HÅLLBAR INFRASAMVERKAN 2.0

Subproject 2 - Collaboration between construction sector sustainability initiatives

Bilaga 2 till slutrapport Hållbar infrasamverkan 2.0

Datum: 2018-12-20,
Version: 1, Sid 1 (15)

Foreword

This subproject is a part of the project *Hållbar infrasamverkan 2.0*, which is coordinated by Sweden Green Building Council. Project manager for the project *Hållbar infrasamverkan 2.0* is Sofie Absér, WSP.

Project manager for subproject 2 is Stefan Uppenberg, WSP

Steering group: Representatives from Sweden Green Building Council, WSP, Swedish Construction Federation (Sveriges Byggindustrier), Skanska and Volvo CE/CCC.

Reference group: SGBC´s division Sustainable Infrastructure

The project is financed with the contribution from InfraSweden2030 and SBUF and through financial means from Volvo CE, WSP, Swedish Transport Administration and Sweden Green Building Council. Several actors in the infrastructure sector have contributed to the project with their time through participation in reference group, workshops, interviews and questionnaires.

Associated with this subproject is a final project report which concludes all three subprojects performed within the project *Hållbar infrasamverkan 2.0*.

Author subproject 2: Stefan Uppenberg, WSP.

Content

SUMMARY

There are a number of construction sector initiatives focusing on sustainability, both in Sweden and internationally. But there is often lack of co-ordination between initiatives and actors, and sometimes the scope of projects and initiatives is overlapping. The idea behind this subproject is to look into possibilities to coordinate some of these initiatives to make even more out of them for the whole sector.

One of the project activities was a mapping of available information on useful international sustainability initiatives and know-how. This was followed by development of a searchable, updateable and transparent structure for the information. Workshops and meetings have also been held with relevant Swedish and international actors to create awareness and understanding of each other's roles and to identify common goals for future collaboration.

The subproject has resulted in:

- an example of a possible structure for mapping and sharing of useful tools, guidelines and other information on an international level
- a description of suggested roles and forms for increased collaboration in the Swedish construction sector
- a description of priorities, potentials and possible roles for international collaboration regarding sustainability in the construction sector

This project should be seen as a first step in a process towards increased and more systematical collaboration in the sector. The information structure is possible to use as it is, but to fill a purpose and to be successful it should be developed more regarding ownership, management, platform for making it accessible and quality assurance of content. In the same way the suggested forms and priorities for Swedish and international collaboration has to be developed more, and to be decided upon, together by all parties involved.

SAMMANFATTNING

Det finns många initiativ inom infrastruktursektorn som fokuserar på hållbarhet, både i Sverige och internationellt. Men det råder ofta brist på samordning mellan initiativ och aktörer, och ibland överlappar projekt och initiativ varandra. Tanken bakom detta delprojekt är att undersöka möjligheterna att samordna några av dessa initiativ för att få ut ännu mer nytta för hela sektorn av de resurser som satsas.

En av projektaktiviteterna var en kartläggning av tillgänglig information om relevanta internationella hållbarhetsinitiativ, erfarenheter och kunskap. Detta följdes av utveckling av en sökbar, uppdaterbar och transparent struktur för informationen. Workshops och möten har också hållits med relevanta svenska och internationella aktörer för att skapa medvetenhet och förståelse för varandras roller och för att identifiera gemensamma mål för framtida samarbete.

Delprojektet har resulterat i:

- Ett exempel på en möjlig struktur för kartläggning och delning av användbara verktyg, riktlinjer och annan information på internationell nivå
- En beskrivning av föreslagna roller och former för ökat samarbete inom den svenska anläggningsbranschen
- En beskrivning av prioriteringar, potentialer och möjliga roller för internationellt samarbete avseende hållbarhet inom anläggningssektorn

Detta projekt bör ses som ett första steg i en process mot ökat och mer systematiskt samarbete inom sektorn. Informationsstrukturen är möjlig att använda som den är, men för att bli användbar för branschen bör ägande, administration, kvalitetssäkring och plattform för tillgängliggörande utvecklas mer. På samma sätt bör de föreslagna formerna och prioriteringarna för svenskt och internationellt samarbete utvecklats mer och beslutas tillsammans av berörda parter.

1 INTRODUCTION

1.1 BACKGROUND

There are a number of construction sector initiatives focusing on sustainability, both in Sweden and internationally. This is driven by an increasing sector awareness of the need of more sustainable processes to be able to meet for example climate goals set up in the Paris Agreement. The Swedish Roadmap for a Climate Neutral Construction Sector 2045 concludes that none of the industry's actors have sole disposition or the ability to implement the actions required to achieve the climate goals, and that cooperation, common innovation projects and knowledge building in the industry therefore is needed. The use of sustainability assessment schemes, like CEEQUAL in Sweden and UK and IS Rating Scheme in Australia, is also increasing and this drives development of knowledge on sustainability, but also raises more questions and creates a need for sharing knowledge and experiences. But because of the increasing awareness and number of initiatives there is often lack of co-ordination between initiatives and actors, and sometimes the scope of projects and initiatives is overlapping. The idea behind this subproject is to look into possibilities to coordinate some of these initiatives to make even more out of them for the whole sector.

This report is the final reporting from subproject 2*, Samverkan med liknande initiativ inom anläggningsbranschen (Collaboration between construction sector sustainability initiatives)*, which is a part of the project *Hållbar infrasamverkan 2.0*.

1.2 AIM

The aim of the subproject is to investigate if, and how, some relevant sustainability initiatives in the Swedish and international construction sector can collaborate to create synergies and more sector value for the resources put into this.

1.3 METHOD

The subproject consisted of three main activities:

A. Mapping of available information on useful international sustainability initiatives and know-how. A short, preliminary, overview of information on international initiatives, organizations, projects, and their areas of knowledge, data bases, guidelines, reports etc., in the area of sustainable infrastructure was developed as an example to illustrate all the information available to share internationally. The mapping of information was made in the following steps:
    1. Mapping of interesting initiatives and actors through discussions in the project group and through internet search
    2. Review of relevance of initiatives/actors from 1 through available information on homepages and similar
    3. Extraction and compilation of useful information from relevant initiatives/actors

B. Development of an information structure that makes it possible to compile information from activity A in a searchable, updateable and transparent way
C. Workshops and meetings with relevant actors to create awareness and understanding of each other's roles and to identify common goals for future collaboration

Preliminary results of the subproject were presented at the CCC-summit in Gothenburg in June 2018 as a part of activity C and as a part of the dissemination of the main project.

1.4 Expected result

- A draft compilation of available information on tools/guidelines, reference cases, R&D reports, procurement requirements etc. on the subject sustainable infrastructure
- Common objectives for initiation of collaboration for relevant sector initiatives in Sweden and internationally.

2 Results

2.1 Mapping of Information

An overview of some relevant available information in the field of sustainable infrastructure internationally was developed mainly through internet search. The selection of initiatives and actors to include in the mapping was decided within the project group as follows:

- Construction Climate Challenge, CCC
- World Green Building Council, WGBC
- UK Green Building Council, UKGBC
- World Business Council for Sustainable Development, WBCSD
- Green Construction Board UK, GCB
- UK Government, GOV.UK
- Building Research Establishment UK, BRE
- Infrastructure Sustainability Council of Australia, ISCA
- Institution for Sustainable Infrastructure, IISI
- Supply Chain School
- Sustainability Concrete Toolbox
- Waste and Resources Action Program, WRAP
- Institution of Civil Engineers UK, ICE
- SCI-Network
- International Institute for Sustainable Development (IISD)
- European Network of Construction Companies for Research and Development, ENCORD

The information compilation is presented in Appendix A

A similar mapping of information for Sweden was made in subproject 1, see separate subproject report.

2.2 INFORMATION STRUCTURE

The mapping of information on sustainable infrastructure described in 2.1 was used to develop an information structure that makes it possible to present the information in a searchable, updatable and transparent way. It was decided that all the useful information pieces, or "data items", should be tagged with some metadata on information properties to make it possible for different actors to find information for different needs. The metadata categories were defined as in Table 1.

Table 1 Metadata categories and data for information mapping on sustainable infrastructure

Metadata category	Metadata 1	Metadata 2	Metadata 3	Metadata 4
Focus Area	Climate Change Mitigation	Ecosystem Services	Circular Economy	Social Sustainability
Target Group	Asset Owner /Client	Contractor	Consultant	Supplier
Information Category	Reference Cases	Tools/Guidelines	Procurement Requirements	R&D Reports
Organization				

The idea behind the mapping of information and the information structure was to present an example of how useful information could be made accessible and shared if the sector could develop international collaboration more and co-ordinate this type of knowledge sharing. Two examples of possible situations is presented in figures below, illustrating how consultants and suppliers searching for information could be helped.

Figure 1 Example of possible use of information structure: A consultant looking for tools/guidelines for climate change mitigation

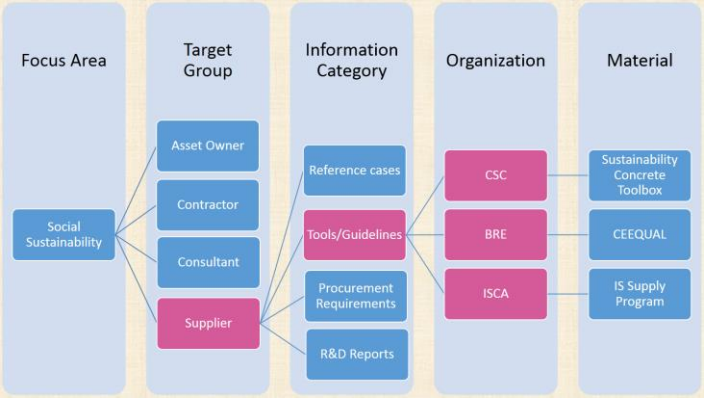


Figure 2 Example of possible use of information structure: A supplier looking for tools/guidelines for social sustainability

The information structure, including links to exemplar "data items" from the information mapping, is shown in figure below, and is available in excel-format as a separate project delivery.

.

