

BOOSTING THE INTERNATIONALISATION FOR CIRCULARITY IN THE BUILDING ENVIRONMENT - ICBUILD¹

UDK : 624:65.012.65

Vladimir Gumilar², Biljana Avramović³, Dragoslav Stojić⁴

Summary: Construction Cluster DUNDJER from Niš, Serbia, is taking part in an European COSME project, „Boosting the Internationalization for Circularity in the Building Environment,“ (acronyme ICBUILD, Call: COS-CLUSINT-2020-3-01 – Clusters Go International). The main objective of this project is to intensify the collaboration of the European construction and building-related industry clusters across borders, to establish the European Strategic Cluster Partnership, and to lead international cluster cooperation in fields of strategic interest for SMEs companies towards foreign markets beyond Europe.

Keywords: *International Cluster Colaboration, Construction Industry, Circular Economy, Green Building, SME in Building Industry, Canada, Mexico, Brasil, India, UAE, COSME, resource efficiency, inovations in construction.*

Rezime: Gradjevinski Klaster DUNDJER iz Niša, Srbija, učestvuje u Evropskom COSME projektu sa akronimom ICBUILD (Poziv: COS-CLUSINT-2020-3-01 – Clusters Go International). Glavni cilj ovog projekta je intenziviranje prekogranične saradnje evropskih klastera u građevinarstvu i srodnim industrijama, uspostavljanjem Evropskog strateškog klsterskog partnerstva – ICBUILD, kao i jačanje internacionalizacije radi cirkularnosti u građevinskom okruženju koje bi vodilo ka međunarodnoj klsterskoj saradnji na poljima od strateškog interesa za kompanije i MSP prema stranim tržištima izvan Evrope.

Ključne reči: *Medjunarodna saradnja klastera, Gradjevinska industrija, Cirkularna ekonomija, Zelena gradnja, MSP u gradjevinarstvu, Kanada, Meksiko, Brazil, Indija, Ujedinjeni Arapski Emirati, COSME, Efikasno korišćenje resursa, Inovacije u gradjevinarstvu.*

¹ Research supported by project ICBUILD in frame of EU COSME project line (Call: COS-CLUSINT-2020-3-01);

² Slovenian Construction Cluster, Ljubljana, Vaša 41a, 1215 Medvode, e-mail: Vladimir.Gumilar@sgg.si ;

³ Construction Cluster Dundjer, Niš, Ivana Milutinovića 24, e-mail: KlasterDundjer@yahoo.com ;

⁴ University of Niš, Faculty of Civil Engineering and Architecture, Niš, A. Medvedeva 14, e-mail: dragoslav.stojic@gaf.ni.ac.rs .

1. INTRODUCTION

As we head into the first portion of 2021, we are able to take a comprehensive look on the impact COVID-19 had in a variety of industries. Construction industry professionals, and particularly MSME– Micro, Small and Medium-sized Enterprises, faced unprecedented hurdles as a result of worldwide lockdown mandates and other COVID-19 mitigation measures. Closed borders and warehouses caused breaks in the supply chain that were a huge disruption and set construction timelines back weeks to months. Customer relations were strained because of these delays that no one wanted. Alternatively, projects were cancelled altogether because customers no longer had funds to move forward with new builds or renovations. Further, on top of travel restrictions and quarantine, the industry was challenged to adapt to evolving COVID-19 regulations at a moment's notice.

The pandemic has laid bare the entrenched shortcomings of the built environment sector; underscoring the prevalence of low-quality buildings, issues around the affordability of decent housing, and the lack of adaptability of our current building stock. These issues, coupled with the growing concern around the industry's highly wasteful and resource-intensive nature, present a strong impetus for the sector's transformation. From the other side, in the unparalleled response to the Covid-19 emergency, trillions of dollars in economic stimulus have been made available around the world while the calls for a recovery that is in alignment with other global challenges, have never been louder. We should see beyond the pandemic a rare opportunity to build a resilient and low-carbon economic recovery.

Our world is only 9% circular and the trends are negative. The circularity gap is not closing¹. Buildings still account for 45% of worldwide energy but also for enormous resource consumption. For example, the construction industry and the EU28 renovation segment is the largest single waste source being generated (42% covering 461 Mt/year of CDW and expected to reach close to 570 Mt/year in 2030). For example, in EU, almost one-half final energy consumption and extracted materials, and about one-third of water consumption, is related to the construction and occupancy of buildings. The sector also generates about one-third of all waste. Nowadays,

most of the EU countries are only recycling about 50% of their CDW². This situation in many third countries is not improving. This is a global challenge and opportunity for growth and internationalization. It opens new business occasion for companies developing circular solutions – a huge green or circular construction market yet to be unveiled and exploited.

