, implementable strategies that could be deployed now to gain significant upfront carbon reductions. Our report highlights **three main areas** that have been recognised as **critical** to move forward:



Specifically, we set out in this report to **promote energy-efficient design and construction**, support the development of green infrastructure, **incentivise the use of low-carbon materials** and construction techniques and encourage the adoption of sustainable building codes and regulations.

We highlight the **urgent need to close the financial gap** between the public and private sectors and **to develop new and innovative means of financing construction projects**. Furthermore, our recommendations emphasise the importance of increasing public awareness and education about the benefits of sustainable construction practices.

In summary, our report presents a comprehensive set of recommendations to promote sustainable construction practices that will help the industry to achieve net zero embodied and operational carbon by 2050. **Each recommendation is directly linked to the sustainable development goals (SDGs)** as defined by the United Nations. By embracing these recommendations, the construction industry can play a vital role in mitigating the impacts of climate change and in building a more sustainable future for all.

The following table presents 10 key recommendations to enable the construction sector to reach net zero by 2050.

## Recommendations for the construction sector to reach net zero by 2050

Policies & Regulations	1	Develop Policies to Incentivise Companies to Reduce Carbon Emissions		Climate Action
	2	Implement Regulations Requiring the Disclosure of Building Carbon Emissions		Climate Action
	3	Encourage the Use of Low-Carbon Materials and Technologies	 	Industry, Innovation & Infrastructure Climate Action
	4	Promote Sustainable Design Practices and Green Building Standards	 	Sustainable Cities & Communities Climate Action
Financing & Investments	5	Increase Investments to Close the Financing Gap for Sustainable Building	 	Industry, Innovation & Infrastructure Sustainable Cities & Communities
	6	Bring Structure to the New Financing System for Sustainable Building	 	Industry, Innovation & Infrastructure Sustainable Cities & Communities
	7	Establish Carbon Pricing Mechanisms to Incentivise Low Carbon Adoption		Climate Action
Education & Awareness	8	Increase Public Awareness of the Environmental Impacts of the Construction Industry	 	Responsible Consumption & Production Climate Action
	9	Provide Training and Education on Sustainable Building Practices	  	Quality Education Industry, Innovation & Infrastructure Sustainable Cities & Communities
	10	Collaborate with Universities for Research on Sustainable Building Technologies	 	Industry, Innovation & Infrastructure Sustainable Cities & Communities



# 1

## POLICY & REGULATIONS

From Compliance to Commitment:  
Incentivising Low-Carbon Practices in the Construction Industry

# ONE PARTNER ONE VIEW

As COP 28 approaches, the global community is grappling with the **urgent need to reduce carbon emissions and mitigate the impacts of climate change**. While many industries are making strides in this direction, the construction industry has a particularly significant role to play, given its contribution to global carbon emissions.

The concept of ESG investing has gained significant popularity in recent years, as investors increasingly seek to align their financial goals with their personal values. Really? Actually, **we can observe that there is a contradiction at the heart of ESG investing**. On the one hand, the primary objective of most companies is to generate profits for their shareholders. This profit-seeking motive can sometimes conflict with environmental goals. On the other hand, ESG encourages companies to prioritise environmental sustainability and social responsibility, which is often not directly aligned with short-term profit targets.

This paradox poses the question of whether profitability and environmental sustainability can truly coexist. Detractors of ESG maintain that the pursuit of profit will always come at the cost of environmental objectives, and that companies will only prioritise sustainability when it is lucrative to do so. They also argue that the metrics used to assess ESG performance are often subjective and open to interpretation, resulting in greenwashing and deceptive claims. While these statements may hold some validity in the short term, **I believe that the pursuit of profit and environmental sustainability are not inherently incompatible**. Our aim is to create new business models with targeted incentivisation regimes that incorporate circular economy principles and generate profits while also placing environmental sustainability at the forefront.

**But how can we initiate this change?** The answer lies in regulations, policies and standards that incentivise companies to disclose and reduce their carbon footprints. Governments can act as custodians to enable our new sustainable economy. If we standardise carbon measurements and establish regulations and quotas, the reduction of greenhouse gases will no longer be solely a tick in the box exercise, but also a matter of meeting regulations and laws. Only then will corporations begin to use low-carbon materials and technologies to genuinely prioritise the reduction of greenhouse gases.



**Zaheer Minhas**  
*Partner, Accuracy*

# POLICY & REGULATIONS RECOMMENDATION



## 1 Develop Policies to Incentivise Companies to Reduce Carbon Emissions

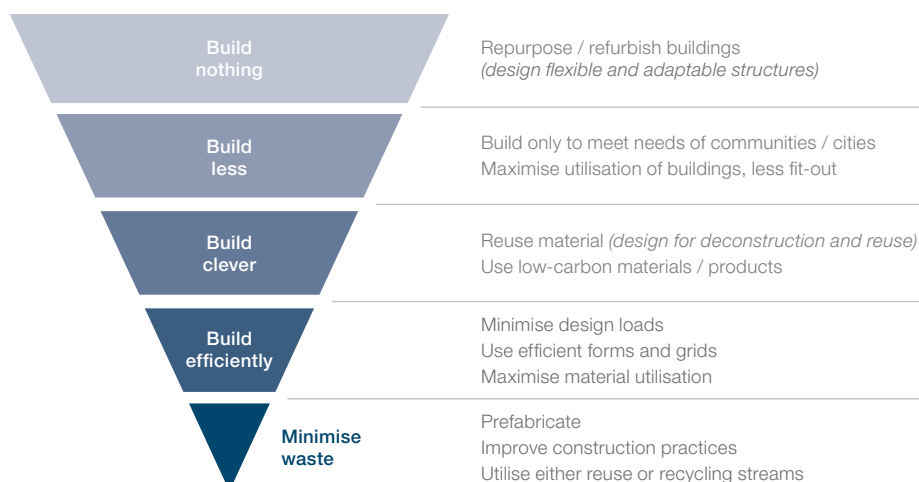
The construction sector has a key role to play in tackling climate change by adopting low-carbon and environmentally responsible practices. To mainstream these practices, **financial incentives can be effective. Indeed, through incentives, governments should motivate all actors in the construction value chain to adopt good practices to reduce global carbon emissions** – for example using low-carbon building materials, reducing transport miles, reducing waste and employing energy-efficient designs. To be effective, **these incentives must be aligned with carbon reduction targets set by regulators**; they must reward those who meet the targets and encourage those who do not. In this way, incentives will result in measurable outcomes that will contribute to overall carbon emission reductions.