	Target Group								
Focus Area	Asset Owner	Contractor	Consultant	Supplier	Information Category	Organization	Data item	Link	Information
Climate Change Mitigation	✓	✓	✓	✗	Tools/Guidelines	World Green Building Coun	Quality Assurance Guide for Green Building Rati	http://www.worldgbc.org/news-media/quality-assurance-guide-green-building-rating-tools	
Climate Change Mitigation	✓	✓	✓	✗	Tools/Guidelines	World Green Building Coun	Rating Tools	http://www.worldgbc.org/rating-tools	
Climate Change Mitigation	✓	✓	✓	✗	Reference Cases	World Green Building Coun	Advancing Net Zero		
Climate Change Mitigation	✗	✗	✓	✓	R&D Reports	Ictpi/wbcsd	Carbon Capture and Storage and the Climate Cha	https://ictpi.wbcsd.org/portfolio-item/carbon-capture-and-storage/	
Climate Change Mitigation	✗	✗	✓	✓	R&D Reports	Ictpi/wbcsd	Cement and the Climate Challenge	https://ictpi.wbcsd.org/portfolio-item/cement/	
Ecosystem Services	✓	✗	✓	✓	R&D Reports	Ictpi/wbcsd	Forests and the Climate Challenge	https://ictpi.wbcsd.org/portfolio-item/forests/	
Climate Change Mitigation	✗	✗	✓	✓	R&D Reports	Ictpi/wbcsd	Chemicals and the Climate Challenge	https://ictpi.wbcsd.org/portfolio-item/forests/	
Climate Change Mitigation	✓	✓	✓	✓	Tools/Guidelines	Ictpi/wbcsd	CEO Guide to climate-related financial disclosur	http://docs.wbcsd.org/2017/12/CEO_Guide_to_climate-related_financial_disclosure.pdf	
Climate Change Mitigation	✓	✓	✓	✓	Tools/Guidelines	Green Construction Board	Low Carbon Routemap for the Built Environment:	http://www.greenconstr	A visual Routemap with policies, actions and targets needed to achieve an 80% reduction in carbon emissions by 205
Climate Change Mitigation	✓	✓	✓	✓	Tools/Guidelines	Green Construction Board	Low Carbon Routemap for the Built Environment:	http://www.greenconstr	A model in which users can see the effect of different scenarios and insert their own inputs and assumptions, avail
Climate Change Mitigation	✓	✓	✓	✓	R&D Reports	Green Construction Board	Low Carbon Routemap for the Built Environment:	http://www.greenconstr	A report which summarizes the approach, methodology, scenarios, challenges and opportunities, available as a pdf
Climate Change Mitigation	✓	✓	✓	✓	Tools/Guidelines	Green Construction Board	Guidance Document for PAS 2080	https://www.greenconst	The GCB in collaboration with the British Standards Institute (BSI) have developed the Publicly Available Specificatic
Climate Change Mitigation	✓	✓	✓	✓	Reference Cases	Green Construction Board	Infrastructure Carbon Review - Two years on...	https://www.greenconstructionboard.org/images/stories/ICR/ICR%202YO%20Conferennce%20Report.pdf	
Climate Change Mitigation	✓	✓	✓	✓	Tools/Guidelines	Green Construction Board	Carbon Reduction in Infrastructure	https://www.greenconstructionboard.org/images/resources/ICE_Carbon_Reduction_in_Infrastructure_slide_pack.pdf	
Climate Change Mitigation	✓	✓	✓	✓	R&D Reports	Green Construction Board	Fundamental Truths - Low-carbon design in UK c	https://www.greenconstructionboard.org/images/stories/FT_Low%20Carbon%20Construction%20in%20the%20UK%20Interactive.pdf	
Climate Change Mitigation	✓	✓	✗	✗	Tools/Guidelines	Green Construction Board	Act on Materials	https://www.greenconstructionboard.org/index.php/resources/greening-the-industry/top-tips/materials	
Climate Change Mitigation	✗	✓	✗	✗	Tools/Guidelines	Green Construction Board	How to reduce CO2 on construction sites	https://www.greenconstructionboard.org/otherdocs/CO2%20Construction%20sites%20master.pdf	
Climate Change Mitigation	✗	✓	✗	✓	Tools/Guidelines	Green Construction Board	How to save money and CO2 emissions through e	https://www.greenconstructionboard.org/otherdocs/CO2%20Effective%20Logistics%20master.pdf	
Ecosystem Services	✓	✓	✓	✓	Reference Cases	Green Construction Board	Working with Nature: Biodiversity Guidance for L	http://www.lafarge.com/11082012-publication_sustainable_development-Lafarge_Biodiversity_Guidance-uk.pdf	
Ecosystem Services	✓	✓	✓	✗	R&D Reports	Ciria	Delivering green infrastructure along linear asse	https://www.ciria.org/Resources/Free_publications/Green_infrastructure_along_liner_assets_scoping_study_p1.aspx	
Social Sustainability	✓	✗	✗	✗	R&D Reports	Department for Internation	Sustainable infrastructure for shared prosperity	https://www.gov.uk/gov	DFID policy framework: Sustainable infrastructure for shared prosperity and poverty reduction (Summary)
Social Sustainability	✓	✓	✓	✗	Tools/Guidelines	BRE	How BREAM Certification works	http://www.breeam.com/discover/how-breeam-certification-works/	
Social Sustainability	✓	✓	✓	✗	Reference Cases	BRE	BREAM case Studies	http://www.breeam.com/case-studies/	
Social Sustainability	✓	✓	✓	✗	Tools/Guidelines	BRE	CEEQUAL	https://bregroup.com/pi	The sustainability assessment, rating and awards scheme for civil engineering
Social Sustainability	✓	✓	✓	✗	Reference Cases	BRE	CEEQUAL	http://www.ceequal.con	CEEQUAL Case Studies
Social Sustainability	✗	✓	✗	✓	Tools/Guidelines	BRE	Certification Scheme For Responsible Sourcing o	https://www.bre.co.uk/filelibrary/greenguide/PDF/SD186_Rev2_ResponsibleSourcing_SchemeDocument.pdf	
Climate Change Mitigation	✗	✓	✓	✓	Tools/Guidelines	BRE	The green Guide explained	https://www.bre.co.uk/f	'green guide' to the environmental impacts of building materials
Climate Change Mitigation	✗	✗	✓	✓	Tools/Guidelines	ISCA	Materials Calculator and Guidelines	http://d3n8a8pro7vhmx.cloudfront.net/themes/5a72941f5ee54d4c43000000/attachments/original/1525391161/IS_Materials_Calculator_Versior	
Social Sustainability	✗	✓	✓	✗	Tools/Guidelines	ISCA	The IS Rating Scheme (IS)	http://www.isca.org.au/	comprehensive rating system for evaluating sustainability across the planning, design, construction and operation
Social Sustainability	✗	✗	✓	✗	Tools/Guidelines	Institution for Sustainable	Envision: Information Packet	https://sustainableinfra	Sustainability assessment system
Social Sustainability	✗	✗	✓	✗	Reference Cases	Institution for Sustainable	Envision: Case studies	https://sustainableinfra	Sustainability assessment system
Social Sustainability	✗	✗	✓	✗	Tools/Guidelines	Institution for Sustainable	Envision: How it works	https://sustainableinfra	Sustainability assessment system
Social Sustainability	✗	✓	✓	✗	Tools/Guidelines	Supply Chain School	Courses in Sustainable Construction	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/sustainable-construction/how-can-we-help.aspx	
Social Sustainability	✓	✓	✗	✗	Procurement Requirements	Supply Chain School	Courses in Sustainable Procurement	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/sustainable-procurement/how-can-we-help.aspx	
Climate Change Mitigation	✓	✓	✓	✓	Tools/Guidelines	Supply Chain School	Courses in Energy and Carbon	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/climate-change/how-can-we-help.aspx	
Social Sustainability	✗	✓	✓	✓	Tools/Guidelines	Supply Chain School	Courses in Responsible Sourcing of Construction	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/materials/how-can-we-help.aspx	
Ecosystem Services	✓	✓	✓	✗	Tools/Guidelines	Supply Chain School	Courses in Biodiversity	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/biodiversity/how-can-we-help.aspx	
Social Sustainability	✓	✓	✓	✓	Tools/Guidelines	Supply Chain School	Courses in Local Business and Community	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/local-business-and-community/how-can-we-help.aspx	
Social Sustainability	✓	✓	✓	✓	Tools/Guidelines	Supply Chain School	Courses in Employment skills and Ethics	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/employment-skills-and-ethics/default/how-can-we-help.aspx	
Social Sustainability	✗	✓	✓	✓	Tools/Guidelines	Concrete Sustainability Cou	Sustainability Concrete Toolbox	https://concretesustain	This Toolbox enables you to analyse the environmental and social performance of your concrete
Social Sustainability	✗	✓	✓	✓	Tools/Guidelines	Concrete Sustainability Cou	Quickscan	https://concretesustain	Make an estimation of your Concrete's Performance on Responsible Sourcing
Circularity	✓	✓	✓	✓	R&D Reports	WRAP	Economic Growth Potential of More Circular Econ	http://www.wrap.org.uk/sites/files/wrap/Economic%20growth%20potential%20of_more%20circular%20economies.pdf	
Climate Change Mitigation	✓	✓	✓	✓	Reference Cases	Institution of Civil Engineer	Civil engineering resources: Carbon	https://www.ice.org.uk/	Resource bank, also other topics
Climate Change Mitigation	✓	✓	✓	✗	Procurement Requirements	SCI-Network	Procuring Innovative and Sustainable Constructio	http://www.sci-network.eu/fileadmin/templates/sci-network/files/SCI-Network_Guide_01.pdf	
Climate Change Mitigation	✓	✓	✓	✗	Procurement Requirements	SCI-Network	A collection of best practice "Snapshots"	http://www.sci-network.eu/fileadmin/templates/sci-network/files/Resource_Centre/Guide/SCI-Network-Snapshots-www.pdf	
Climate Change Mitigation	✓	✓	✓	✗	R&D Reports	SCI-Network	Monetisation of Carbon in WLC in Construction	http://www.sci-network.eu/fileadmin/templates/sci-network/files/SCI_Monetised_Carbon_Final.pdf	
Social Sustainability	✓	✓	✓	✗	Procurement Requirements	International Institute for S	Contracts for Sustainable Infrastructure: Ensurin	https://www.iisd.org/library/contracts-sustainable-infrastructure-ensuring-economic-social-and-environmental-co-benefits	
Climate Change Mitigation	✓	✓	✓	✗	Procurement Requirements	International Institute for S	Public Procurement and Innovation for Low-Carbo	https://www.iisd.org/project/public-procurement-and-innovation-low-carbon-infrastructure	
Climate Change Mitigation	✗	✓	✓	✗	Tools/Guidelines	ENCORD	Construction CO2e Measurement Protocol	http://www.encord.org/	A Guide to reporting against the Green House Gas Protocol for construction companies
Circularity	✗	✓	✓	✓	Tools/Guidelines	Green Construction Board	Act on Water	https://www.greenconstructionboard.org/index.php/resources/greening-the-industry/top-tips/water	
Circularity	✗	✓	✓	✓	Tools/Guidelines	Green Construction Board	Act on Waste	https://www.greenconstructionboard.org/index.php/resources/greening-the-industry/top-tips/waste	
Circularity	✓	✓	✓	✓	Tools/Guidelines	Green Construction Board	KNOWLEDGE RESOURCE FOR CIRCULAR ECONOMY T	https://www.greenconstructionboard.org/images/stories/GBC_Circular_Economy_Jan_17.pdf	
Circularity	✗	✓	✓	✓	Tools/Guidelines	Supply Chain School	Courses in Waste and Circular Economy	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/waste/how-can-we-help.aspx	
Circularity	✗	✓	✓	✓	Tools/Guidelines	Supply Chain School	Courses about Water use	https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/water/how-can-we-help.aspx	
Circularity	✗	✓	✓	✓	Tools/Guidelines	WRAP	Waste forcasting tools	http://nwtool.wrap.org.uk/	
Circularity	✓	✓	✓	✓	R&D Reports	WRAP	Securing the future – The role of resource efficie	http://www.wrap.org.uk/sites/files/wrap/FULL%20REPORT%20v2.pdf	
Circularity	✗	✓	✗	✗	Tools/Guidelines	WRAP	Site Waste Management Plans A guide for the co	http://www.wrap.org.uk/sites/files/wrap/GG899.pdf	

2.3 COMMON OBJECTIVES FOR COLLABORATION

As the aim of the subproject was to investigate if, and how, collaboration in the sector could be strengthened, one important task was to try to create more awareness and understanding of different actor's roles. A number of workshops and meetings were therefore arranged, both for the Swedish and international context.

2.3.1 Sweden

Based on previous contacts within Sweden Green Building Council's (SGBC) division Sustainable Infrastructure, and a prioritization by the project's reference group, the following actors was defined as the most important to have a dialogue with for the Swedish context. They represent a majority of the important actors in the supply chain, as well as the academia, and have all formulated clear ambitions and initiatives to strengthen increased sustainability in the construction sector.