Transition to a more circular economy requires changes throughout value chains, from product design to new business and market models, from new ways of turning waste into a resource to new models of consumer behaviour. Circular construction adopts the principles of circular economy along the life-cycle of buildings. Design and construction of resource efficient, smart, modular, durable, easy to dismantle buildings, building as a service, off-site production, integration with mobility services, re-use of components, use of recycled materials, reduction of waste at retrofitting and demolishing, CDW management - are some of the challenges of the circular construction. Circular construction involves the entire supply chain, it changes many traditional business models and requires cross sector collaboration with different business actors which need to integrate their products and services in a complex product such as smart building.

Sustainable construction can be defined as a dynamic of developers of new solutions, investors, the construction industry, professional services, industry suppliers and other relevant parties towards achieving sustainable development, taking into consideration environmental, socio-economic and cultural issues. It embraces a number of aspects such as design and management of buildings and constructed assets, choice of materials, building performance as well as interaction with urban and economic development and management.

Circularity and sustainability are from the perspective of average stakeholder in construction close concepts. The green building is also known in particular countries and environments. Even there is slight difference in focus, they share the same overall goal. All three notations are used through the proposal, accordingly. Circular renovation projects play a

notable role in helping meet climate targets. Building construction and the production of building materials currently account for 11% of the world's energy-related carbon emissions. Simply choosing to renovate rather than demolish and construct new buildings can lower these emissions.

Circular economy in the entire life cycle of build environment

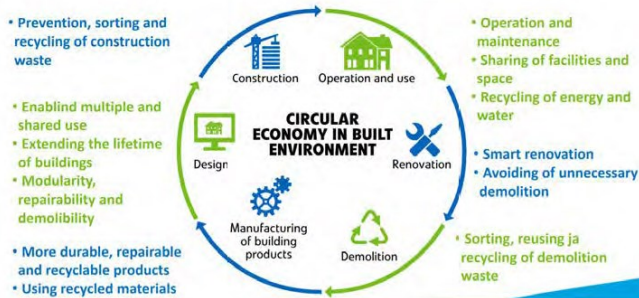


Fig. 1 Circular economy in the build environment, Source: EU2019.fi <https://www.sitra.fi/en/publications/circular-economy-built-environment>

European construction companies have played leading role in development and implementation of energy efficient, sustainable, eco-innovative and smart solutions which are being upgraded to circular solutions. This international competitiveness needs to play an increasingly important role for the long-term sustainability of the construction sector, especially if we consider that the European markets are predicted to be overall less dynamic than emerging markets in the Asia-Pacific region, in the Middle East, and in Latin America.

Despite a huge potential for internationalization, European clusters and their members face a number of barriers to foster internationalization of circular construction solutions:

1. A number of circular construction solutions has been put to the market and many are still being developed, or face barriers of rigid regulation, low trust among clients, slow changes of value chains and business models.
2. The circular approach in most cases requires collaboration beyond the companies' borders but also cross-sector collaboration.
3. Going on a third or any market is for circular construction solution (such as circular approach to

CDW management) much more market (framework conditions) dependent and challenging compared to some consumable or product for end users. The market barriers in any, including third countries, need again collaborative approach with local value chain actors, and new business models of capturing and sharing of the value delivered.

Considering the above, and the dramatic consequences of the pandemic, putting SME internationalization at the heart of internationalisation and export strategies is critical, both at EU level and beyond its borders. SMEs thrive when they are integrated into global value chains. The pandemic has disrupted supply chains and international trade, and SMEs don't have the resources to rebuild the broken connections and even more to create new ones on their own. Besides, the speed of recovery after Covid-19 outbreak will depend on the ability of SMEs to return to sustainable operations post crisis after current stimulus measures put in place by national and regional governments run out. Cluster organisations should think in a medium and long-term period and direct their focus to delivering three foundational interventions that are of highest impact and relevance to SMEs: access to local and foreign market demand both private and public, support for internationalization, and enhancement of productivity.

The main objective of this proposal is to intensify the collaboration of the European construction and building-related industry clusters across borders and to establish the European Strategic Cluster Partnership – ICBUILD - Boosting the Internationalisation for Circularity in the Building Environment - to lead international cluster cooperation in fields of strategic interest for SMEs companies towards foreign markets beyond Europe.