The nature and complexity of each project is different, hence different approaches need to be considered to achieve carbon reduction targets:

- **New building projects need incentives that encourage the use of sustainable materials and energy-efficient designs and the transportation of materials to site.** Funding programmes are a key enabler to support the research and development of new low-carbon technologies and construction practices to combat climate change. Collaboration between the industry, researchers and public stakeholders is encouraged by such initiatives, creating opportunities for cross-sectoral knowledge sharing and innovation.
- The [refurbishment of existing buildings](#) needs incentives that support the adoption of energy-efficient improvements. Retrofitting existing buildings is a key part of reducing carbon emissions in the construction sector, but it can be prohibitively expensive, which can discourage builders from investing in energy-efficient improvements. Governments should make retrofitting more accessible to more building owners by offering rebates if they can demonstrate that the carbon emissions of the building are reduced after the refurbishment.

**We recommend adapting financial incentives to the specific type of construction project. Incentives should include provisions to ensure accountability for the use of funds.**

### Embodied carbon reduction strategy



Source: World Economic Forum

# POLICY & REGULATIONS RECOMMENDATION

## 2 Implement Regulations Requiring the Disclosure of Building Carbon Emissions



[Compulsory carbon reporting](#) could prove to be an effective tool for reforming the construction industry. Such **regulation encourages companies to take a closer look at their carbon footprints** and reduce their emissions. It also allows governments to provide the transparency and accountability needed to encourage sustainable practices.

A major aspect of this regulation is to allow companies to process their data for use in what is called a **Life Cycle Assessment (LCA)**. An LCA is a comprehensive tool used to assess the environmental impact of a product or service, from the extraction of raw materials through production and distribution to the end of the product's life. **This tool helps companies to identify and prioritise the areas of their supply chain that have the greatest impact on the environment** and to develop effective strategies to reduce emissions.

By tracking their environmental impact across their supply chains, companies can set benchmarks and improvement targets in line with government targets and measure progress towards them. **This allows corporates to identify areas for improvement and optimise strategies to reduce carbon footprints.** Governments can incentivise corporates by awarding performance bonuses if they meet or exceed the targets set.

To address this urgent need for monitoring, a standardised approach to carbon reporting is essential, and this cannot be achieved without collaboration between contracting parties.

### Representation of an LCA for a building to report carbon emissions throughout the process





# POLICY & REGULATIONS RECOMMENDATION

## Support for Standardisation of Carbon Reporting

Without accurate data, it is difficult to calculate a company's carbon footprint or to identify areas for improvement. If proposed on a voluntary, nonstandard basis, it can be difficult for companies to justify the cost of implementing sustainability measures if the benefits are not immediate or if there is no immediate return on investment. **We therefore recommend that governments take full ownership of the issue and provide a structure and support, dedicating resources to assist companies in complying with mandatory carbon reporting requirements at the first instance.** This may include training programmes, financial incentives and access to tools and resources to facilitate data collection and reporting.

## Collaborative Contracting and Technology to Incentivise Carbon Footprint Visibility

To ensure the success of these measures, it is essential that construction stakeholders take proactive steps to address the pressing environmental issue via innovative and collaborative contracting:

- **The use of integrated project delivery (IPD)**, a project management approach that **emphasises teamwork, transparency and innovation**, serves to encourage carbon reporting initiatives as an important step towards mitigating the impact of carbon emissions. Collaborating on carbon reporting initiatives provides an opportunity for industry stakeholders to demonstrate their commitment to sustainability and contribution to a more transparent and accountable industry. By sharing knowledge and expertise, stakeholders can develop innovative strategies to reduce carbon emissions and improve energy efficiency thereby playing their part in addressing the global climate crisis. In addition, **IPD teams can leverage innovative technologies and processes to reduce carbon emissions.**
- The **use of building information modelling** software allows teams to analyse building designs and identify opportunities to **improve energy efficiency and reduce carbon emissions.** The adoption of sustainable construction practices further reduces the carbon footprint of projects.

### Mutual contracts bind key stakeholders together



Source: Accuracy

New contractual frameworks like IPDs can create carbon reporting requirements that encourage companies to implement sustainable practices that reduce greenhouse gas emissions and promote economic growth. By using life cycle assessments to identify areas for improvement and tracking progress towards sustainability goals, companies can reduce their environmental impacts and improve their bottom lines.

# POLICY & REGULATIONS RECOMMENDATION

## 3 Encourage the Use of Low-Carbon Materials and Technologies



### Development of Regulations and Use of Carbon Budget

The development of regulations requiring the use of low-carbon materials in construction projects would have a significant impact on the industry. The aim is to create a level playing field for all companies, ensuring that those using low-carbon materials are not put at a competitive disadvantage and in the process stimulating innovation within the industry.

These regulations can take several forms:

1. **Mandatory requirements** are regulations that require all construction projects to demonstrate the use of low-carbon materials. These requirements could be based on a minimum carbon footprint, where companies that do not meet these standards face penalties. This approach is effective in encouraging the uptake of low-carbon materials, as it levels the playing field and ensures that companies using sustainable practices are not disadvantaged.
2. **Incentives** are an alternative approach to encouraging the use of low-carbon materials. These can include financial incentives, such as tax credits, grants, bonuses or subsidies for companies that adopt sustainable practices. This approach can make the use of low-carbon materials more financially attractive to businesses, thereby encouraging the industry to act appropriately and think outside the box in finding alternative solutions.
3. **Voluntary programmes** are initiatives that encourage companies to adopt sustainable practices without making them mandatory. These programmes can include methods to educate and raise awareness on the benefits of low-carbon materials, for example. Corporates that embrace voluntary programmes develop a very strong competitive advantage, such as being preferred for public sector projects and being at the cutting edge of the carbon-free construction, thereby building successful business cases for others to mimic.