- National Construction Forum (*Anläggningsforum),* themes *Social sustainability,* and *Carbon and environment.* National Construction Forum is a platform for collaboration between Swedish Transport Administration *(Trafikverket),* Swedish Federation of Consulting Engineers and Architects *(STD-Företagen)* and Swedish Construction Federation *(Sveriges Byggindustrier).*
- InfraSweden2030, a strategic innovation program for a more sustainable infrastructure, financed by Swedish Innovation Agency *(Vinnova)*
- SGBC's division Sustainable Infrastructure *(Hållbar infrastruktur)*

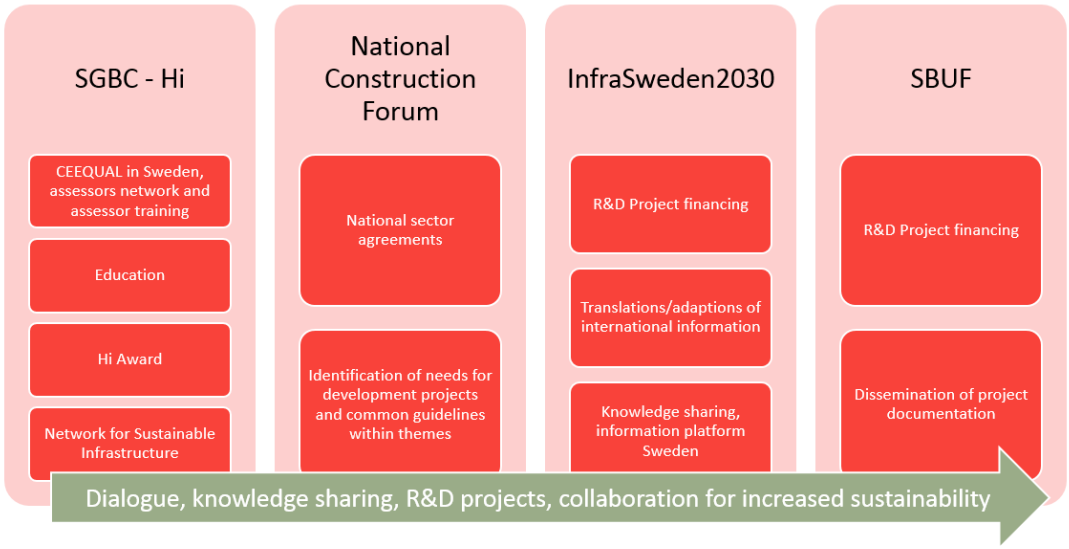
A number of collaboration meetings, in different constellations, between the actors above was initiated within the project. At the meetings, the actors described what is going on in the different organizations in the area of sustainable infrastructure. The need for more collaboration was acknowledged by all actors and relevant and possible areas and forms for more structured collaboration was also discussed at the meetings.

Results from workshops arranged within subproject 1 also confirmed that many professionals in the sector see that there are several forums and platforms for knowledge sharing. But they also see that there are problems with reaching out enough and that is difficult to prioritize and know what is relevant. All agree that there is need of more knowledge throughout the supply chain and that there is a need for some type of common platform for facilitating knowledge sharing. But there are many views of how that can be formed and who should be responsible for it. Most people also mentioned that physical meetings are important for effective sharing of knowledge and information.

One of the outcomes of the meetings was that a new development project was launched as a joint effort by the industry actors. The project is called *Guideline for carbon mitigation in planning and design* and aims at giving practical guidance for how consultants should take actions to make it possible to realize carbon reductions in the construction phase. The project is financed by the

Swedish Transport Administration and SBUF, the Swedish construction industry's organisation for research and development.

The meetings also led to that a tentative description of roles and forms for increased collaboration in the Swedish construction sector was developed:



The figure above illustrates that a more effective use of the resources put into the different initiatives could be achieved just by getting more aware of the need of different roles for promoting a more sustainable sector. SGBC-Hi is good at certification, education, awards and can provide a platform for physical and digital network meetings. While National Construction Forum could be the natural platform for sector agreements on how to apply more sustainable processes, and for agreeing on needs for development of new guidelines or similar. InfraSweden2030 and SBUF both have important roles as financiers of innovation and development projects and for dissemination of results. InfraSweden2030 might also be an actor that could support common sector needs for knowledge sharing and translation/adaption of international knowledge. An agreement between the actors of such a structured collaboration would be an important contribution to the sector for increased understanding and more effective knowledge sharing.

2.3.2 International

The project group identified some relevant international actors, partly based on results described in 2.1, to invite to a round table meeting addressing the topic *International Collaboration for More Sustainable Infrastructure.* The meeting took place at WSP in Gothenburg June 20th, and had the agenda:

- Background
- Presentation of survey of available international information regarding sustainable infrastructure
- Round the table questions

- The two most “on top of mind” focus/action areas regarding sustainable infrastructure
- International collaboration – needs and possibilities

- Prioritized topics and forms for collaboration to take further

The following were invited:

Participants	**Invited but could not participate**
World Green Building Council, WGBC	Finland Green Building Council, FGBC
Building Research Establishment UK, BRE	European Climate Foundation, ECF
Sweden Green Building Council, SGBC	Norway Green Building Council, NGBC
Construction Climate Challenge, CCC	SINTEF/Grönn Anleggssektor, Norway
InfraSweden2030	Supply Chain School, UK
Rijkswaterstaat Netherlands, RWS	
Green Construction Board UK, GCB	
Volvo Construction Equipment	
Children’s Investment Fund Foundation, CIFF	
National Construction Forum, Sweden	
Royal Institute of Technology, KTH	

To shortly summarize the outcome of the meeting, the participant’s prioritized focus areas and needs for international collaboration are:

- Specific science based targets - baselining/measurability
- Need of requirements for carbon reduction from demand side, clients
- International agreements on deadlines and targets
- International collaboration on how we do it - start sharing good practice
- Capture possibilities to cooperate within the infra sector, many players doing similar things
- Creating collaboration in new ways, getting new actors from supply chain into the collaboration
- Make information, tools, guidelines etc available for international collaboration

More detailed reflections and inputs from the participants is summarized in slides below.

The two most "on top of mind" focus/action areas regarding sustainable infrastructure

WGBC 1. Carbon reduction from demand side 2. Common measuring or not?	BRE 1. Sharing of data to be able to set baseline/collecting in common way 2. Collaboration to drive innovation to drive carbon reduction	SGBC 1.GHG reduction 2.Social sustainability
RWS 1. Energy and climate 2. Circular economy (3.sustainable area development) Collaboration is the key	Green Construction Board 1. Baselining/measurability/science based targets 2. PAS2080 to ISO?	Volvo CE/CCC 1. Supply machines with low carbon footprint – get critical mass/more demands 2. Capture possibilities to co-operate/many players
CIFF 1. Embodied carbon seen as a key climate lever 2. Link between circular economy and decarbonisation	InfraSweden2030 1. Transformative carbon reductions 2. Creating collaboration in new ways/getting new actors from supply chain into the collaboration	Anläggningsforum 1. Specific measurable targets – getting small actors onboard 2. Training/Education - from elementary school?

Other input:

Important to create political willingness – to get more demand

Capacity building – need more technical expertise in local authorities.

Cities and companies work together/"bring each other up"

Create safe haven for actors to work together

International collaboration – needs and possibilities

WGBC International agreements on deadlines and targets	BRE Start sharing good practice	SGBC Make information, tools, guidelines etc available for international collaboration
RWS Exchange of info/experiences through existing collaboration between universities – possibility to use more, everything in English	Green Construction Board Not making it too precise/need to speed up/"quick and dirty" International collaboration on how we do it	Volvo CE/CCC empty because time ran out…
CIFF Transfer knowledge outside Europe	InfraSweden2030 Providing resources for making information accessible internationally, e.g. translations	Anläggningsforum Need to lift the level of discussion/basic knowledge

Other input:

Can we put different countries carbon roadmaps together to a common international agreement?

Share knowledge/cases between international schemes

Independent evaluation of information that should be shared? – quality assurance

Use network of GBCs

Need to know drivers and obstacles of collaboration through (voluntary) networks

As we see from the discussions at the round table meeting, much of the needs for more collaboration and systematic knowledge sharing are the same both for the Swedish and the international context. Relating this to the tentative description of roles for collaboration in Sweden in section 2.3.1, some sort of similar agreed structure for international collaboration would probably be of great benefit to the sector. WGBC could be a potential actor for hosting a global network and/or information platform for knowledge sharing, CCC has the potential to be a global platform for meetings and knowledge sharing specifically for measures for reducing GHG emissions, and there's great need for finding the best forms for collaboration with actors like Supply Chain School for spreading their knowledge to Sweden and other countries outside UK, and vice versa.

3 CONCLUSION

This subproject has resulted in:

- an example of a possible structure for mapping and sharing of useful tools, guidelines and other information on an international level
- a description of suggested roles and forms for increased collaboration in the Swedish construction sector
- a description of priorities, potentials and possible roles for international collaboration regarding sustainability in the construction sector

This project, and SGBC-HI, is however not in the position to decide on implementation of the suggestions. The information structure is possible to use as it is, but to fill a purpose and to be successful it should be developed more regarding ownership, management, platform for making it accessible and quality assurance of content. In the same way has the suggested forms and priorities for Swedish and international collaboration to be developed more, and to be decided upon, together by all parties involved. This project should be seen as a first step in a process towards increased and more systematical collaboration in the sector.

Appendix A
Sustainable Collaboration in Infrastructure
Mapping of International Sustainability Initiatives

A short, preliminary, overview of information on initiatives, organizations, projects, and their areas of knowledge, data bases, reports etc., in the area of sustainable infrastructure. Developed as an example to illustrate all the information available to share.

Construction Climate Challenge

THE CONSTRUCTION INDUSTRY CLIMATE INITIATIVE

The Construction Climate Challenge is hosted by Volvo CE to drive sustainability specifically in the construction industry value chain. We aim to create a dialogue between industry representatives, academics and politicians, as well as providing funding for new research and sharing existing knowledge and resources to help the industry make a difference for generations to come.

Volvo CE has long been committed to reducing harmful emissions from its products and facilities, but climate change is too big of an issue to be dealt with through the resources of one company alone. As summarized already in 1972 by former Volvo Group President and CEO Pehr G. Gyllenhammar, 'We are part of the problem – but we are also part of the solution'.

The following four research areas are in focus CCC for research:

Resource & Energy Efficiency
Resource & Energy efficiency is about reducing CO2 footprint and protecting Earth's limited resources measured across the construction life cycle. Across the construction value chain this means reducing the environmental impact of production, transport and use/re-use of building materials and waste, use of construction equipment as well as from the structures that are built etc. Read more here.

Collaboration along the Value Chain
Collaboration along the Value Chain is about means of collaboration to minimize the overall environmental footprint through a common "language" and definitions, procurement requirements, competence transfer etc. It is about establishing agreed frameworks incl. objectives and methods for measurement and follow up. Read more.

Circular Business Models

Circular Business Models help us use Earth's limited resources in a more efficient way. By developing and deploying alternative business models, we can move towards more environmentally sustainable solutions, while maintaining and enhancing competitiveness and profitability. Read more.

Innovation & Emerging Technologies

Innovations and new technologies are vital in creating breakthroughs in reducing environmental footprint. To succeed we need to rethink how we operate our business and drive sustainable thinking. Apart from a mindset change, if we are to succeed in significantly reducing the CO2 footprint and use of resources, new technologies are needed as well. Read more.

Climate talks Videos.

http://constructionclimatechallenge.com/climatetalks/

World Green Building Council

What is green building?

A 'green' building is a building that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on our climate and natural environment. Green buildings preserve precious natural resources and improve our quality of life.

There are a number of features which can make a building 'green'. These include:

- *Efficient use of energy, water and other resources*
- *Use of renewable energy, such as solar energy*
- *Pollution and waste reduction measures, and the enabling of re-use and recycling*
- *Good indoor environmental air quality*
- *Use of materials that are non-toxic, ethical and sustainable*
- *Consideration of the environment in design, construction and operation*
- *Consideration of the quality of life of occupants in design, construction and operation*
- *A design that enables adaptation to a changing environment*

Any building can be a green building, whether it's a home, an office, a school, a hospital, a community centre, or any other type of structure, provided it includes features listed above.

However, it is worth noting that not all green buildings are – and need to be - the same. Different countries and regions have a variety of characteristics such as distinctive climatic conditions, unique cultures and traditions, diverse building types and ages, or wide-ranging environmental, economic and social priorities – all of which shape their approach to green building.

This is why WorldGBC supports its member Green Building Councils and their member companies in individual countries and across regions, to pursue green buildings that are best suited to their own markets.

Rating tools

What is a green building rating tool?