ICBUILD proposal born from the strong willingness of the six cluster organisations and associations from Slovenia, Italy, Poland, Hungary, and Serbia – SGG, ELCA, DOMUS, INNOWATOR, ARCHENERG, and DUNDJER, to broaden horizons and extend their vision to bring the individual internationalization process of their clusters to the next level and develop the joint internationalization strategy that will go beyond the ad-hoc export promotions and individual business trips.

ICBUILD partner clusters aim to create better conditions and mechanisms for their companies to innovate, grow, and compete at an international level.

The project partners know well their members' unfavourable position in the global value chains due mainly to SMEs limitations, such as scale and scope disadvantages that do not justify the magnitude of investment in foreign expansion, financial constraints, lack of time, difficulty in accessing external capital, inadequate knowledge of foreign markets and inexperience in managing foreign exchange.

The rationale of the ICBUILD consortium is to provide more efficient and better-customised supporting measures and tools to their member companies on their paths towards internationalisation in the third countries, thanks to joined forces and a comprehensive mid- and long-term joint internationalization strategy with a strong unique selling point. This is defined as International Collaborative Innovation Partnership, a medium to long term agreement on collaboration encompassing not only clusters, their members, but also other stakeholders which may be important to enable collaborative projects and business cooperation between European and third country companies. The latest can than range from joint approach to new competences and skills development, joint collaborative projects on circular solutions, to joint venture to new technologies/products development and their commercialization, on third market, but also on European ones.

2. THE SPECIFIC OBJECTIVES OF THE ICBUILD PARTNERSHIP ARE THE FOLLOWING

The specific objectives of the ICBUILD partnership are the following:

- To develop a specific, comprehensive and long-term market-driven ICBUILD joint internationalization strategy for the reciprocal actual benefit of partner clusters and their SMEs while approaching third countries markets;
- To strengthen the role of ICBUILD partner clusters as drivers for member companies' internationalization, and as tools for stimulating the post-pandemic business rebound and increasing their national and regional business attractiveness;
- To support the ICBUILD affiliated SMEs to take a proactive approach and think beyond the immediate effect in realising the go-to-market

processes, making them more strategic in foreign markets deployment applying entry modes other than exporting, be more self-confident but prepared and consequently more successful in the international ventures;

- To highlight the vital role of cooperative alliances in internationalization strategy and to develop long-lasting International Collaborative Innovation Partnerships with foreign and European stakeholders to ease companies' participation in global value chains.

Upon a preliminary consultation with partner clusters management boards and their affiliated companies, the ICBUILD consortium identified 5 third countries beyond Europe to be target by the project activities: CANADA, INDIA, MEXICO, UNITED ARAB EMIRATES, and BRAZIL.

The global construction market size is expected to decline from USD 11,217.4 billion in 2019 to USD 10,566.8 billion in 2020. However, the industry will show signs of recovery in 2021 and reach a market size of USD 11,496.7 billion, projecting a CAGR of 1.2% between 2019 and 2021. The construction industry is expected to grow due to expected economic recovery resulting also in increasing awareness about sustainable building solutions and specific demand for antibacterial construction materials (due to pandemic).

3. FOCUS ON GREEN BUILDINGS GLOBAL MARKET

Green building or sustainable construction is referred to structures that are environmentally responsible and energy-efficient throughout its life cycle. Green building practices aim to reduce the environmental impact of a building. Most of the materials used in green buildings such as lumber, recycled metal, fiberglass, and mineral wool are renewable and non-toxic in nature. Green buildings use onsite generation of renewable energy through biomass, solar power, hydropower, and wind power. These practices make a building reduce its operating energy usage. Furthermore, low energy consumption appliances are used in green buildings to keep energy costs low. Most of the green building materials including cellulose and fiberglass are being used in green buildings owing to their superior insulating properties. Methods such as rainwater harvesting are adopted in green buildings to conserve reduce wastage of water. Green buildings

also seek to reduce wastage of energy and materials thus reducing the overall environmental impact. Green buildings are widely used for residential, commercial, and industrial purposes owing to their low operational costs, energy efficiency, and low carbon footprint. Focus on sustainability and the imperative need for nations to reduce their carbon footprint are anticipated to push market growth throughout the forecast period. Supportive government policies to support the construction of green buildings, combined with sustainable certifications such as the Leadership in Energy and Environmental Design (LEED), are expected to boost industry demand. The high resale value of these properties is another factor expected to kick-start the development of these buildings, mainly in emerging economies such as India and Latin America.