We propose a practical approach to address this concern: **a carbon budget**. A carbon budget for the construction industry can be established by estimating the carbon emissions associated with the entire life cycle of a building or infrastructure project, including the materials used, the construction process, transport and energy use during the operational phase. The budget can be set at a level that ensures that the total carbon emissions associated with a project do not exceed a certain limit. **To meet this carbon budget, companies have no choice but to use low-carbon materials when undertaking construction projects.**

Whichever approach is taken – mandatory requirements, incentives or voluntary programmes – the development of regulations requiring the use of low-carbon materials in construction projects has a significant impact on the sustainability of the industry. However, it is important to address the challenges associated with the uptake of these materials, such as cost and availability, and to provide clear guidelines and incentives to support their use.

# POLICY & REGULATIONS RECOMMENDATION

## Encourage the Use of EPDs

To be able to prioritise the use of [low-carbon materials](#) and green building technologies, one recommended approach is the use of Environmental Product Declarations (EPDs). EPDs provide comprehensive and transparent information on the environmental impact of a product, including its carbon footprint per unit of measurement, such as CO<sub>2</sub> per m<sup>2</sup>. **By using EPDs, builders and construction firms can make informed decisions on the environmental impact of building materials and prioritise the use of low-carbon products.**

Incorporating EPDs in procurement practices throughout the construction industry will also provide a uniform standard for measuring the environmental impact of building materials, allowing for fair comparisons between products. Additionally, it can lead to an increase in the use of innovative and sustainable building materials as they become more accessible to the wider industry.

**There are two possible approaches to promote the use of EPDs**, with one coming from the private sector and the other from the government:

- The private sector can take the initiative to use EPDs, thereby demonstrating to governments the need for regulations related to them.
- Governments and public agencies can encourage the adoption of EPDs by exclusively contracting with providers of certified materials.

In most countries, EPDs are not required by law. However, they may be mandated by law in some nations or regions under specific conditions. For example, the EU has put in place various rules requiring businesses to disclose their product data to understand and assess the impact on the environment.

**The use of EPDs as a tool to manage the use of low-carbon materials in the construction industry is essential. By mandating their use for all building materials, construction firms can make informed decisions on the environmental impact of their projects and prioritise the use of low-carbon materials and green building technologies.**

## Development process for EPDs

The first step in creating an EPD is identifying an appropriate PCR. It defines the scope and methodology for LCA data collection and ensures that specifiers will be able to compare the environmental performance of the products. If an appropriate PCR does not exist, one must be developed.

### Search for a Product Category Rule

An EPD summarises the results of the LCA. The EPD can include additional information not captured by the LCA process, such as ecolabel designations the product has earned.

### Compile the EPD

The final step in the development process is publication of the EPD by the programme operator, which typically makes the document available on its website.

### Register or Publish the EPD



Source: Accuracy

# POLICY & REGULATIONS RECOMMENDATION

## 4 Encourage Sustainable Design Practices and Green Building Standards



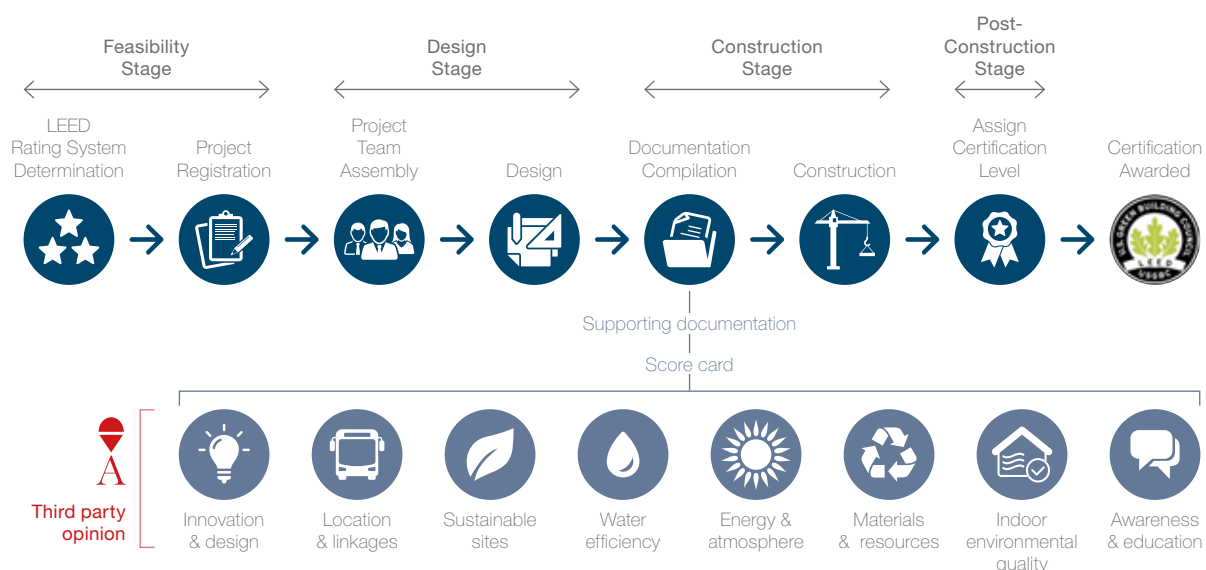
**Green building assessments** are used to encourage sustainable design practices and **promote the adoption of green building standards**. These assessments facilitate the evaluation and certification of the environmental performance of buildings and construction projects, based on criteria such as energy efficiency, water conservation and material selection. **One of the most widely recognised green building certifications is the Leadership in Energy and Environmental Design (LEED) certification**. LEED is a voluntary programme that awards points for various sustainable design features, such as the use of renewable energy, reduction of water consumption and promotion of public transportation. Buildings can achieve different levels of LEED certification depending on the number of points they achieve.