Green building rating tools – also known as certification – are used to assess and recognise buildings which meet certain green requirements or standards. Rating tools, often voluntary, recognise and reward companies and organisations who build and operate greener buildings, thereby encouraging and incentivising them to push the boundaries on sustainability. They kick-start the market by setting standards that then in turn elevate the ambition of government building codes and regulation, workforce training, and corporate strategies.

Rating tools vary in their approach and can be applied to the planning and design, construction, operation and maintenance, renovation, and eventual demolition phases of a green building. Rating tools can also differ in the type of buildings they are applied to, with specific tools or subsets of tools used for different building types such as homes, commercial buildings or even whole neighbourhoods.

Green Building Councils and rating tools

Green Building Councils, which are members of the WorldGBC global network, develop and administer many of the world's ratings tools. By 2016, 1.04 billion square metres of green building space (an area 10 times the size of Paris) had been certified around the world through member Green Building Councils.

WorldGBC recognises the power that rating tools have had in transforming the sustainability of building and firmly supports their use. We recognise that every rating tool is different, and that the member Green Building Council in a given country is best-placed to develop or select a rating tool that is best suited to their particular market. WorldGBC therefore takes a neutral approach to individual rating tools and does not advocate the use of one specific tool over another.

However, with the widespread use of rating tools around the world, WorldGBC believes that each green building rating tool must be meet quality standards. In 2015, WorldGBC published the Quality Assurance Guide for Green Building Rating Tools - a step by step to guide for the operators of new, emerging and established rating tools to ensure that their development and implementation is robust, transparent and to a good standard.

List of green building rating tools

Below is a list of rating tools (in alphabetical order) that are administered by our Green Building Councils. This is not a comprehensive list, as there are a number of green building rating tools and certifications that exist but are not administered by a World Green Building Council member Green Building Council.

http://www.worldgbc.org/rating-tools

Our Annual Reports

WorldGBC's mission is to create green buildings for everyone, everywhere - enabling people to thrive both today and tomorrow.

Each year in December, we publish an Annual Report, which outlines the major progress our organisation and our global network of Green Building Councils have made against this mission over the previous year, as well as WorldGBC's financial position.

Key statistics from our reports include the amount of green building space around the world that has been certified by our member Green Building Councils, the number of countries making green building policy changes with contributions from our GBCs, and the number of people trained through GBCs' education programmes or events.

We invite you to download our reports from 2015/16 and 2016/17 below.

http://www.worldgbc.org/sites/default/files/P578%20WGBC%20Annual%20Report_LR4.pdf

http://www.worldgbc.org/news-media/worldgbc-annual-report-201617

Global Projects & Partnerships

Advancing Net Zero

Advancing Net Zero is WorldGBC's global project which aims to promote and support the acceleration of net zero carbon buildings to 100% by 2050.

http://www.worldgbc.org/advancing-net-zero

Cities and the Building Efficiency Accelerator

The Building Efficiency Accelerator (BEA) is a public-private collaboration that speeds the development and implementation of building efficiency policies and practices in cities around the world. It is led by the World Resources Institute, in support of the United Nations Sustainable Energy for All (SE4ALL) initiative.

WorldGBC is a delivery partner for the BEA, and a number of its Green Building Councils are providing valuable technical advice and bringing together the building and construction sector to support collective development of a city's policy or strategy.

In 2016, Green Building Councils in Colombia, United Arab Emirates, Poland and South Africa joined the BEA and have been directly supporting the cities of Bogota, Dubai, Warsaw and Tshwane, with the aim of doubling their rate of energy efficiency.

In early 2017, two further Green Building Councils joined forces with cities to ramp up energy efficiency in buildings through the programme. The Kenya Green Building Society has played an active role in bringing Kisii County and Nairobi into the BEA, and the India Green Building Council is supporting the city of Coimbatore to reduce energy use in buildings.

Cities which commit to the BEA agree to implement at least one new building energy efficiency policy or programme, and the BEA partnership offers city staff expertise in six main thematic areas: building codes; building certifications/above-code programmes; existing building retrofits; energy efficiency finance solutions; and building data tracking.

With two-thirds of the world's population expected to live in cities by 2050, and 80 per cent of greenhouse gas emissions currently coming from cities, we must work hard to support major decision makers in cities.

http://www.worldgbc.org/cities-and-building-efficiency-accelerator

Global Alliance for Buildings and Construction

The Global Alliance for Buildings and Construction (GABC) was launched at COP21's Buildings Day in Paris in December 2015 by the French Government and the United Nations Environment Programme (UNEP). It brings together the building and construction industry, countries and businesses to raise awareness and facilitate the global transition towards low-emission, energy-efficient buildings.

The GABC gathers together 23 countries and 64 non-state organisations (sub-national, non-governmental organisations and private sector – including WorldGBC and its member Green Building Councils) from all over the world.

GABC members acknowledge that the buildings and construction sector can contribute significantly to achieving climate goals and the common objective of limiting global warming to well below 2 degrees Celsius. The Alliance aims to support and accelerate the implementation of countries' Nationally Determined Contributions (NDCs), and thus facilitate the implementation of the Paris Agreement for the buildings and construction sector in terms of energy efficiency gains, growth of renewable energy and greenhouse gas emissions reduction.

WorldGBC was an initiating partner of the Global Alliance, and in 2016 was directly funded by UNEP to support the Alliance in planning and delivering its events during COP22 Marrakech.

In November 2016, the GABC published the first Global Status Report, which will track each year the progress made in the transition towards low-emission and energy efficient buildings. In the same month, the Global Roadmap report was also published.

http://www.worldgbc.org/global-alliance-buildings-and-construction

10-Year Framework Programme on Sustainable Buildings and Construction

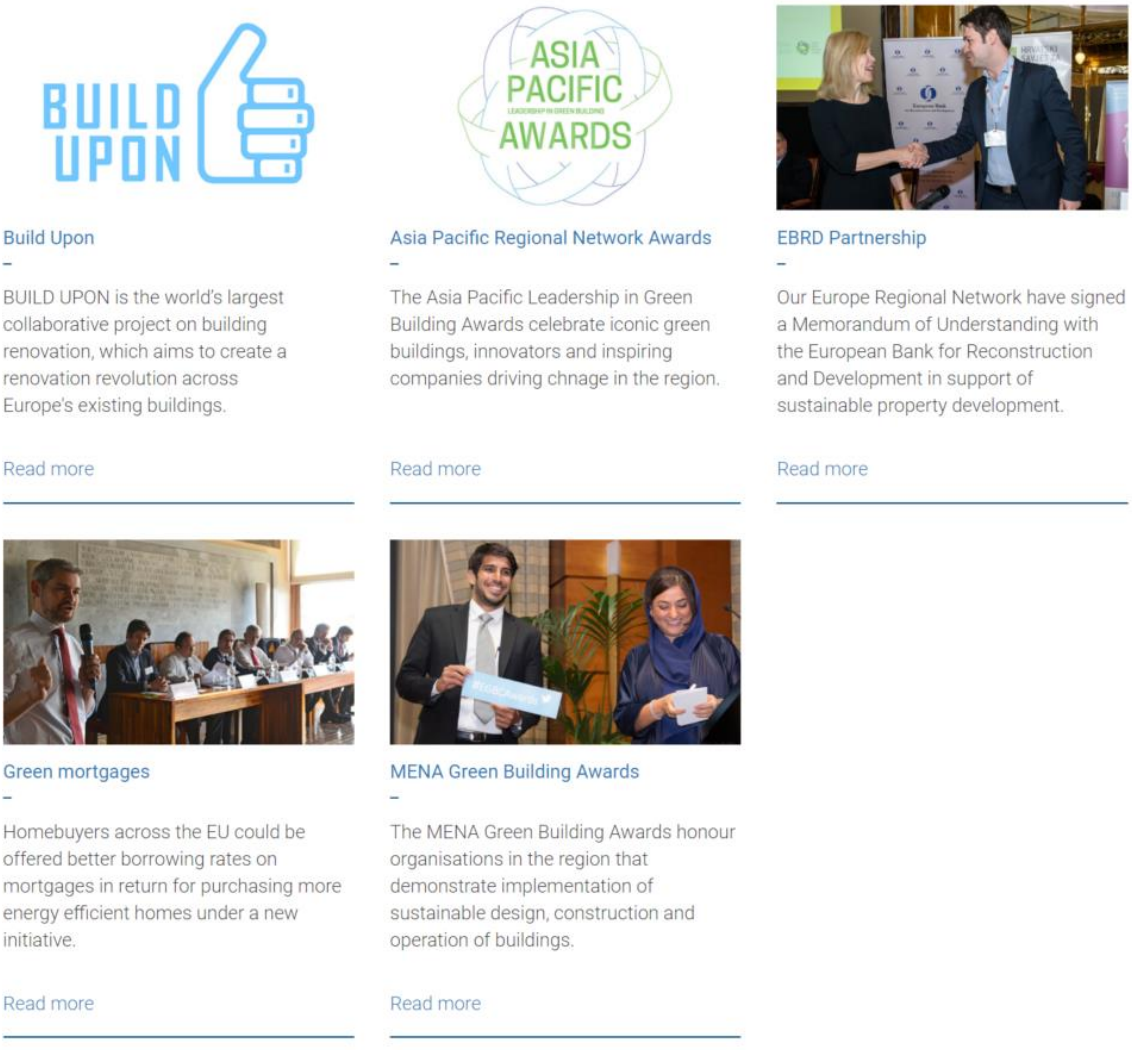
The 10YFP Sustainable Buildings and Construction Programme is a UN programme, currently led by the Finland Ministry of Environment and Finland Green Building Council, which aims to foster a mutual understanding of sustainable buildings among relevant stakeholders and to identify the knowledge, resources and incentives required to build, maintain and use them.

WorldGBC is a partner of the SBC.

http://www.worldgbc.org/10-year-framework-programme-sustainable-buildings-and-construction

Regional Networks and Projects

Our Regional Networks are powerful, collaborative platforms where Green Building Councils can effectively exchange knowledge, generate new ideas and design solutions that speed up green building in their own markets and across the region, often through regional-specific projects.



http://www.worldgbc.org/regional-networks-and-projects

More WGBC publications can be found here:

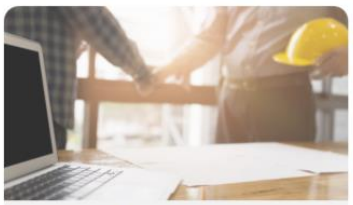
http://www.worldgbc.org/news-media

National GBC:s can be found here:

http://www.worldgbc.org/our-green-building-councils

UKGBC

Live projects



Contractors Forum

Contractors from within UKGBC's membership have expressed an interest in creating a Contractors Forum where this sector can discuss potential solutions to major challenges.

READ MORE

Sustainability 360

We undertook our first Sustainability 360 reviews for Gold Leaf members in 2016 and issued the report Leading the Way. In 2017 we researched the commitments of all 52 Gold Leaf [...]

READ MORE

Rating Tool Forum

UKGBC members have expressed interest in establishing a Rating Tool Forum. We are coordinating workshops to establish how this will work, what form the work will take and partnership opportunities. [...]

READ MORE

Circular Economy

Following significant interest from members, UKGBC are establishing a large scale, practical research programme around the topic of circular economy within the property and construction sector.

READ MORE

Infrastructure

UKGBC continues to undertake work with members and industry which focusses on infrastructure. It is a vital part of the built environment and significantly impacts the natural environment and society.

READ MORE

GET INVOLVED

Universities Research Forum

The Universities Research Forum brings together academic institutions from within UKGBC's membership to discuss areas of potential collaboration and research.

READ MORE

https://www.ukgbc.org/our-work/

World Business Council for Sustainable Development, WBCSD

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world.

We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than US$8.5 trillion and with 19 million employees.

Our Global Network of almost 70 national business councils gives our members unparalleled reach across the globe. WBCSD is uniquely positioned to work with member companies along and across value chains to deliver high-impact business solutions to the most challenging sustainability issues.