In particular, the global non-residential green buildings market is expected to decline from \$85.1 billion in 2019 and to \$79.05 billion in 2020 at a compound annual growth rate (CAGR) of -7.1%. The decline is mainly due to economic slowdown across countries owing to the COVID-19 outbreak and the measures to contain it. The criteria for green building constructions are expected to change in preparedness to prevention and control of such pandemic diseases in coming years. The market is then expected to recover and reach \$103.08 billion in 2023 at CAGR of 9.3%. Increased need for sustainable and eco-friendly solutions contributed to the growth of the Non-residential green building market. According to the USGBC (U.S. Green Building Council) report, green buildings can reduce carbon emission by 34% and consume 25% less energy than the conventional buildings. It has now become essential for Commercial construction companies to give priority to sustainable design and construction techniques to utilize our planets finite resources in a sensible way.

The global residential green buildings market is expected to decline from \$119.63 billion in 2019 and to \$116.46 billion in 2020 at a compound annual growth rate (CAGR) of -2.65%. The decline is mainly due to economic slowdown across countries owing to the COVID-19 outbreak and the measures to contain it. The criteria for green building constructions are expected to change in preparedness to prevent and control such pandemic diseases in the coming years. The market is expected to recover and reach \$150.95 billion in 2023 at a CAGR of 9.03%. Greater

consumer interest has contributed to the growth of residential green buildings. Customers, particularly millennials, are showing more interest in sustainable and net-zero energy homes considering the environmental concerns as sustainable (green) building design include the use of natural and renewable sources. The high cost associated with green features and practices is a potential barrier to the expansion of the green building market

The global market for green building materials (interior and exterior products) estimated at US\$238 billion in the year 2020, is projected to reach a revised size of US\$425.4 billion by 2027, growing at a CAGR of 8.6% over the analysis period 2020-2027. Among the noteworthy geographic markets are Canada that forecasts to grow at 7.1%, led by India and Latin America that will expand at a 13% CAGR through the analysis period.

4. FOCUS ON THE TARGET THIRD COUNTRIES

CANADA

According to Canada Green Building Council (CaGBC) report, the potential of a green recovery that prioritizes green building is high and indicates that Canada's green building sector can contribute 1.5 million jobs and \$150 billion in Gross Domestic Product (GDP) by 2030 while cutting greenhouse gas emissions (GHG) by 53 megatons compared with 2018 levels. Climate change awareness is on the rise in Canada, and companies and regulators alike are making serious moves to reduce the carbon footprint of commercial and industrial construction. In Canada, office buildings use 18% of the country's electricity, with residential buildings accounting for a further 33%. New construction guidelines like Net Zero have established a standard for sustainable building practices, and heavy government subsidies are making it more affordable to meet the higher upfront costs associated with green building. Main focus is given to air-tight building envelopes, improving heating and ventilation efficiency, smarter appliances and high-efficiency LED lighting, HVAC systems and a surge in demand for the green materials. Canada government is also taking actions to support combination of deep retrofits, installation of on-site renewables (such as solar panels or wind turbines), fuel-switching and recommissioning.



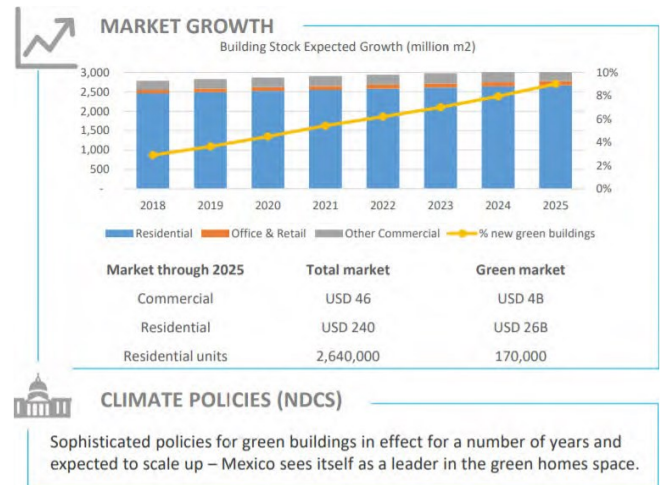
Fig. 2 Canada Impact of the Climate Forward Scenario, Source: Canada's Green Building Engine report

MEXICO

Mexico is a rising leader in Green Building and sustainability. As the second-largest construction market in Latin America, the country is poised for significant growth in its buildings sector, estimated at 2.6 million new residential units and \$286 billion in total investment between 2018 and 2025 alone. The way it designs these buildings will have implications for the country's ability, and the region's and world's ability, to curb climate change. Zero-carbon buildings are achievable in Mexico today given the current policy landscape, which is more favourable than in many other emerging economies. And we're starting to see promising signs of market momentum toward their broader adoption.