Green building ratings can offer many benefits to building owners, occupants and the environment. **Buildings that meet green building standards can save money on energy and water costs over the long term**. They can also improve indoor air quality, improve the health and well-being of occupants and reduce carbon emissions that contribute to climate change.

In addition, green building assessments can help promote sustainable design practices and encourage the adoption of green building standards throughout the construction industry. **By establishing clear sustainability standards, these assessments can create demand for green building practices and materials**. Thinking about the choice of material use would start at the design stage of the building or infrastructure and lead to a positive loop throughout the value chain.

Green building assessments represent a critical tool for encouraging sustainable design practices and promoting the adoption of green building standards. By certifying the environmental performance of buildings, these assessments can help create a more sustainable built environment, improve the well-being of occupants, and mitigate the impacts of climate change.

### LEED certification process



Source: LEED



# 2

## FINANCING & INVESTMENTS

Structuring a New Financing System for Sustainable Construction

# ONE PARTNER ONE VIEW

As the world moves towards a low-carbon future, **sustainable finance is at the heart of all discussions**. Because the financial sector plays an essential role in financing the economy, the ecological transition will not happen without finance. The desire to have meaningful finance after the 2008 crisis, coupled with the multiplication of initiatives linked to the SDGs defined by the UN in 2015, has led to the development of sustainable finance.

**Sustainable finance and investments are intrinsically connected to the successful transition to a green economy in the construction sector.** Today's environmental challenges urgently need accelerated action and momentum, which means the world must increase the rate of investment. This requires a new financial system that redirects investment to projects and companies with positive environmental and social impacts and long-term financial returns.

Governments, multilateral development banks and the private sector all have an important role to play in closing the investment gap. Article 2.1c of the Paris Agreement is the orienting goal for all the initiatives we will describe in the following sections: "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development". **By 2030, the required amount of global gross investment needs to increase by \$5 trillion annually.**<sup>8</sup> Additionally, there will be a shift away from conventional high-emission construction practices, a shift that is still relatively uncommon.

To achieve net zero emissions in the construction sector, it is essential that institutions increase their investment in low-carbon construction technologies and processes, while encouraging the private sector to follow suit. The development of financing options for sustainable construction projects is an accessible and effective lever in structuring a sustainable economy. Green bonds, green loans and sustainability loans are all options for investing in sustainable building practices that reduce embodied and operational carbon emissions.

**The solutions exist.** The recommendations are clear. So why are these environmentally and economically beneficial practices not scaling up?

On the eve of COP 28, the so-called *COP of action*, it is the critical time for everyone to collaborate to remove the obstacles that make access to sustainable finance difficult and to share our innovations to solve the environmental challenges. **Now is the time to work together to shape the economic and financial system of tomorrow.**



**David Chollet**  
*Partner, Accuracy*

## Reference

[8] <https://www.un.org/en/climatechange/raising-ambition/climate-finance>.

# FINANCING & INVESTMENT RECOMMENDATION

## 5 Increase Investments to Close the Financing Gap for Sustainable Building



One of the key challenges we face in tackling climate change is **bridging the financial gap between the public and private sectors**. While the public sector has the political mandate to take climate action, the private sector has the financial resources and expertise to implement the required solutions at scale. Bridging this gap requires collaboration and innovative financing mechanisms that can mobilise private sector capital for climate-related investments.

### Shift Investment in the Construction Industry

To achieve ambitious targets, substantial investments are needed. While governments have already started to invest in the energy transition, the construction industry has not received the same level of investment as others. Conversely, the private sector is responsible for a significant proportion of investment in the construction industry, and much of this investment continues to focus on traditional high-emission construction methods rather than low-carbon alternatives. This is partly due to the perception that low-carbon construction is more expensive, more risky, and more difficult to implement than traditional methods. Is it?

Multilateral development banks also have an important role to play in bridging the investment gap. These institutions have a mandate to finance sustainable development projects and support low-carbon transitions in developing countries. By investing in low-carbon construction projects, these banks can mobilise private investment, leverage public resources and promote best practices and knowledge sharing.

### Innovative Financing Mechanisms

The public and private sectors need to work together to close the financing gap. One technical way to do this is to work on new methods of financing. Innovative financing mechanisms can be used to mobilise private sector capital for climate-related investments.

**Public-private partnerships** involve collaboration between government and the private sector to finance sustainable construction projects. In this model, the government provides funds or incentives to private companies to invest in sustainable construction projects.

**Sustainability-related financial products**, which are issued by companies or governments to finance sustainable projects, have become increasingly popular in recent years.

To achieve net zero emissions in the construction industry, it is crucial to bridge the gap between public and private sector investment. At the same time, the private sector needs to shift its investments towards low-carbon solutions. This requires a major shift in thinking, as investors need to recognise that low-carbon construction is not only essential for climate change mitigation, but can also be cost-effective, innovative, and scalable.

# FINANCING & INVESTMENT RECOMMENDATION

## 6 Bring Structure to the New Financing System for Sustainable Building



Developing financing options for sustainable building projects and standardisation in sustainability practices is critical in the fight against climate change.

### Financing Options

Financing options that are linked to sustainability can enable the construction industry to adopt environmentally friendly practices:

#### Green bonds

These fixed-income securities are issued to support initiatives, such as energy-efficient buildings, renewable energy infrastructure and water conservation projects.

#### Green loans

These loans work similarly to traditional loans, but they are specifically designed to fund environmentally friendly projects. The funds obtained from green loans can be used to finance sustainable building practices.