LOW CARBON TECHNOLOGY PARTNERSHIPS initiative

The opportunity

The world's biggest challenge is also a historic economic opportunity. There is a strong business case for ambitious and pragmatic climate action. The current rate and unpredictability of climate change constitute significant risks for the global economy, social fabric and infrastructure. An increasing number of businesses are taking action across their value chains to reduce their carbon footprint. They are joining large-scale, cross-sectoral partnerships to accelerate the development and implementation of transformational low-carbon technology solutions. Reporting on greenhouse gas emissions, producing energy efficient products, changing investment paths towards new technologies, and promoting the sustainable management of forests, are among the actions that innovative businesses are taking.

The urgency of the climate challenge requires business measures to be backed by the right policy frameworks to create an upward spiral of ambition and have impact at scale. If resourced and implemented correctly, zero emissions strategies are compatible with economic growth and will help countries accelerate the transition towards a low carbon future. This transition must start now.

COP21 in 2015 was a key moment for all stakeholders to contribute to serious climate action. Decision makers from 195 countries supported a global agreement to keep global warming under 2˚C and have established a stretch target of 1.5°C above pre-industrial levels.

In the context of this historic agreement, we need to ensure that business solutions to climate change are implemented. Many solutions require existing technologies to be made available at scale or new technologies to be developed. To achieve this, we must:

Remove the barriers that are preventing existing technologies from being deployed

Develop new technologies which will benefit multiple climate solutions

Delivering on the Paris Agreement is also essential to achieving the UN Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development and the Paris Agreement are mutually supportive. None of the SDGs can be achieved in the absence of radical action on climate change.

The LCTPi offers an unprecedented opportunity to collaboratively approach Goal 13: Take urgent action to combat climate change and its impacts.

The solution

With a solid framework and clear agenda, LCTPi is a unique, action-oriented programme that brings together companies and partners to accelerate the development of low-carbon technology solutions to stay below the 2°C ceiling.

Led by the World Business Council for Sustainable Development (WBCSD) in partnership with the International Energy Agency (IEA) and Sustainable Development Solutions Network (SDSN), LCTPi has gathered over 150 global businesses with 70 partners to work collaboratively on the climate challenge.

The buy-in of business CEOs to the LCTPi process is critical and it is the CEOs who sign a statement agreeing the ambition.

As LCTPi was launched during 2015, meetings were held in Paris, Durban, Sao Paulo, New Delhi, New York, Beijing and London, where the ambition and action plans were shared and shaped with the inputs of a broad set of stakeholders.

Nine LCTPi Focus Areas were developed: Climate Smart Agriculture, Forests as Carbon Sinks, Cement, Chemicals, Carbon Capture & Storage, Renewables, Low Carbon Transport Fuels, Low Carbon Freight and Energy Efficiency in Buildings. According to the PwC Impact Assessment published in November 2015, these projects could, if fully implemented, contribute 65% of the emission reductions needed in 2030 to prevent more than 2°C of warming.

But there is more that can be done. The LCTPi process is open to establish new working groups where there is business leadership and willingness from a group of companies to work together.

The LCTPi process facilitates the co-creation of a shared vision of the contribution of the sector and it leads to an agreement of the ambition, i.e. how much can the sector contribute to the 2°C goal be it via reduction of its own emissions or, in the case of some sectors, by providing solutions that support other sectors to reduce their emissions. This should be backed up by robust data. Once the ambition is agreed, companies identify the main barriers to achieving their shared ambition. Finally, companies agree on a joint action plan to remove those barriers and scale up solutions.

Importantly, the LCTPi process is a collaborative process. It is this collaboration between the companies in the project group, and the support at CEO level, which produces the shared vision, statement of the ambition and the essential collective energy to drive change.

If you are interested to join an existing working group, please contact the group leader. Contact details can be found on the working group pages which are linked from the Focus Areas below.

If you would like to discuss establishing a new LCTPi working group, please contact Rasmus Valanko, Director of Climate and Energy at WBCSD at: valanko@wbcsd.org

http://lctpi.wbcsd.org/

Media coverage

11 top low-carbon fuel players, WCSBD publish COP 21 guide to slashing transport-based greenhouse gas emissions

http://lctpi.wbcsd.org/wp-content/uploads/2016/02/LCTPi-Media-Coverage-11-top-low-carbon-fuel-players-WCSBD-publish-COP-21-guide-to-slashing-transport-based-greenhouse-gas-emissions.pdf

Advances in the reduction of CO2 emissions: part three

http://lctpi.wbcsd.org/wp-content/uploads/2016/02/LCTPi-Media-Coverage-Advances-in-the-reduction-of-CO2-emissions-part-three.pdf

Guides

CEO Guide to climate-related financial disclosures

http://docs.wbcsd.org/2017/12/CEO_Guide_to_climate-related_financial_disclosure.pdf

Business Examples

Find out how important it is for business to value its relationship with nature. Our member companies are already leading the way. They are assessing water, biodiversity, waste, GHG emissions and more to make better business decisions. Use the filters to refine your search

http://www.wbcsd.org/Clusters/Natural-Capital-and-Ecosystems/Business-Examples

Vision 2050

The WBCSD's cornerstone *Vision 2050* report calls for a new agenda for business laying out a pathway to a world in which nine billion people can live well, and within the planet's resources, by mid-century.

The report is a consensus piece that was compiled by 29 leading global companies from 14 industries and is the result of an 18 month long combined effort between CEOs and experts, and dialogues with more than 200 companies and external stakeholders in some 20 countries.

https://www.wbcsd.org/Overview/About-us/Vision2050#

pdf

https://www.wbcsd.org/Overview/About-us/Vision2050/Resources/Vision-2050-The-new-agenda-for-business

Green Construction Board

The Green Construction Board was established in October 2011 as a consultative forum for government and the UK design, construction, property and infrastructure industry. The Board is the sustainability work stream of the Construction Leadership Council. The role of the GCB is to provide leadership and action to enable the whole value chain (clients, contractors, product manufacturers and suppliers) to become more environmentally sustainable, more productive and better placed to exploit the growing global market.

Reducing Carbon, Reduces Cost and Increases Value

Low Carbon Routemap for the Built Environment

The Green Construction Board has developed the Low Carbon Routemap for the Built Environment to serve as a visual tool enabling stakeholders to understand the policies, actions and key decision points required to achieve the UK Government target of 80% reduction in greenhouse gas emissions in the built environment vs 1990 levels by 2050. The Routemap also sets out actions, together with key performance indicators that can be used to deliver and measure progress in meeting the 2050 target.

The Routemap covers both infrastructure and buildings sectors, and addresses segments of operational and capital (embodied) carbon emissions. The emissions covered by the Routemap are as follows:

- Operational carbon in buildings: emissions from regulated energy use (excluding plug loads) for all domestic and non-domestic building sectors except industrial.
- Operational carbon in infrastructure: emissions from outdoor lighting, waste from construction, demolition and excavation, and water/wastewater. The use of transport infrastructure (by cars for example) is excluded. Some components of infrastructure that include buildings (such as railway stations) are included in the analysis, but appear under buildings.
- Capital carbon: covers emissions arising from the production and manufacture of materials (in the UK and abroad), transport of materials and people, all industry design and consultancy activities, and the emissions from on-site activities for the construction and demolition of buildings and infrastructure.

The Routemap includes three key components which are available for download:

A visual Routemap with policies, actions and targets needed to achieve an 80% reduction in carbon emissions by 2050, available as a pdf

http://www.greenconstructionboard.org/images/folder/GCB_Carbon_ROUTEMAP.pdf

A model in which users can see the effect of different scenarios and insert their own inputs and assumptions, available as an excel workbook

http://www.greenconstructionboard.org/otherdocs/WRAP%202050%20Roadmap%202013.02.22%20Web%20Publish.xlsx

A report which summarises the approach, methodology, scenarios, challenges and opportunities, available as a pdf

http://www.greenconstructionboard.org/otherdocs/Routemap%20final%20report%2005032013.pdf

We have also produced an infographic that displays the Routemap's findings visually

http://www.greenconstructionboard.org/otherdocs/Routemap%20infographic.pdf

Guides and reports

PAS 2080

The GCB in collaboration with the British Standards Institute (BSI) have developed the Publicly Available Specification (PAS) 2080 – Carbon Management in Infrastructure. The PAS can be bought from the British Standards Institute (BSI) website – www.bsigroup.com. A guidance document and articles related to the PAS have been produced by the GCB and are available on this site.

http://www.greenconstructionboard.org/images/stories/ICR/Guidance%20Document%20for%20PAS2080_vFinal.pdf

Infrastructure Carbon Review - Two years on...

http://www.greenconstructionboard.org/images/stories/ICR/ICR%202YO%20Conferennce%20Report.pdf

Carbon Measurement and Management in Economic, Infrastructure – PAS

http://www.greenconstructionboard.org/images/resources/Carbon%20Measurement%20and%20Management%20in%20Economic%20Infrastructure%20Web%20link.pdf

Carbon Reduction in Infrastructure

http://www.greenconstructionboard.org/images/resources/ICE_Carbon_Reduction_in_Infrastructure_slide_pack.pdf

Fundamental truths low carbon design in uk construction

'Fundamental Truths' has been developed through the infrastructure board of the GCB, made up of senior representatives from leading UK public and private infrastructure organisations. The group aims to share experience gained in developing and delivering low carbon designs.

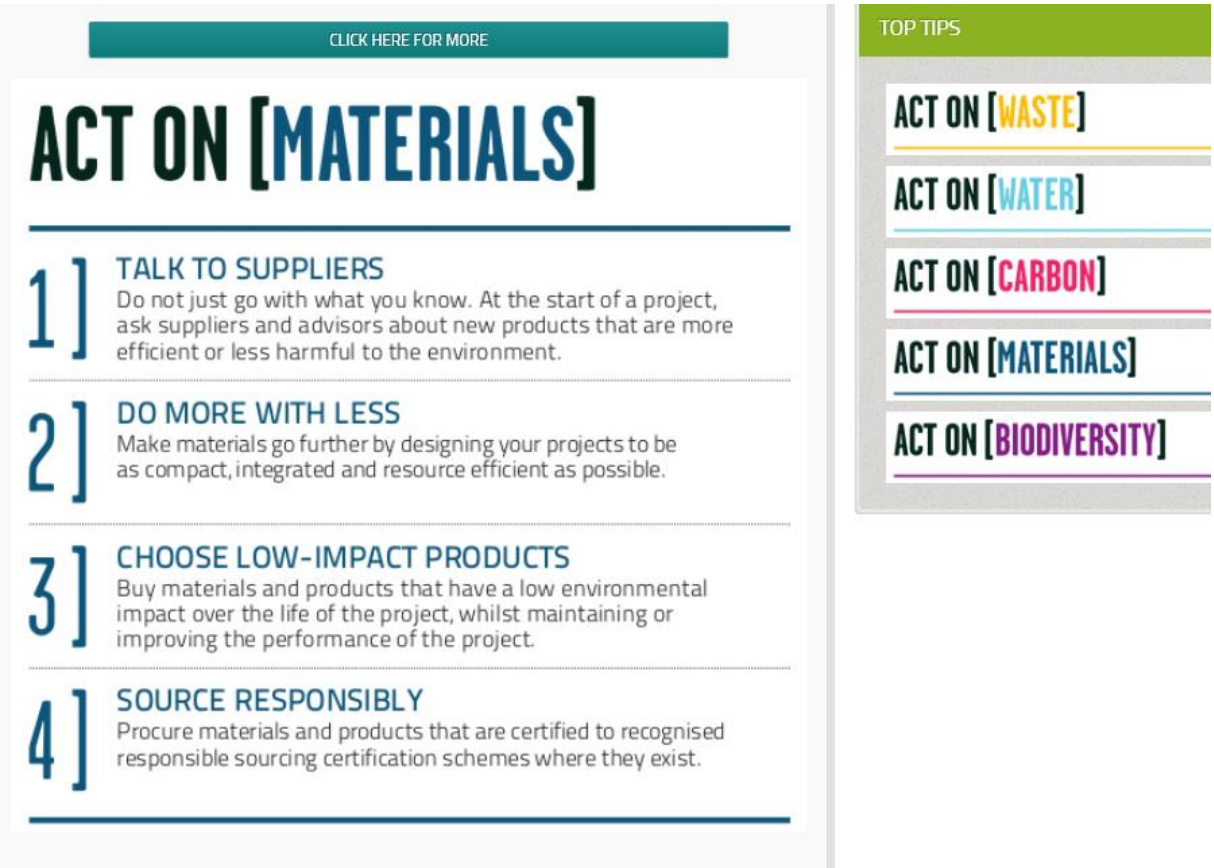
http://www.greenconstructionboard.org/images/stories/FT_Low%20Carbon%20Construction%20in%20the%20UK%20Interactive.pdf

Infrastructure carbon review slide pack

http://www.greenconstructionboard.org/images/resources/ICR%20Presentation%20Pack.pdf

More resources related to infrastructure can be found here:
http://www.greenconstructionboard.org/index.php/resources/infrastructure

Sustainable materials



http://www.greenconstructionboard.org/index.php/resources/greening-the-industry/top-tips/materials

Guides, Action plans, case studies etc.

http://www.greenconstructionboard.org/index.php/resources/greening-the-industry/top-tips/materials?id=404

GOV.UK

Construction 2025:strategy

Sets out a vision and a plan for long-term strategic action by government and industry to continue to work together to promote the success of the UK construction sector.