Mexico has several critical, foundational policies for energy efficiency and distributed clean energy. The country established building energy norms and an energy code (IECC-Mexico) that require energy-efficient construction practices.

The national government also has programs to provide incentives for efficient construction (INFONAVIT's green mortgage program and SHF's EcoCasa program). Local governments and the private sector are acting, too. Yucatan State became the first jurisdiction in Mexico and one of two in Latin America to sign on to the Net Zero Carbon Buildings Commitment, stating its intention to reach zero emissions in its building portfolio by 2030 and work toward all buildings in the state achieving zero emissions by 2050.



CLIMATE POLICIES (NDCs)

Sophisticated policies for green buildings in effect for a number of years and expected to scale up – Mexico sees itself as a leader in the green homes space.

Fig. 3 Mexico Green Building market growth, Source: IFC Country profile, www.edgebuildings.com

BRAZIL

The construction industry in Brazil is expected to record a CAGR of 14% to reach BRL 1,013.1 billion by 2024. In particular, the commercial building construction market in value terms is expected to record a CAGR of 16.8% over the forecast period. Over the next 2 years, the publisher expects growth across residential, commercial, industrial, and institutional sectors in Brazil to remain impacted due to the economic downturn caused by the COVID-19 outbreak. Despite near term challenges, medium to long term outlook remains positive. Over the short term, investment in the construction industry will be driven by government spending in the infrastructure recovery that included green building and infrastructures.

In fact, Brazil is the second country in the world to implement a new net zero building certification process, following Canada. Brazil is expected to experience steady growth with green buildings over the next few years. This forecast is based on the fast rise of green certifications which has led to a fairly mature market, as well as the introduction of international and local certification schemes which can serve the different needs of the market.

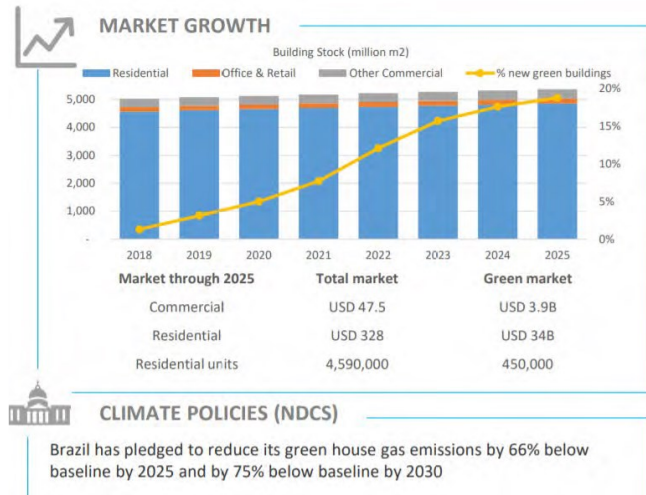


Fig. 4 Brazil Green Building market growth, Source: IFC Country profile, www.edgebuildings.com

Offices and retail – which are leading the market in current certifications – will continue leading the green space in a quick rise of green through 2025, reaching 20% penetration or higher. Due to certification schemes specifically geared to the residential sector, the commercial sector will be quickly followed by the residential market. Overall, IFC forecasts overall green penetration of 20% or even higher.

INDIA

The Indian economy shrank 23.9% year-on-year in the second quarter of 2020, much worse than market forecasts of an 18.3% drop. It is the biggest contraction on record, as India imposed a coronavirus lockdown in late March and extended it several times, halting most economic activities. According to the report, ‘Go Green: The Mantra for Sustainable Living’, India ranks second after the US in terms of the number of green technology projects and built-up area. About four percent of buildings in the country are ‘green’ today. Almost 14 lakh houses of total residential properties in India have chosen to go for a ‘green building’ tag, amounting to about 6.33 billion sq ft. India now has an ambitious target of having 10 billion sq ft green building footprint by 2022.