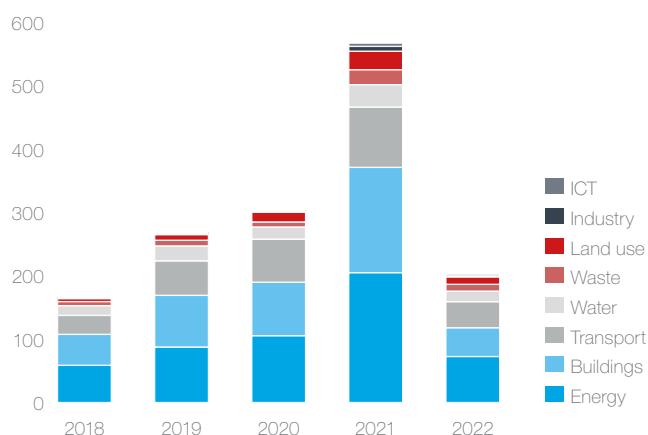
#### Sustainability-linked loans

These loans incentivise borrowers to meet specific sustainability targets in building projects, with lower interest rates being offered to those who achieve these targets.

### Standardisation

The success of these financial undertakings is contingent on meeting sustainable performance targets, which are difficult to establish due to a lack of standardisation. Without clear and consistent standards, it is challenging to determine what constitutes acceptable sustainability performance or to measure progress over time. The lack of universal definitions for sustainable buildings exacerbates this issue, with different organisations and countries employing their own metrics, resulting in considerable variation. Setting sustainable performance targets requires balancing multiple sustainability priorities, which is further complicated by the existence of over 100 voluntary sustainability and climate-related financial initiatives, some of which are not aligned with scientific principles. Thus, **there is an urgent need for coherence and standardisation in sustainability practices.**

#### The building industry is one of the main users of green bonds



Source: Climate bonds

Sustainable financing options offer an opportunity to fund environmentally friendly construction practices that can help combat climate change. However, the lack of standardisation in sustainable performance target setting presents a significant challenge in incentivising sustainable practices and achieving sustainable performance targets. Clear and consistent standards are urgently needed to ensure that financing options are aligned with the principles of sustainability, allowing investors and borrowers to support sustainable projects while earning a return on investment or offsetting costs. It is essential to prioritise the development of these standards to accelerate sustainable development in the construction industry.



# FINANCING & INVESTMENT RECOMMENDATION

## 7 Establish Carbon Pricing Mechanisms to Incentivise Low Carbon Adoption



**Carbon pricing mechanisms** (CPM), such as carbon taxes and emissions trading schemes, are increasingly recognised as a **crucial tool for tackling climate change**. By imposing a fee on carbon emissions, these pricing methods aim to internalise the external costs of carbon pollution, creating a financial incentive for businesses and individuals to reduce their carbon footprints. This, in turn, can stimulate the development and adoption of low-carbon technologies and practices.

Although the construction industry is trying its best to reduce the carbon emissions generated throughout the life cycle of each project, the nature and structure of the industry, which is complex, fragmented and carbon-intensive, makes carbon pricing an unexplored tool.

### A Tool for Cost-effective Emission Reduction Methods

One of the key advantages of carbon pricing is that it enables the market to find the most cost-effective way of reducing emissions. **By pricing carbon, the true cost of emitting greenhouse gases is reflected in the price of goods and services.** This encourages businesses to innovate and invest in cleaner technologies and processes, ultimately leading to emission reductions at the lowest possible cost. Carbon pricing can also provide a predictable and transparent framework for climate action, which is essential for businesses and investors to plan long-term investments.

### A Financial Booster to Support Climate Action and Sustainable Development

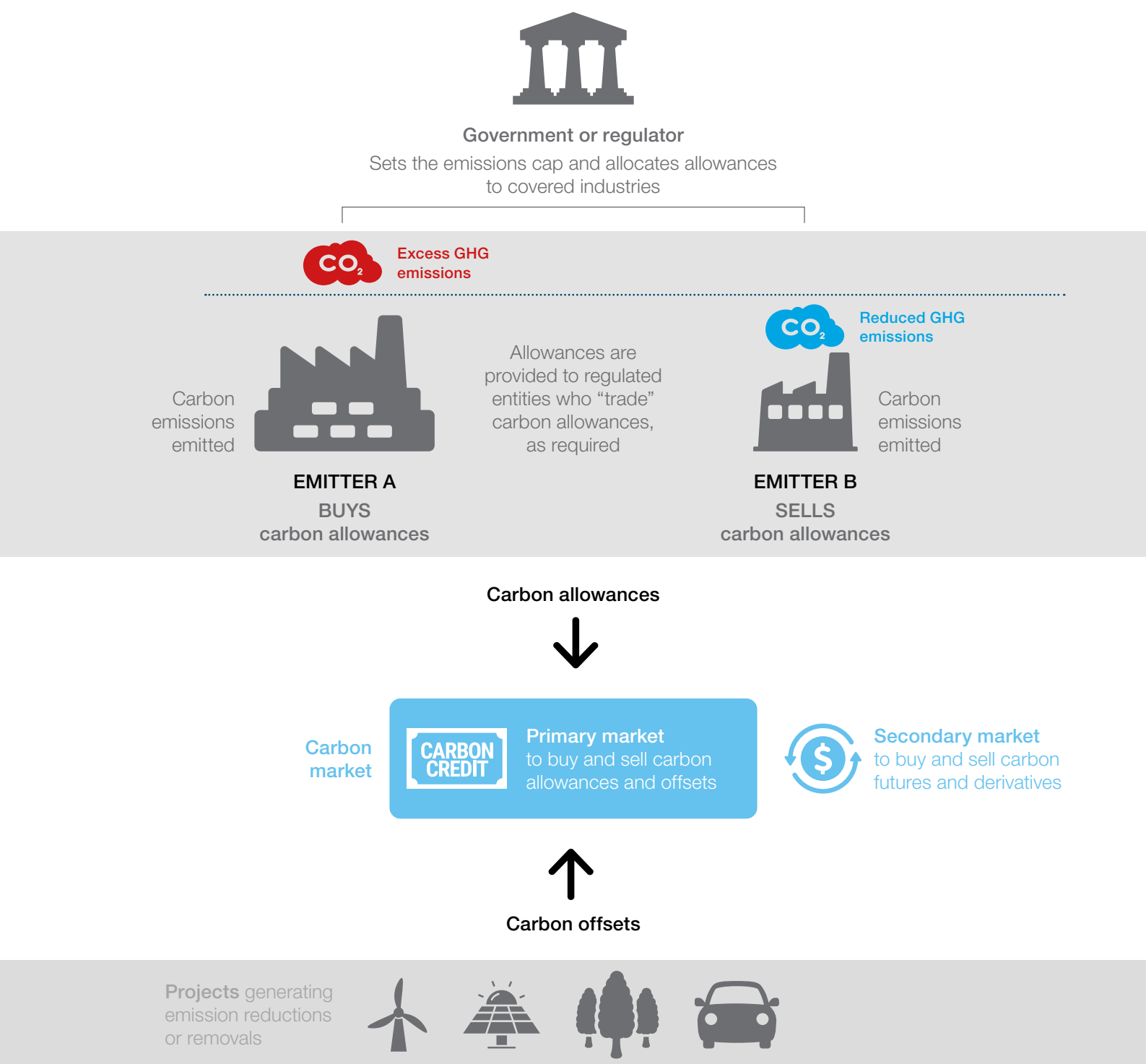
The revenue generated via carbon pricing can serve to support climate action and sustainable development. Indeed, this revenue can be used to invest in green technology research and development, support vulnerable communities to adapt to climate change or mitigate the economic impacts of transitioning to a low-carbon economy. This makes **carbon pricing not just a tool for environmental protection, but also an engine for sustainable economic growth.**