It focuses on key growth markets in:

- smart technologies
- green construction
- overseas trade

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/210099/bis-13-955-construction-2025-industrial-strategy.pdf

Construction industry: supply chain analysis

Looks at the structure of the UK construction supply chain and identifies areas for cost savings. BIS research paper 145.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/252026/bis-13-1168-supply-chain-analysis-into-the-construction-industry-report-for-the-construction-industrial-strategy.pdf

Task Force on Climate-related Financial Disclosures

To build on the UK's global leadership in the sector, BEIS and HMT will be co-hosting a Green Finance Taskforce that will bring together senior leaders from the financial sector. This Taskforce will work with industry to accelerate the growth of green finance, and help us deliver the investment required to meet the UK's carbon reduction targets.

https://www.gov.uk/guidance/green-finance

On June 29, 2017 the Task Force released three key documents that serve as building blocks to describe and support implementation of the Task Force's recommendations.

Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures

Provides context, background, and the general framework for climate-related financial disclosures and is intended for broad audiences.

Annex: Implementing the Recommendations of the TCFD

Provides the next level of detail to help companies implement the recommendations and is a "living" document that will likely be refined as companies gain more experience preparing climate-related financial disclosures. Includes information on applying the recommendations, guidance for all sectors, and supplemental guidance for select financial sectors and non-financial groups.

Technical Supplement: The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities

Provides a further level of detail that can be helpful for companies in considering scenario analysis. It describes key publicly available scenarios and resources on scenario analysis.

Find the documents here*:* https://www.fsb-tcfd.org/publications/

Sustainable infrastructure for shared prosperity and poverty reduction

DFID (Department for International Development) policy framework: Sustainable infrastructure for shared prosperity and poverty reduction (Summary).

https://www.gov.uk/government/publications/sustainable-infrastructure-for-shared-prosperity-and-poverty-reduction

DFID has refreshed its infrastructure policy approach and this summary sets out the actions we have identified to enhance the impact of every pound of UK aid spent on infrastructure. The summary starts by setting the context for the policy refresh with an overview of why and how we work in infrastructure.

PDF

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/398543/Infrastructure-policy-framework-summary.pdf

BRE

BREEAM

BREEAM (BRE Environmental Assessment Method) is the leading and most widely used environmental assessment method for buildings and communities. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance. BREEAM provides clients, developers, designers and others with

- market recognition for low environmental impact buildings
- assurance that best environmental practice is incorporated into a building
- inspiration to find innovative solutions that minimise the environmental impact
- a benchmark that is higher than regulation
- a tool to help reduce running costs, improve working and living environments
- a standard that demonstrates progress towards corporate and organisational environmental objectives
- BREEAM addresses wide ranging environmental and sustainability issues and enables developers and designers to prove the environmental credentials of their buildings to planners and clients. It:
- uses a straightforward scoring system that is transparent, easy to understand and supported by evidence-based research
- has a positive influence on the design, construction and management of buildings
- sets and maintains a robust technical standard with rigorous quality assurance and certification

https://www.bre.co.uk/page.jsp?id=829´

BREEAM tools

http://www.breeam.com/tools/
Scheme Documents

Environmental Profiles and Responsible Sourcing Scheme Documents.

To download the scheme document, application form, terms and conditions and other documents for Environmental Profiles and Responsible Sourcing please click on the links below:

Use of the BRE Global Certification Marks

Environmental Profiles
SD028 Environmental Profiles Scheme Document
Environmental Profiles Terms and Conditions
Environmental Profiles Application Form
SD6050 Environmental Profiles Methodology Document 2008
Environmental Profiles Fee Sheet

CEEQUAL

CEEQUAL promotes and celebrates the achievement of high environmental and social performance in civil engineering, infrastructure, landscaping and public realm projects.

Part of BRE since 2015, CEEQUAL operates alongside BREEAM, bringing together the world's leading sustainability assessment methods for buildings, masterplanning and infrastructure.

CEEQUAL aims to deliver improved project specification, design and construction of civil engineering works. It rewards project and contract teams that go beyond the legal, environmental and social minimum to achieve distinctive environmental and social performance in their work. In addition to CEEQUAL's use as a rating system to assess performance, it also provides significant influence to project or contract teams as they develop, design and construct their work.

https://bregroup.com/products/ceequal/

CEEQUAL (2018) coming soon

Later this year we will launch CEEQUAL (2018) as the successor to CEEQUAL Version 5.2 and BREEAM Infrastructure (pilot). This will bring together the best of both schemes into a new best practice approach to challenge projects to deliver better outcomes in infrastructure sustainability. It will combine the legacy and track record of CEEQUAL with the new thinking from BREEAM.

BREEAM Infrastructure (pilot) and CEEQUAL have been very influential over the years in shaping the sustainability agenda and outcomes for many infrastructure projects.

The CEEQUAL (2018) brand combines the established CEEQUAL name with a clear association as a member of the BREEAM family of schemes. This demonstrates that CEEQUAL (2018) derives from the best of BREEAM thinking with the experience and legacy of CEEQUAL to provide a world class scheme for the future.

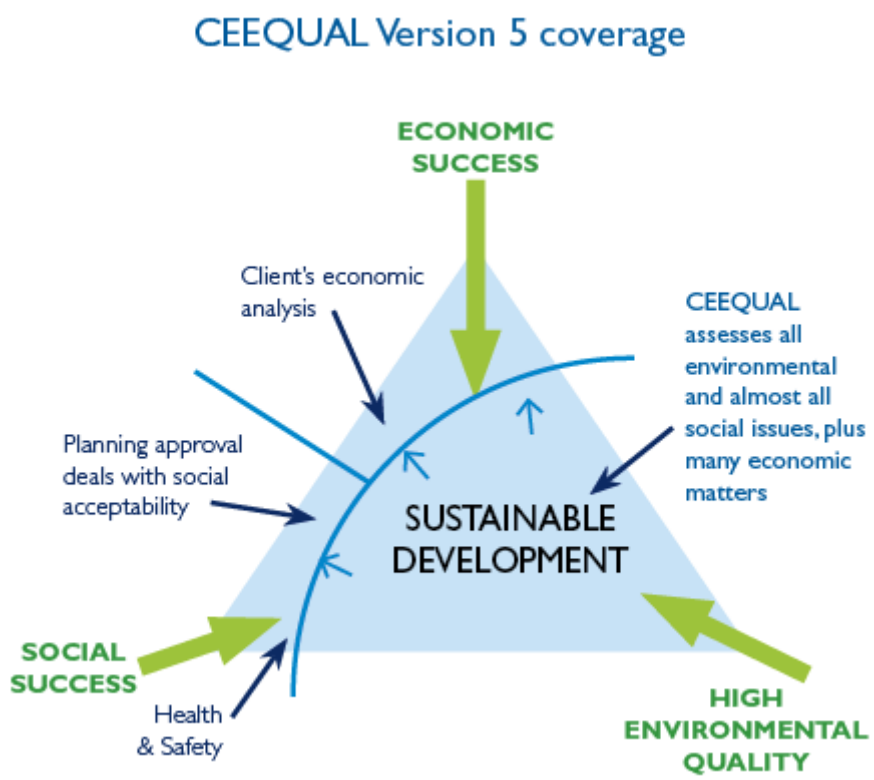
http://www.ceequal.com/

CEEQUAL & Sustainability

Using the three-pillar model of sustainable development – which seeks to achieve economic, social and environmental success at the same time and is thus connected to triple-bottom-line reporting – CEEQUAL can be seen to complement the planning system and clients' financial and economic models. It assesses a wide range of economic, environmental and social issues, including a project or contract's effects on neighbours, and community relations more generally.

In 2012, a Project Strategy Section was added to CEEQUAL for Projects, and a Client Contract Strategy Section to CEEQUAL for Term Contracts. CEEQUAL therefore now includes assessment of 'worthwhileness' alongside indirect economic issues through consideration of energy, materials and waste that can significantly influence the financial outcome of a project or contract. It also covers the wider economic, social and environmental impacts and benefits of the project or contract. CEEQUAL as a rating system does not assess the wisdom of clients or the planning system in promoting and allowing works to proceed. However, it does assess whether a project or contract is helping the community(ies) it serves to live more-sustainably.

By promoting the development of appropriate strategies, and the use of environmental and social best practice, and then measuring environmental and social performance, CEEQUAL is now a tool that assesses the full sustainability credentials of projects and contracts. It also supports the strategies of the UK Government and other Governments by providing the infrastructure professions and industry worldwide with an incentive and protocol for assessing, benchmarking and rating the sustainability performance of projects and contracts as part of the industry's contribution to sustainable development



The regular updating and upgrading of CEEQUAL has led to a progressive widening of its scope. The graphic illustrates the current almost-complete coverage in CEEQUAL of all of the characteristics of a 'sustainable development'. This leaves decisions on whether to proceed with projects where the CEEQUAL team and users believe they belong: with clients and the planning authorities.

http://www.ceequal.com/sustainability/

CEEQUAL Case Studies

More than 300 projects have achieved CEEQUAL Awards since the scheme began in 2003. You can find case studies from many of these projects below.

http://www.ceequal.com/case-studies/

Cross Listing of Certification
Application for Cross Listing of Products

Responsible Sourcing of Construction Products
Responsible Sourcing Scheme Document
Responsible Sourcing Terms and Conditions
Responsible Sourcing Application Form
Responsible Sourcing Fee Sheet

Green Guide to Specification

The first edition of The Green Guide series in 1996 aimed to provide a simple 'green guide' to the environmental impacts of building materials which was easy-to-use and soundly based on numerical data.

The Green Guide is part of BREEAM (BRE Environmental Assessment Method) an accredited environmental rating scheme for buildings. The Green Guide contains more than 1500 specifications

used in various types of building. Since the previous edition, information on the relative environmental performance of some materials and components has altered reflecting both changes in manufacturing practices, the way materials are used in buildings, and our evolving environmental knowledge.

We examine the relative environmental impacts of the construction materials commonly used in six different generic types building including:

- Commercial buildings, such as offices
- Educational
- Healthcare
- Retail
- Domestic
- Industrial

The environmental rankings are based on Life Cycle Assessments (LCA), using BRE's Environmental Profiles Methodology 2008.

