

# CLEPSA<sup>®</sup>

The Digital Building Passport Platform



Global Alliance  
for Buildings and  
Construction



# Why?

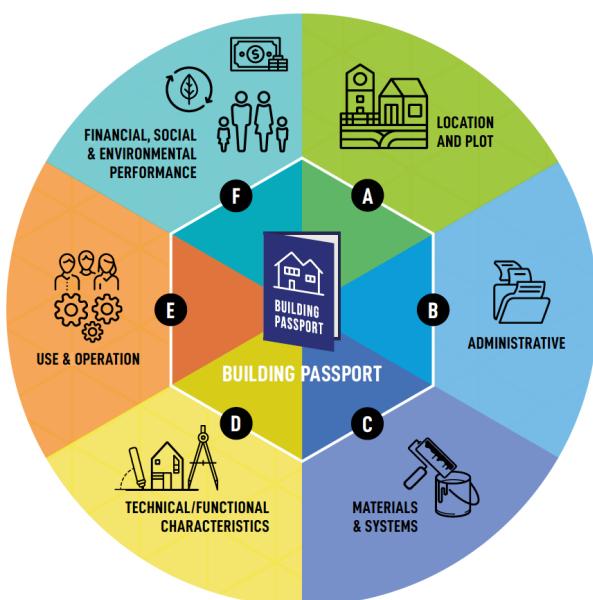
Decarbonizing the construction and real estate sector is critical to achieving the Paris Agreement and the United Nations Sustainable Development Goals (SDGs). The sector is responsible for almost 40 per cent of energy- and process-related greenhouse gas emissions. These include direct and indirect emissions from building use, the manufacturing of building materials, and building replacement and renovation. Taking climate action in buildings and construction is among the most cost-effective ways to address rising global emissions. And yet, investment in energy- and resource-efficient buildings is insufficient, and progress is far too slow. Moreover, significant data gaps have emerged in the sector, as revealed in the GlobalABC Global Status Reports and the GlobalABC Regional Roadmaps.<sup>1</sup>

Known for its complexity, the construction and real estate sector involves a large group of stakeholders and processes, many of them with their own supply chains. The issue of fragmentation in the sector is not new and is widely seen as one of the greatest barriers to making the sector less carbon- and resource intensive and to meeting regional, national and international climate targets. Inextricably linked to these general challenges caused by fragmentation and silo-thinking is the fragmentation of important building-related information flows, with public and private sector efforts often being confounded by a real or perceived lack of data.



## What is a Building Passport?

A Building Passport (sometimes referred to as a Digital Building Logbook or (Electronic) Building File) is a whole life cycle repository of building information. It covers a building's administrative documentation as well as data regarding its plot and location, its technical and functional characteristics, and its environmental, social and financial performance. In its fully digital realization, the Building Passport acts as a single point of input, access and visualization of all the information associated with a building. It is a living document, containing a mix of traceable static "as built" and continuous dynamic record-keeping of performance data and information.



The Building Passport acts as a “one-stop-shop” data and information hub that supports building owners and their service providers in the use and management of the building by facilitating a recording, linking, transfer and sharing of building data and information among stakeholders across life cycle stages. This not only contributes to enhancing understanding of the design, make-up, management, operation and end-of-function of buildings, but also increases transparency and trust, improving policy and financial decision-making and realizing an optimum use of resources.

Benefiting stakeholders include, but are not limited to: building owners, built environment professionals, investors and financial institutions, service providers, certifiers, material suppliers and public authorities.

<sup>1</sup> <https://globalabc.org/resources/publications>.

# A prototyping platform for co-creation

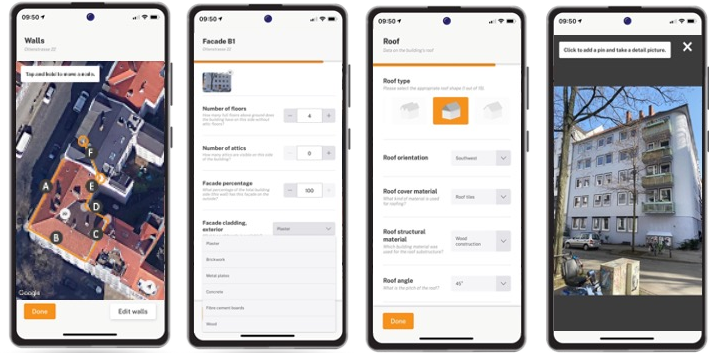
The CAPSA Digital Building Passport prototyping platform was developed to flank the strategic activities of the Global Alliance for Building and Construction around the topic with a way to feasibility test ideas and methodologies. It is also meant to provide a bottom-up method of developing ideas, complementing the more top-down approach of stakeholder meetings that resulted in the Digital Building Passport Guideline Report.<sup>2</sup>

CAPSA consists of a smartphone app for data collection as well as a corresponding cloud-based data base.

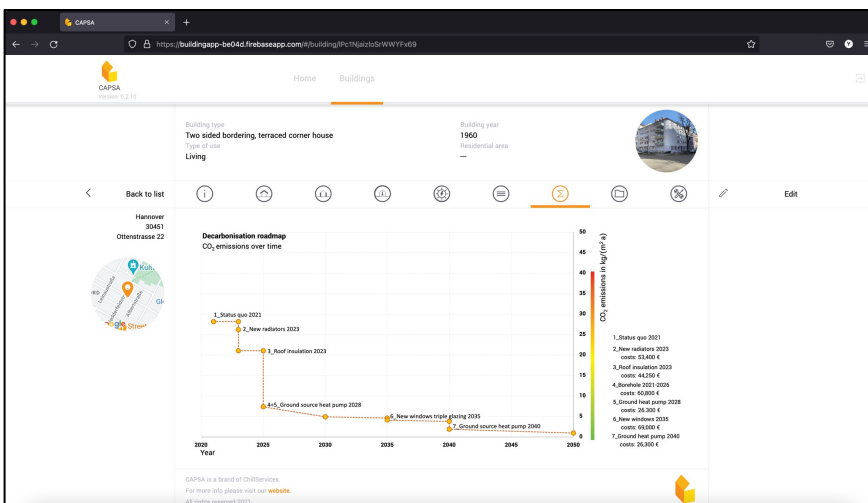
The smartphone app aims to enable non-expert users to generate robust and comparable data.

Data collection focussed on hard and visible information, entered one info at a time.

Besides direct data entry, photos are taken for context and image recognition purposes.



The CAPSA app is synchronized with a cloud-based database in which the collected data is stored, processed, complemented and displayed. The database allows the building owner governance over his data, enabling him to give access to his building data to third parties that offer services and functionalities he is interested in. Access can be revoked at any time. Export of data is possible as well.



The functionalities of CAPSA so far have been focussing on estimating operational carbon.

As next steps this will be evolved into whole life carbon estimates by also estimating scope 3 emissions.

In a next step the generation of decarbonisation roadmaps will be automated, providing registered buildings with a feasible strategy to lower their emissions and meet its owners climate targets.

The CAPSA Digital Building Passport prototyping platform is constantly evolved via a series of projects and with partners all over the world.

## How to cooperate

The CAPSA Digital Building Passport team is happy to cooperate with any stakeholder in the built environment that want to contribute to decarbonize the built environment.

We are currently actively looking for partners that are interested to estimate the embodied emissions in their building portfolio. While a focus is on evolving economies, any location of buildings is welcome.

In case of interest please get in touch:

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