As the country slowly reopens after the pandemic emergency, the need for sustainable buildings with the focus on hygiene will be the calling card of urban planning. The Great Indian Green Building Movement today stands high with 4,000 projects. The Indian

regulation already mandates housing to have solar panels, sewage treatment plant, and insulation. The main need is to bring the overall building consumption to come down as part of green building movement. However, as India’s population kept expanding and the migration from rural regions to cities kept rising, urban planning needs to fit the increasing number of people and ensures spaces for work and homes. Those if not build according to sustainable principles put immense stress on energy, water and waste.



Fig. 5 India Green Building market growth, Source: IFC Country profile, www.edgebuildings.com

Government push to have 200 million sq. meters of green certified buildings by 202 and several states beginning to build awareness and provide tax incentives and subsidies to encourage investment in green buildings. 70% of buildings needed by 2030 yet to be constructed.

UAE

On the back of an already struggling market and the COVID-19 outbreak, coupled with low oil prices, construction output in the UAE is expected to contract by 4.8% in 2020, but a rebound of 3.1% in 2021. In 2019, the UAE was among the first national governments that announced its commitment to the ‘Zero Carbon Buildings for All’ initiative, a multipartner global initiative led by the World Resources Institute. According to the 2020 UAE Green Building Market Brief published by Emirates GBC, the UAE has 63.96 million square metres of built up area adapted to local green building regulations or certification programmes. With a growing footprint of buildings being developed under green building regulations, the nation is progressing

towards its goal of achieving all net zero carbon buildings by 2050. The recent approval of a new Dubai Building Code is also a positive development; the new code outlines a revised set of construction rules and standards and seeks to reduce construction costs by streamlining building rules. Furthermore, Emirates GBC has also revealed that the health and wellbeing of building occupants has become a focal point within the green building realm, and the COVID-19 pandemic has brought even more attention to how indoor environmental quality is a major factor influencing wellness. The UAE government is also strongly supporting the development of national and emirate level roadmaps to deep retrofits and decarbonisation of the existing building stock.

The above reported findings show that there will be strong demand in industry stakeholders for new green and circular solution to brought to this market and strengthen their competitive advantage. This is an important business opportunity for EU SME companies, and other organizations to offer their solutions already implemented in EU.

5. TARGET GROUP/AUDIENCE

5.1. SIX INDUSTRIAL CLUSTER ORGANISATIONS – PROJECT PARTNERS, and in particular their cluster managers and international/export managers.

The project activities will be dedicated to the SGG, ELCA, SIPH Innowator, Archenerg, DUNDJER and ECODOMUS clusters general managers and cluster internationalization managers, both “junior” and “senior” figures. In particular 19 cluster professionals will be involved: 2 staff from SGG, 2 staff from ELCA, 4 staff from SIPH, 4 staff from Archenerg, 2 staff from Dundjer and 5 staff from ECODOMUS.

5.2. MSMEs – Micro, Small and medium sized companies - FROM THE CIRCULAR, GREEN, AND SUSTAINABLE BUILDING AND CONSTRUCTION SECTOR:

The Micro, Small and medium sized companies constitute the largest group in building and construction supply chains. The ICBUILD cluster beneficiaries represent a total number of 817 MSMEs (cluster associates):

- SGG: 15 SMEs (and a network of about 50 SMEs – non-members);

- ELCA: 460 SMEs (associates of ELCA members – lighting clusters in Italy, Poland, Spain, Belgium and France);
- SIPH Innowator: 66 SMEs;
- ARCHENERG: 74 SMEs;
- DUNDJER: 50 SMEs;
- ECODOMUS: 152 SMEs.

The target SMEs from the sustainable building value chain have a high growth potential, but need market-tailored business support and increased market know-how to enhance their capacity to access new third countries markets and positioned themselves on the international market arena.

The target SMEs are active in the following value chains:

- Construction: construction materials and products manufacturing, architectural design and engineering, contracting works, building operation/maintenance, retrofitting, CDW management;
- Building systems and utilities: HVAC, energy, lighting, Energy Efficient Smart Devices & Systems;
- ICT: supporting digitalization (BIM, IOT), building automation, smart domotic systems and products, smart building and smart city, Home & Building Energy Management, Energy Flexibility Ready Building, Digital Twins;
- Bio sectors: wood sector, production of bio materials and products for construction;
- Eco-innovation: waste recycling, byproduct/waste management from other industries for use in building materials and products and also looking at buildings as materials bank for reuse.