More info: https://www.bre.co.uk/greenguide/page.jsp?id=2069

Guidance Documents

The green Guide explained

https://www.bre.co.uk/filelibrary/greenguide/PDF/The-Green-Guide-Explained_March2015.pdf

Environmental Profiles and the Green Guide

- SD6050 Environmental Profiles Methodology Document
- BRE Materials Brochure
- Marketing Guide - How to use the Green Guide Ratings
- Separating Floors Abbreviations Explanatory Table

The Green Guide Calculator

- PN284 Green Guide Calculator Guidance Document (January 2015)
- PN285 Green Guide Calculator Available Components List v2.0 (February 2016)

ISCA (Infrastructure Sustainability Council of Australia)

The Infrastructure Sustainability Council of Australia (ISCA) is a member-based not-for-profit public and private industry council. ISCA is the peak industry body for advancing sustainability outcomes in infrastructure.

ISCA specialise in the facilitation and development of industry led performance based integrated triple-bottom-line governance and reporting frameworks, decision tools and rating tools; generating communities of practise throughout the lifecycle from funding, planning, procurement, design and delivery to operations and maintenance.

The means by which ISCA is advancing sustainability outcomes in infrastructure is through the development and facilitation of the IS rating scheme. IS rating scheme is an industry-compiled voluntary sustainability performance rating scheme evaluating planning, design, construction and operation of all infrastructure asset classes in all sectors linking industry, communities and commerce beyond regulatory standards. Since launching in 2012, over $75 billion in infrastructure and civil works projects or assets across Australia and New Zealand have either been certified or registered for an IS rating. The IS rating scheme is Australia's only comprehensive rating scheme for evaluating sustainability across design, construction and operation of infrastructure.

ISCA Objectives

- Collaborate with infrastructure stakeholders throughout the entire supply chain to establish a community of practice around sustainability in infrastructure through adoption and development of the IS rating scheme.
- Establish the whole of life business case for sustainability across all infrastructure asset classes.
- Continue to improve and expand the IS rating scheme in line with industry needs and lessons learnt from current experiences, incorporating the Workforce Theme and Economic Theme into IS v2.0.
- Continue to facilitate the increasing application of the IS rating scheme in Australian infrastructure projects and assets of all capital values, life cycle stages, asset types and states and territories.
- Continue to expand the use of the IS rating scheme in New Zealand and other relevant activities to improve sustainability outcomes for New Zealand infrastructure.
- Promote and facilitate training, education and knowledge sharing relating to infrastructure sustainability along the entire supply chain.
- Contribute, facilitate and promote industry forums and research on key policy and advocacy issues relating to infrastructure sustainability challenges and opportunities.

IS International Rating Tool

The IS International rating tool has been developed for application in both Developing and Developed Countries. Moreover, it provides clarity on alignment with the United Nations Sustainable Development Goals. It aims to provide the nexus between 'infrastructure sustainability and 'sustainable infrastructure' and can be utilised by sovereigns, donors, multi-laterals, institutional investors, funding agencies and project delivery partners to measure, and achieve, long term

improved asset performance across the quadruple bottom line. The scheme comprises has flexible tools and processes, enabling use for all asset types.

https://isca.org.au/is-rating-scheme/is-international

IS International Rating Tool V1.0 Design and As Built

The IS International rating tool V1.0 (Design and As Built) was officially released for piloting on the 19th September 2017. The pilot process ensures that:

The key process changes are tested for efficacy in different contexts Local support and sustainability capability is being built throughout the application of the tool, and Lessons learnt are readily communicated to support project teams and the continuous development of the rating tools.

Market leaders registering for a pilot project with ISCA is a signal to the industry that the project teams/asset owners are serious about sustainability and are determined to push the boundaries and setting new standards for infrastructure development moving forward.

Download the tool:

https://isca.org.au/component/rsform/form/38

IS Supply

The IS supply program aims to improve the productivity of industry through aligning supply chains around the IS community of practice.

The IS rating scheme provides more than ratings for projects/assets, it fosters innovation and continuous improvement around a common sustainability language. This enables suppliers to build their sustainability credentials for the infrastructure sector in a language that their customers are asking for.

Suppliers who qualify for IS supply will have their sustainability credentials promoted by ISCA to industry stakeholders and to projects/assets that are registered with the IS rating scheme. This promotion will occur through two channels, supplier profiles and the IS Supplier Directory.

Supplier profile

IS supplier profile information will list the products and services that are available from a supplier that may assist in the achievement of outcomes that correspond to one or many IS credits. This will also list limitations of any product/service and link to evidence to support claims,

IS supplier profiles will be available through the ISCA Member Directory published on the ISCA website and in other ISCA collateral.

IS Supplier Directory

The IS Supplier Directory will be published as an appendix to the IS v1.2 Design and As Built Technical Manual. This will enable all IS Accredited Professionals and IS rating assessors to search for suppliers that may assist with the achievement of outcomes that align to a specific credit.

https://isca.org.au/is-rating-scheme/isupply

Procurement and Purchasing

This Category assesses the extent to which economic, environmental and social aspects and impacts have been considered in the identification, evaluation, selection and final procurement of goods and services for an infrastructure project or asset.

This category covers topics such as:

•Commitment to Sustainable Procurement

•Identification of Suppliers

•Supplier Evaluation and Contract Awarding

•Managing Supplier Performance

References, guidelines:

https://isca.org.au/index.php?option=com_content&view=article&id=910

Institution for Sustainable Infrastructure

The Institute for Sustainable Infrastructure (ISI) is the hub of a unique community of organizations and individuals involved in the planning, design, construction, and maintenance of infrastructure. Based in Washington, DC, our nonprofit 501 (c) (3) organization was created for a single purpose: to develop and maintain a sustainability rating system for all civil infrastructure.

To further our mission, we provide Envision at no cost to the infrastructure community. We train individuals in its use, after which they can earn the ENV SP credential, and we also offer a project verification and award program.

ISI has grown significantly since its founding, and now counts thousands of individual practitioners, government agencies, companies, and other organizations as members. Located throughout the country, these individuals and organizations are actively using Envision to create and maintain more sustainable infrastructure. We invite you to join today.

ISI was founded by the American Public Works Association (APWA), the American Society of Civil Engineers (ASCE), and the American Council of Engineering Companies (ACEC) and operates under their oversight.

Envision is the product of a joint collaboration between the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure. The Institute for Sustainable Infrastructure and the Zofnass Program at Harvard University continue their collaboration towards further developing Envision, for disseminating Envision worldwide, and in research projects related to the sustainability of infrastructure and the sustainability of cities.

Envision

Envision is an easy to use, flexible resource that facilitates the development and maintenance of sustainable infrastructure. It provides value at every step of the process—from the earliest planning stages throughout operations.

The Envision sustainable infrastructure rating system is a comprehensive framework of 60 sustainability criteria that address the full range of environmental, social, and economic impacts to sustainability in project design, construction, and operation. These criteria—called “credits”—are arranged in five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk. The full Envision guidance manual detailing the credits is provided at no cost to users.

Read more:

https://sustainableinfrastructure.org/envision/how-it-works/

Envision information Packet:

https://sustainableinfrastructure.org/brochure/envision-information-packet/

Guides & articles.

https://sustainableinfrastructure.org/guide/

Supply Chain School

Backed by the UK's top construction contractors and clients, the School helps you meet the challenging targets set out by the UK Construction Strategy 2025.

The School provides FREE practical support in the form of CPD accredited e-learning modules and training workshops, tailored self-assessment and action plans, bench-marking tools, networking opportunities and access to thousands of online resources.

Benefits reported by our members include; cost & time savings, business won, increased competitive advantage, reduced risk and enhanced reputation. To benefit undertake our quick self assessment which links you to our world class resources.

The Construction School provides resources in a wide range of formats including e-learning, case studies and training workshops. All resources aim to increase your knowledge and competence in 10 key sustainability themes as detailed below. Your personalized, tailored Action Plan will signpost you to those resources which are most relevant to your business and level of knowledge, and the School will take you and your business on a journey of continuous improvement.

Resources

Login necessary, some resources are free

Sustainable construction

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/sustainable-construction/how-can-we-help.aspx

Sustainable Procurement

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/sustainable-procurement/how-can-we-help.aspx

Environmental Management

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/environmental-management/how-can-we-help.aspx

Energy and Carbon

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/climate-change/how-can-we-help.aspx

Materials

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/materials.aspx

Waste

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/waste.aspx

Water

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/water.aspx

Biodiversity

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/biodiversity.aspx

Local business and community

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/local-business-and-community/how-can-we-help.aspx

Employment skills and ethics

https://www.supplychainschool.co.uk/uk/sustainability/construction/issues/employment-skills-and-ethics/default/how-can-we-help.aspx

Sustainability Concrete Toolbox

How responsibly sourced is your concrete? What are your responsible sourcing ambitions? This Toolbox enables you to analyse the environmental and social performance of your concrete and determine your ambition. Use the Quickscan for a quick impression, the AmbitionTool to determine your ambition, the Pre AssessmentTool to prepare you for a qualification and a certificate that you can get with the AssessmentTool.

https://concretesustainabilitycouncil.com/

Quickscan

Make an estimation of your Concrete's Performance on Responsible Sourcing, for free and easily with the Quickscan Tool. Within 20 minutes you will have a clear insight, expressed in one of these ratings: Bronze, Silver, Gold or Platinum.

https://concretesustainabilitycouncil.com/quickscan/create

WRAP

WRAP is a catalyst for positive economic and environmental action. We work uniquely, and by design, in the space between governments, businesses, communities, thinkers and individuals – forging powerful partnerships and delivering ground-breaking initiatives to support more sustainable economies and society. We are world leaders in establishing the facts, getting the right people working together, then converting ideas into action and delivery on the ground.

We drive change in areas where we can make the biggest difference. Our priority sectors are:

- *Food and drink*
- *Clothing and textiles*
- *Electricals and electronics*

Underpinning all our priority sectors is resource management, our focus on maximising the value of waste by increasing the quantity and quality of materials collected for re-use and recycling.

WRAP's reputation is founded on:

- *Compiling and analysing the evidence to help our partners build a case, seize opportunities and overcome challenges.*
- *Ground-breaking voluntary agreements that unite organisations behind common sustainability goals.*
- *Consumer campaigns that go beyond awareness, changing behaviour and empowering people to act.*

WRAP's Waste forecasting tools

WRAP's Net Waste Tool (the 'Tool' or 'NW Tool') is a freely accessible online resource, available at www.wrap.org.uk/nwtool. It will help you to:generate waste forecasts and prioritise waste reduction and recovery actions to input to your Site Waste Management Plan – inputs which are required by the new SWMP Regulation in England from April 2008; „ apply value engineering at the design stage to reduce the costs of wastage (value of wasted and unused materials, cost of waste recovery and disposal); „ optimise your strategy for on-site segregation of wastes for minimum cost within a known space constraint; „ target the top cost-competitive opportunities to adopt more reused materials and higher recycled content in building products, e.g. in response to a client requirement; and „ evaluate performance against corporate targets, such as a reduction in construction waste to landfill (in line with Government policy objectives) and progress towards waste neutrality or zero Net Waste. The NW Tool replaced the Recycled Content Toolkit in April 2008. An improved version of the NW Tool (1.1) was released in October 2008. The NW Tool has been designed as a series of simple web pages that enable the user to enter information on their project and the materials they are intending to use and then to carry out analysis on both waste management and recycled content. The Tool uses a dataset containing both recycled content data and waste data, therefore it is only necessary to enter project information once to analyse both waste and recycled content. The Tool contains data on the dimensions, recycled content, wastage rates and density (t/m3) of several thousand generic construction components. Once the user has entered information about their project, the Tool uses this information to estimate levels of wastage based on either value or mass of wasted material component. The Tool then allows the user to identify specific actions to reduce the

levels of waste generated, sorting this information by either mass of waste or value of wasted materials.

http://nwtool.wrap.org.uk/Documents/WRAP%20NW%20Tool%20-%20What%20is%20WRAP's%20NW%20Tool.pdf

http://nwtool.wrap.org.uk/ToolHome.aspx

The tool:

http://nwtool.wrap.org.uk/

Quick start Guide & Tool resources

http://nwtool.wrap.org.uk/QuickStart.aspx

Reports, Guides

Economic Growth Potential of More Circular Economies

http://www.wrap.org.uk/sites/files/wrap/Economic%20growth%20potential%20of_more%20circular%20economies.pdf

Securing the future – The role of resource efficiency

http://www.wrap.org.uk/sites/files/wrap/FULL%20REPORT%20v2.pdf

Site Waste Management Plans A guide for the construction industry and supply chain

http://www.wrap.org.uk/sites/files/wrap/GG899.pdf

Institution of Civil Engineers

Civil engineering resources database (articles, blog posts, recorded lectures etc.):

https://www.ice.org.uk/knowledge-and-resources/civil-engineering-resources#041515187459195

Electronic Library Catalogue

Our huge selection of online resources includes e-books, journals, textbooks and reference material. Find out what's available and where you can find what you're looking for.

http://library.ice.org.uk/uhtbin/cgisirsi.exe/x/0/0/49?_ga=2.54593899.1321472280.1515186960-1813392945.1515096595

Energy, resilience and climate change

Our global climate is changing. How do we as civil engineers alter the way we plan, design and build for that?