However, carbon pricing must be combined with other complementary policies to maximise its potential. For example, policies such as energy efficiency standards, renewable energy mandates and investment in public transportation can help to reduce emissions in sectors where carbon pricing may not be sufficient or feasible. Additionally, carbon pricing must be designed in a way that considers the unique circumstances of different countries and industries to ensure that it is effective and equitable.

Carbon pricing is an essential tool for combating climate change, as it incentivises businesses and individuals to reduce their carbon footprints, it fosters investment in clean technologies, and it generates revenue to support climate action and sustainable development. Carbon markets, be they mandatory or voluntary, can help to mobilise financial resources for low-carbon growth and promote cooperation between countries on climate action. However, carbon pricing must be combined with complementary policies to maximise its potential and must be designed in a way that is effective and equitable for all.

# FINANCING & INVESTMENT RECOMMENDATION

**Carbon pricing mechanism:**  
Suppression of demand for carbon-intensive goods and services to reduce GHG emissions



# FINANCING & INVESTMENT RECOMMENDATION

## Supporting Systems Needed to Implement CPM

Carbon markets, including mandatory and voluntary markets, are an important mechanism for implementing carbon pricing.

- **Compliance markets**, established by governments around the world, require companies to purchase a certain number of emission allowances each year.
- **Voluntary markets** enable companies and individuals to purchase carbon offsets for their emissions.

Both types of market can mobilise financial resources for sustainable, low-carbon and resilient growth. However, while compliance markets have been established by governments worldwide, most are still not in line with the levels recommended by the High-Level Commission on Carbon Pricing. At present, there are three primary emissions trading systems across the globe, namely the European Union's Emissions Trading System (EU), the California Global Warming Solutions Act (USA) and the Chinese National Emission Trading System (China).

**The voluntary carbon market is currently much smaller than total compliance market coverage, but it has the potential to grow substantially.** Under Article 6 of the Paris Agreement, the regulations governing the international carbon market allow nations to receive funding for their carbon reduction initiatives both from other governments and from non-state entities that are actively working towards voluntary climate goals. By permitting countries to cooperate on climate action, carbon markets can help to unlock investment and innovation and enable countries to achieve their emissions targets.

Carbon markets represent a promising solution for the construction industry. By generating carbon deficits, companies in construction can offset their emissions by investing in projects that reduce or remove carbon dioxide from the atmosphere. One way to generate carbon deficits is to re-evaluate the delivery methods of construction projects. Better carbon management can be achieved by choosing delivery methods that promote collaboration and the early involvement of all stakeholders, such as design-build or integrated project delivery. By participating in the carbon market, the construction industry can not only reduce its environmental impact but also benefit financially from the sale of carbon offsets, making it a win-win situation for both the industry and the planet.

# 3

## EDUCATION & AWARENESS

Transforming the Future of Construction:  
Partnering for Progress and Empowering Change



# ONE PARTNER ONE VIEW

## I always say that people are the key driver for any change!

When it comes to encouraging people to change their behaviour with regard to the environment, policymakers enjoy many levers. Of those available, monetary incentives are often employed. However, their effectiveness is temporary, limited to the period of their implementation and reliant on governmental budgetary resources. By contrast, education, as a mechanism of inducing social transformation, offers an effective alternative that creates long-lasting results.

One of the main obstacles hindering the construction industry's widespread adoption of sustainable practices is insufficient knowledge or even awareness among its stakeholders. However, by forging a partnership between construction companies, the public sector and researchers, **a virtuous circle of progress can be established**. The public sector can allocate resources for research and encourage construction companies to adopt more sustainable practices, while researchers can create new technologies and materials that construction companies can use to build sustainable buildings.

Consumers hold a crucial position in catalysing the shift towards sustainability. When individuals make a conscious choice to live in sustainable buildings, it sends a strong signal to the entire industry. But how can we promote such a change in demand? Here again, education can be used as a powerful tool. By raising awareness, a need for sustainability is instilled within the customer, and the resulting demand spurs the creation of sustainable structures. **The loop is closed.**

With COP 28 on the horizon, I am convinced that **education and awareness will be the linchpins in our efforts to achieve sustainable development goals**. It is high time for education and climate stakeholders to band together towards a shared vision of a sustainable future. By empowering our youth and society with knowledge and skills, we can foster a generation of innovators, primed to effect tangible change, and contribute towards collective action. It is therefore incumbent upon us to **equip the next generation and our communities with the tools necessary to catalyse progress and spur valuable contributions towards the greater good**.