5.3. BUSINESS ACTORS, SMEs AND OTHER STAKEHOLDERS IN THE TARGET THIRD COUNTRIES:

In order to set-up sustainable cooperation, a long term and systemic one within the ICIP partnerships with third country and to set-up appropriate condition for B2B cooperation, the ICBUILD third country strategic and business partners are:

- Clusters in building and construction field, targeting sustainable building and circular construction, and clusters from complementary industrial sectors such as environmental technologies, renewable energy sources, production

- of materials, ICT interested to set-up long term cooperation with similar clusters from EU;
- Members of the clusters, namely SMEs / aiming to improve their competitiveness on their market by cooperating with partners from EU countries;
- R&D organizations, universities with competences and knowledge needed to support a transition to circular construction, interested to cooperate with a similar organization from the EU in collaborative R&D projects;
- Private, green investors (VCs, Business Angels,...) from third countries being interested to investing in novel technologies and entrepreneurship in third countries, e.g. support joint ventures and other international business projects with high ROI.

The following foreign strategic actors support the ICBUILD partnership with the respected letters of support (more of them in attachments):

- Clúster de Tecnologías de la Información del Estado de Colima, A.C., México;
- Anna University, Tamil Nadu, India;
- Sandeep Goswami Associate, Mumbai India and its imitative Climate Resilient Integrated Smart City.

5.4. TARGET THIRD COUNTRIES BUSINESS INTERMEDIARIES AND TRADE ORGANIZATIONS

The project activities regarding the specific market intelligence gathering and C2C & B2B business cooperation and cross-fertilization will envisage direct interaction with target countries business intermediaries and export support bodies, located both - in each partner region and/or country and – in the target Extra-EU countries, that will be consulted on the target markets characteristics, opportunities, product demand, risk factors, regulatory environment, IPR issues, local culture and customs, and other relevant issues for the building SMEs.

This target group will include in particular the following business intermediaries and export support bodies from the 5 preselected markets of the Canada, UEA, Brazil, Mexico, and India:

- target third countries Chambers of Commerce, Trade and Export Offices located in Slovenia, Italy, Hungary, Serbia and Poland (both at regional and national level);
- target third countries Embassies and Trade representatives of the Ministries of Foreign Affairs;

- Enterprise Europe Network internationalization offices related to the target countries;
- European Union Chambers of Commerce in Canada, UEA, Brazil, Mexico and India;
- EU business and IP helpdesks in particular: EUCCAN, Latin America IP SME Helpdesk, Business Support to the EU-India Policy Dialogues with EBTC – European Business and Technology Centre (New Delhi, India) and EUROCHAMBERS;
- Slovenian, Italian, Hungarian, Serbian, and Polish Trade promotion agencies of the country's consulates in target countries;
- Slovenian, Italian, Hungarian, Serbian, and Polish Chambers of Commerce in Canada, UEA, Brazil, Mexico and India like for example the Italian Chamber of Commerce for Brazil, Rio de Janeiro, Brazil (Letter of Support).

5.5. OTHER ESCP4i PARTNERSHIPS and international cluster networks

ICBUILD partners will establish knowledge and experience exchange connections and networking with other European Strategic Cluster Partnerships for Going International (ESCP-4i), with particular focus on the ESCP-4i partnerships targeting the building and construction connected industries and markets.

The preliminary individuated ESCP-4i projects come from the following industry sectors:

- Construction (SENTINEL, WELLIANCE);
- Smart city (ESCT Go Global);
- Smart Lighting (ELCA4i).

Moreover, other European and third countries Clusters in building and construction field, targeting circular construction and sustainable building, which extends eco innovation, smart building technologies to the circular economy principles application, and the cluster from other complementary industrial sectors such as environmental technologies, renewable energy sources, lighting, ICT – Smart house/city, wood sector.

5.6. OTHER RELEVANT COOPERATION STAKEHOLDERS

- R&D organisations, universities with competences and knowledge needed to support transition to circular construction and built environment sustainability.

- Public stakeholders / governmental bodies, municipalities, regional governments – planning, investing, managing, regulation setting to initiate, support, finance, control investments in building and infrastructure following the circular economy principles and EU policies in this field.
- NGO, associations, networks, technological platform – communication, awareness raising, training, promotion, polices' initiation.