This year ICE is producing events and curating resources that give you the chance to listen to and discuss the latest thinking, developments and big questions around climate change and its impact on the built environment.

Our knowledge campaign is looking to answer how do we…

- create a decarbonised economy?
- provide water security for a growing population?
- make the environment, economy and society truly sustainable?
- use technology to improve city life and squeeze more from existing assets?

https://www.ice.org.uk/knowledge-and-resources/energy-resilience-climate-change

Energy from waste and its key role in a low carbon economy

https://www.ice.org.uk/news-and-insight/the-civil-engineer/november-2017/energy-from-waste-and-its-key-role-in-a-low-carbon

Identifying sustainable shoreline protection solutions in the face of rising sea levels and storms in the US

https://www.ice.org.uk/knowledge-and-resources/case-studies/identifying-sustainable-shoreline-protection

Infrastructure insights from Ecobuild 2017

At Ecobuild 2017 ICE's infrastructure seminar attracted 1,200 delegates who heard from 54 speakers about topics ranging from water, energy and resource planning, to transport and digital engineering.

https://www.ice.org.uk/news-and-insight/the-civil-engineer/april-2017/infrastructure-insights-from-ecobuild-2017

What is project 13?

Project 13 is an industry-led response to infrastructure delivery models that fail not just clients and their suppliers, but also the operators and users of our infrastructure systems and networks.

It seeks to develop a new business model – based on an enterprise, not on traditional transactional arrangements – to boost certainty and productivity in delivery, improve whole life outcomes in operation and support a more sustainable, innovative, highly skilled industry.
http://www.p13.org.uk/

Commercial Handbook
The Commercial Handbook outlines a series of core principles that are fundamental to creating the right commercial environment for an enterprise model to be realised.
http://www.p13.org.uk/wp-content/uploads/2018/06/P13-Commercial-Handbook-Web.pdf

Blueprint
The Blueprint describes how a high performing enterprise operates. Specifically it sets out the roles, capabilities and responsibilities of the key stakeholders in an enterprise model - investors, owners, integrators, advisers and suppliers.
http://www.p13.org.uk/wp-content/uploads/2018/06/P13-Blueprint-Web.pdf

SCI-Network

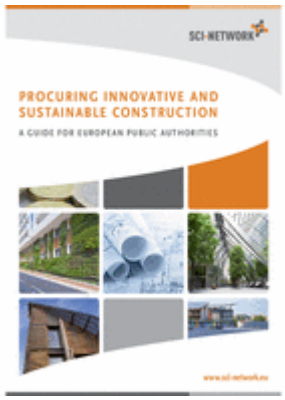
The SCI-Network, Sustainable Construction and Innovation through Procurement is a European network of public authorities working together to:

- explore European best practice in construction procurement, and
- identify how best to encourage innovation and sustainability

The Network was established through a project co-funded by the European Commission's CIP programme through the **Lead Market Initiative**, running from September 2009 to December 2012. For information on the project partners click **here**.

The **SCI-Network** connects public authorities looking to procure innovative and sustainable solutions within their construction projects.

The Network has produced two publications which aim to assist public authorities in their construction procurement:



A Guide on ***Procuring Innovative and Sustainable Construction Solutions*** has been produced by the project and is now available for download. The Guide contains a series of recommendations for good practice developed by a series of working groups within the network. You can download the Guide in English (pdf) by clicking on the image to the right.

The Guide is also available in **Dutch**, **Finnish**, **German**and **Italian**.

A **collection of best practice "Snapshots"** has also been produced to accompany the Guide, which provides concrete examples from across Europe to illustrate the recommendations given in the Guide. You can download this collection of snapshots (pdf) by clicking on the image to the left.

SCI-Network online forum

Although the project has now ended, the online discussion forum has remained active, and managed by ICLEI through other initiatives.

The discussion forum allows registered participants to share experiences, ask questions, and upload relevant documents and links related to construction procurement.

Participation in the forum is free of charge. Participants are mainly public authority professionals working directly on construction. They come from various countries and climates across Europe, from small communities to large

government agencies. Other experts and stakeholders are also welcome to join and contribute to the European exchange.

If you would like to join the Forum please **email us**.

SCI-Network Resource Centre

The SCI-Network Resource Centre contains a large number of resources aimed at assisting public authorities in procuring innovative, sustainable construction solutions.

We are always looking for further resources to add to the collection - please send us your suggestions by **email**.

- **Case studies** - A collection of good practice examples from across Europe
- **Tools** - A selection of tools used in construction procurement
- **Innovative technologies** - A catalogue of new sustainable construction technologies and materials already being applied by at least one public authority
- **Reports** - A series of reports on key topics
- **Useful links** - Projects, platforms and initiatives related to sustainble construction and innovation through procurement

International Institute for Sustainable Development (IISD)

The International Institute for Sustainable Development (IISD) is one of the world's leading centres of research and innovation. The Institute provides practical solutions to the growing challenges and opportunities of integrating environmental and social priorities with economic development. We report on international negotiations and share knowledge gained through collaborative projects, resulting in more rigorous research, stronger global networks, and better engagement among researchers, citizens, businesses and policy-makers.

IISD is registered as a charitable organization in Canada and has 501(c)(3) status in the United States. IISD receives core operating support from the Government of Canada, provided through the International Development Research Centre (IDRC) and from the Province of Manitoba. The Institute receives project funding from numerous governments inside and outside Canada, United Nations agencies, foundations, the private sector, and individuals.

https://www.iisd.org/

OUR FOCUS

Our Programs

IISD's programs conduct rigorous research and engage citizens, businesses and policy-makers in the shared goal of developing sustainably.

Economic Law and Policy, Resilience, SDG knowledge, Energy, Water.

https://www.iisd.org/programs

Our Topics

IISD's work covers a broad sweep of strategies, tools and policy advice needed to respond effectively to today's environmental, economic and social challenges.

***All topics*: https://www.iisd.org/topics**

Selected topics:

Climate Change Mitigation

https://www.iisd.org/topic/climate-change-mitigation

Rapid reductions in greenhouse gas emissions must take place in the immediate future if we are to minimize the adverse effects of climate change on our economic, social and natural systems. Achieving this goal requires putting in place practical, progressive low-emission development strategies that promote integrated clean energy solutions and broader sustainable development objectives.

Our experts help policy-makers identify and prioritize options for reducing emissions, such as through developing clean and renewable energy systems. We also support developing countries in identifying and accessing financing for low-carbon development. We do this by developing roadmaps for reform, engaging proactively with policy-makers and the stakeholders they engage with, providing quantitative and qualitative analysis of policy options for energy and carbon mitigation, and identifying means of implementation.

Clean Fuel Standard: Summary of stakeholder written comments on the Discussion Paper

https://www.iisd.org/library/clean-fuel-standard-summary-stakeholder-written-comments-discussion-paper

Public Procurement and Infrastructure Finance

https://www.iisd.org/topic/public-procurement-and-infrastructure-finance

Our experts help governments realize value-for-money across the life cycle of an asset, and not simply at the point of purchase.

Governments spend between 12 and 30 per cent of their GDP buying goods, services and infrastructure. Our focus is helping policy-makers and public procurers achieve transformational change through positing their large and long-term spending power as a trigger for scaling-up industrial competitiveness, innovation and technology transfer. We do this by strengthening legal and regulatory provisions on value for money across an asset's life cycle; incorporating environmental and social criteria into the procurement cycle; and providing quantitative evidence on the multiple financial, economic, social and environmental gains that can be realized through sustainable public procurement.

Contracts for Sustainable Infrastructure: Ensuring the economic, social and environmental co-benefits of infrastructure investment projects

https://www.iisd.org/library/contracts-sustainable-infrastructure-ensuring-economic-social-and-environmental-co-benefits

Sustainable Asset Valuation Tool: Roads

https://www.iisd.org/library/sustainable-asset-valuation-tool-roads

Projects

https://www.iisd.org/projects

Selected project:

Public Procurement and Innovation for Low-Carbon Infrastructure

http://www.iisd.org/project/public-procurement-and-innovation-low-carbon-infrastructure

Cement is responsible for 5 per cent of anthropogenic CO2 emissions. IISD and the Industrial Innovation for Competitiveness initiative (i2-4c) are investigating how public procurement can drive markets for low-carbon solutions and innovation in Europe. We are focused on low-carbon and circular economy construction materials, and how they can ultimately contribute to a shift towards low-carbon infrastructure.

IISD Library

https://www.iisd.org/library

IISD publishes objective, independent, high-quality research including books, reports, working papers and other materials covering all sustainable development themes.

The IISD Library includes reports, issue briefs, books, working papers and other materials capturing much of IISD's institutional and research history.

IISD's publications are available to download as PDF files at no charge. Hard copies of many of these are also available for sale. See our Permissions & Licensing Policy. We are occasionally able to reprint bulk orders of out-of-print publications (a minimum of 50 copies). For further information on such special orders, please contact the Publications Coordinator. If you have any trouble finding specific titles in the database or have any questions about our publications, please contact us.

ENCORD

Founded in 1989, ENCORD is Europe's forum for industry-led research, development and innovation in the construction sector. Our members are leading construction companies and suppliers from all over Europe.

The European Network of Construction Companies for Research and Development (ENCORD) is a network of active members from the construction industry, represented by decision-makers and executives working on research, development and innovation (R,D&I) and providing service to experts and the operational sides within the member companies. ENCORD has 20 members with head offices in 13 European countries and operations worldwide. All members are major European contractors and/or suppliers of construction material and are strongly devoted to R,D&I for increased competitiveness and growth.

The member companies are found regularly in the Top 50 European and Global Contractor lists and all together employ over 1.15 Million people and have combined annual revenue of over 205 Billion Euro.

The ENCORD "Council" is responsible for setting the ENCORD strategy and is a forum for discussion and debate on R&D priorities and the development of the construction sector. The Council also discusses common research issues, European R&D funding and project proposals.

At an expert level, ENCORD regularly organises workshops on topics of high priority for construction companies. Participants represent the whole European research community, including construction companies, suppliers, end-users, research institutes and universities. Members are involved in many key sector projects and initiatives, such as the European Construction Technology Platform (ECTP) and the Energy Efficient Buildings initiative (E2B). ENCORD is also a member of the "European Council for Construction Research, Development and Innovation (ECCREDI)".

http://www.encord.org/

ENCORD Research and Development and Innovation focus areas

Key issues facing the construction industry today.

The construction sector is facing major challenges for continued quality-of-life and growth in Europe. From an industrial point of view, ENCORD has identified the following priorities which are discussed at regular council meetings, specific ENCORD workshops and platforms:

- **Eco-efficient / Sustainable Construction**
- **Health & Safety (H&S)**
- **Lean Construction Management (LCM)**
- **Knowledge Management (KM)**
- **Mastering Green House Gases Emissions**
- **Infrastructure**
- **Implementation of the Results of Research Activities**

http://www.encord.org/?page_id=22

Documents

ENCORD CO2e Measurement Protocol

> Read more > Download

ENCORD Construction Waste Measurement Protocol

> Read more > Download

ENCORD Sustainable Development Charter

> Download