**Damien Gros**  
*Partner, Accuracy*

# EDUCATION & AWARENESS RECOMMENDATIONS

## 8 Increase Public Awareness of the Environmental Impacts of the Construction Industry



[Raising public awareness](#) about the environmental impacts of the construction industry is a vital step towards reaching net-zero emissions. **Education will lead to the end consumer making a choice and living in a sustainable building.** The process is similar to what we can observe in the retail industry, where a change in consumer needs or wishes leads to a change in demand and finally in a change in product.

### Public Awareness Campaigns

Governments, NGOs and construction industry stakeholders can develop and launch public awareness campaigns to accomplish this goal. These campaigns can use various media to disseminate information about sustainable building practices and technologies to reach as many population segments as possible.

**Through these campaigns, the public can be informed of the benefits of sustainable building practices.** Examples of questions for such campaigns might include the following: do you know what the impact on your electricity bill is if you use renewable energy? Do you know how clean the air you are breathing is?

### Engage with Local Communities

Another strategy is to **engage with local communities**. Construction companies can work with residents and organisations to raise awareness of the environmental impact of construction activities and promote sustainable building practices by organising public consultations, inviting residents and community organisations to provide feedback on construction activities and the proposed sustainable building practices. **By involving the community in the decision-making process, construction companies can ensure that their projects align with local needs and priorities.** Holding open days and site visits allows residents to learn about sustainable building practices and technologies and see first-hand how construction activities are conducted in an environmentally responsible way. Site visits can also provide an opportunity for construction companies to demonstrate their sustainable building practices and technologies and show their commitment to environmental sustainability.

**By increasing public awareness of sustainable building practices, we can create demand for environmentally friendly construction projects and encourage stakeholders in the industry to adopt sustainable practices. This, in turn, can push the construction industry to rethink the way it builds because the end user is changing preferences, thereby contributing to the goal of achieving net-zero emissions.**

# EDUCATION & AWARENESS RECOMMENDATIONS

## 9 Provide Training and Education on Sustainable Building Practices



### Improve Education

Enhancing the quality of education (even starting at primary or elementary school) and creating greater awareness regarding the significance of decreasing carbon emissions in the construction industry can be instrumental in bringing about change and promoting more sustainable practices. **By educating individuals and organisations on the environmental and health consequences of carbon emissions, as well as the financial benefits of their reduction, we can inspire action.** Education will support the application of the previous recommendations of this report, such as sharing information about the most effective methods for reducing emissions, the use of low-carbon building materials, the implementation of energy-efficient design strategies and the integration of renewable energy sources. Moreover, raising awareness about the financial incentives and policies that facilitate low-carbon construction can promote the wider adoption of such practices.

### Implement Sustainable Training Programmes

Developing sustainable building training programmes is an effective way to educate professionals on the latest technologies and practices that can reduce environmental impacts. Non-profit organisations, construction companies and government bodies can **collaborate to design and deliver training programmes that cover a full spectrum of topics.** These training programmes can be designed to meet the needs of professionals at different levels of the industry, including architects, engineers, builders and contractors. They can be offered in different formats, such as online courses, workshops and on-site training. Additionally, these programmes can provide information on sustainable materials, green building codes and standards, which can help professionals stay up to date with the latest sustainability practices.

**Providing sustainable building certifications to industry professionals** can also be a powerful motivator for promoting sustainable building practices within organisations. These certifications recognise the knowledge and skills of employees and can encourage them to continue learning and implementing sustainable practices. Construction companies can offer these certifications to their employees, demonstrating their commitment to sustainability and attracting environmentally conscious clients and stakeholders.

To encourage the uptake of sustainable building training programmes and certifications, government bodies can offer to participate in the financing of these government-validated training schemes. This could incentivise professionals to undergo such training, leading to a more sustainable construction industry. Governments can also support sustainable building training programmes by offering subsidies to industry associations and construction companies, enabling them to design and deliver high-quality training programmes at lower costs.

Providing training and education to industry professionals on sustainable building practices and technologies is a vital step towards achieving net-zero emissions in the construction industry. The collaboration of industry associations, construction companies and government bodies can create effective training programmes and certifications that promote sustainable building practices. Governments can also offer incentives such as full financing to encourage the uptake of sustainable building training programmes, supporting the transition towards a more sustainable future.

# EDUCATION & AWARENESS RECOMMENDATIONS

## 10 Collaborate with Universities for Research on Sustainable Building Technologies



Sustainable building practices and technologies are increasingly critical in light of pressing global environmental challenges. To address these challenges, it is imperative to **create research partnerships between [construction companies](#), the public sector and universities or research institutions**. Collaborating and exchanging knowledge and expertise between different organisations can greatly enhance effectiveness and accelerate the pace of progress within the construction industry by developing and implementing superior methods and standards.

Interdisciplinary collaboration can be effectively achieved through the formation of partnerships, which could involve the sharing of risks, responsibilities and resources to support a shared vision. Partnerships could also offer the parties an opportunity to expand their networks and participate in broader initiatives. In some cases, partnerships may also elevate a company's reputation by sharing their commitment to decarbonisation with a wider audience.

### A Tool to Support [Innovation](#)

**By forging ties with academic and research institutions, construction companies gain access to cutting-edge research in sustainable building practices.** These partnerships can identify new materials, methods and technologies that can reduce the environmental impact of construction and infrastructure projects. Research collaborations can also bridge the gap between academia and industry, enabling researchers to gain deeper insight into the needs and challenges faced by construction companies. In turn, industry partners benefit from the latest research findings and remain abreast of emerging trends and technologies.

### A Platform to Share Knowledge

In addition to developing new sustainable building technologies, it is crucial to promote best practices and highlight successful sustainable building projects. This can inspire and educate industry professionals, catalysing wider adoption of sustainable practices and technologies. **By disseminating case studies and best practices, construction companies and the public sector can demonstrate the economic, social and environmental benefits of sustainable building practices and technologies.** Such an initiative has already been developed in some countries. For example, a partnership of European regions for sustainable buildings has been created to take advantage of regional opportunities for specialisation in eco-construction, integration of renewable energy and energy efficiency in buildings and cities.