5.7. SPECIAL TARGET GROUP - WOMEN IN BUILDING SECTOR

The construction sector has the worst gender balance of any other industries. ICBUILD partnership supports and encourages women entrepreneurship in the building sector. The specific raising awareness campaign will address women working in the building and construction SME companies to inform them about the project internationalisation opportunities and training, and also to support gender-equity in the companies. Having more women on the boards of companies improves the operation of the boards themselves. They provide a greater range of perspectives and insights, more closely representing companies' demographically diverse stakeholders, as well as improving collaborative teamwork. Having more women at all levels is also good for team performance. Finally, better gender diversity at board level improves the image of companies – with both the public and with investors. This helps to boost sales and market performance.

As the construction sector suffers from an extremely poor public image, this impact would be particularly positive for building firms.

Project consortium will exploit synergies in this context with the Europe-wide online platform WEgate and its network as well as with the EEN women entrepreneurship group. CBUILD will also promote the EU gender-smart finance initiatives under the InvestEU programme, to support female-led companies in building.

The ICBUILD proposal foresees that the above-mentioned target groups of stakeholder set-up collaboration in medium term in the promoted International Collaborative Innovation Partnerships, including partners of same categories from third countries.

The important regional/national authorities and sector entities support the SMEs internationalisation

expressed a strong endorsement to the ICBUILD activities through the respective Letters of Support.

In particular, we highlight the following:

- Slovenian National Building and Civil Engineering Institute – ZAG,
- I.E.ME.S.T. The Euro-Mediterranean Institute of Science and Technology,
- Enterprise Europe Network, Southern Poland,
- Regional Chambers of Industry and Commerce in Poland and Serbia,
- Green Building Council Italy,
- The Regional Department of Energy Sicily Region.

Moreover, already more than 40 SMEs have also expressed a strong interest in the ICBUILD proposal with their Letters of Support which is already an important critical mass of companies being already interested to be actively involved in ICBUILD ESCP4i project implementation.

6. ICBUILD DISSEMINATION & EXPLOITATION

Sound dissemination and communication activities are a key part of the ICBUILD project and they will be the product of a shared effort afforded by all partners. Along with communicating the project objectives and results, they also contribute to stronger visibility of the ICBUILD internationalisation objectives, ambitions and activities in the target third countries.

The Communication Plan will be drafted at an early stage of the project implementation and shall provide a framework for all the partners, helping to effectively communicate and report all relevant activities and outcomes. It will define the outreach strategy aimed at communicating valuable information to a broad range of recipients (as other clusters, SMEs, target third countries market representatives and intermediary bodies, relevant public authorities, Funding Authority, ECCP platform, etc.). The plan will be aligned with the project specific objectives (why, mission & vision), the communication subjects (what), the target audience (to whom), the due timing (when), the relevant tools and channels (how), the partner

responsibilities for dissemination (who will perform the dissemination) as well as the rules for performing the dissemination activities and the way to evaluate and assess the impact of the outreach actions.

A visible and distinguishable branding of the ICBUILD project will be created to make it easily recognisable in a way that all the communicative actions undertaken during the project are traceable. The communication materials and outreach channels will be developed to strengthen the information campaign and marketing of the ICBUILD joint value proposition in Europe and in the foreign markets.

Communication activities of the ICBUILD project aim to:

- Bring ICBUILD project to the attention of different audiences which are directly or indirectly affected by ICBUILD results or can contribute to implementation and overall project goodwill;
- Highlight and promote the benefits and achievements, for example ICIP partnership set-up, agreement reached, and how this may relate to businesses involved and other impact related to circular change;
- Communicate the importance of circular construction for sector, SMEs, economy and society at large, for competitiveness and growth;

- Create market awareness and demand for circular construction products and services in EU and third markets;
- Explore the ICIP agreements and attract new foreign stakeholders to the ICBUILD internationalisation initiatives.

The ICBUILD dissemination activities will be harmonised with the partners' communication plans and marketing initiatives to ensure the complementarity of the internationalization activities carried out by the consortium.

The dissemination activities foresee also several business cross-fertilisations events. In particular, project partners plan to use the building industry business matchmaking and brokering events organised in Europe beside the most relevant trade fairs and exhibitions, to maximise the opportunities for face-to-face meetings with the target third countries business intermediaries, industrial organizations and foreign companies. The consortium has preliminary individuated the potential construction and building fairs in their countries, and across Europe where to attend the B2B matchmaking. Partnership will also join the European events promoting the learning and knowledge exchange activities organised other ESCP4i Partnerships and the European Observatory for Clusters.

LITERATURE

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