Sustainable building practices and technologies are essential in addressing global environmental challenges, and research collaborations between construction companies, the public sector and universities or research institutions are vital in achieving this goal. Through cooperation and collaboration, industry and academia can develop new solutions, exchange knowledge and promote best practices that minimise the environmental impact of construction projects. Governments have a significant role to incentivise partnerships between academic institutions and industries such as construction, through the creation of a fund for innovation. This fund would provide financial support to research and development projects that aim to improve the construction industry and create new technologies, materials and processes.

# ACCURACY INITIATIVES TO RAISE AWARENESS



Believing in the strong link between academia and industry, Accuracy is involved in research and development projects with global academic partners. Through these partnerships, Accuracy aims to bring state-of-the-art and innovative ideas to the market to push the boundaries of the deployed technologies in the industry and to enable sustainability through technology. One of Accuracy's recent collaborations is with the New York University in Abu Dhabi (NYUAD). The project focuses on the development of a digital twin for the NYUAD campus to monitor and control data related to the environment and sustainability. Thanks to the installation of various sensors and Internet of Things devices throughout the campus and office spaces, data related to temperature, humidity, air quality, electrical consumption and airflow are collected in real time and stored in the cloud. The project also makes use of state-of-the-art technologies to develop the digital twin along with its virtual environment. 3D modelling, laser scanners and point cloud technology are used to develop a realistic virtual environment of the campus. Through the concept of gamification, the collected data are integrated into the virtual environment using advanced software to develop an interactive and user-friendly digital twin. The developed digital twin is able to visualise the collected data, give insights about the performance of the campus from an environmental perspective and grant users greater awareness of the environmental impact of the campus.



## ZERO

Accuracy supports [ZERO Construct](#), a non-profit organisation whose mission is to create a new construction industry culture that continuously measures and manages embodied carbon through all project stages. The organisation's members represent every part of the construction value chain. Together with ZERO Construct, during an event in March 2023, Accuracy introduced a [playbook](#) to the regional construction community. This playbook includes 60 modules covering a range of topics such as leadership, design, innovation, construction, and other vital skills. By becoming a member of ZERO Construct, you can read, comment, and get involved in the playbook's ongoing development. Additionally, you will have access to different tools that can help lead our industry towards new and critically important paths to reach net zero. Be the change and join us by reaching out to our ZERO UAE Regional President, [Zulema Sanchis](#).





# CALL FOR ACTION

## NO LOOKING BACK

Finally, the world is waking up to the urgent need for sustainability. In the midst of economic uncertainties and fears of recession, we have come to the realisation that sustainability is not just a buzzword, but the only way forward. ESG has become the hot topic for governments and corporations alike, and we cannot continue to drag our feet and ignore the pressing issues facing our planet. **There is no looking back.**

The road ahead is clear. We must **finance** a new sustainable economy, **regulate** to standardise, and **educate** to raise awareness. But above all, **we need coordinated action** from governments, corporates and individuals. Without it, we risk failing in our mission to create a more just and sustainable world.

The upcoming **COP 28 is of particular significance**, as it marks the conclusion of the first global stocktake of the Paris Agreement. It is a comprehensive assessment of the progress we have made in achieving our goals, eight years after the agreement was signed. The latest IPCC report, published in March 2023, is giving us a foretaste of the conclusion. Hoesung Lee, the panel's chair stated: "[Our reports] show that humanity has the know-how and technology to fight human-induced climate change. But that's not all. They show that we have, at the same time, the opportunity to build a much more just, inclusive, and prosperous society."

**This is a global movement, and it is just the beginning.** But for me, it is also a crucial milestone for the Middle East. I see a real shift in the local mindset, a true desire to change mentalities and a **call for action to the private sector**. It is a unique accelerator for the region, and I feel privileged to witness it first-hand.

**At Accuracy, we firmly believe that making an impact for a better world is within our reach.** There is no looking back, only moving forward towards a more sustainable future. Together, we can make a difference and we have the chance to create a new, fair and green economy. **Finally.**



**Juan Sáez**  
*Partner, Accuracy*



# ACKNOWLEDGEMENTS

**Authors:** Zulema Sanchis, *Director*  
Mehdy Abdelhafidh, *Analyst*  
David Chollet, *Partner*  
Zaheer Minhas, *Partner*  
Damien Gros, *Partner*  
Juan Sáez, *Partner*

**Editors:** Reuben de Sousa, *Global English Services Manager*  
Julia Carre, *Marketing and Business Development Director*

**Design:** Olivier Felten, *Graphic Services Coordinator*

# SPECIAL THANKS

Our special thanks to the participating companies in the ZERO event on 1 March 2023, who contributed to the debate on a Net Zero Construction Sector and whose comments are represented in this report:

360 TANGENT Acciona ADNOC Advancing Net Zero Volunteering Team ALDAR Investment Alpin Limited Amana Group  
Asite b2b connect Bahrain GBC Business France CCI France UAE Consolidated Contractors Company UAE COP28  
Diamond Developer EC Net UAE (ICE) and Kabri International Egis Egypt GBC Emirates GBC Johnson Controls  
Dr Abdullah Belhaif Al Nuaimi - Former UAE Minister of Climate Change and Environment Jordan GBC Lebanon GBC Morta  
Mustadam OSTERGAARD Palestine GBC Ramboll S.M.A.R.T. Construction Research Group Saint-Gobain Socomec SAS  
Students of Zayed University The Centre of Excellence in Smart Construction, Heriot-Watt University, Dubai Tunisia GBC  
Trouvay & Cauvin Gulf FZCO TTI UICCA WorldGBC ZERO Construct

# DISCLAIMER

The use of information from this document for publicity or advertising is not permitted. Trademark names and symbols are used in an editorial fashion with no intended infringement of trademark or copyright laws. The views expressed in this publication are those of the authors and do not necessarily reflect the views of the organisation involved. We regret any errors or omissions that may have been made unwittingly.

