Slovenia - ETV in support of circularity of the construction sector/decarbonisation

Dr. Alenka Mauko Pranjić, ZAG

6th ETV stakeholders forum,18/06/2024

This project has received funding from the European Union's LIFE Programme under Project Number LIFE19 GIE/PL/000784 and is co-financed by the National Fund for Environmental Protection and Water Management, Poland and the Ministry of Agriculture, Hungary

Background

- Construction is one of the major consumers of raw materials, energy and water and produces large quantities of CO2 emissions and waste.
- It also contributes about 10% of GDP in Europe and is 99% composed of SMEs.
- Conservative in introducing new technologies.
- Current focus in innovation: **sustainability, new materials,** digitalization and automatisation (e.g. BIM, digital twins, digital logbooks, digital product passports, use of AR/AI in production and construction, robotic deconstruction, added manufacturing).
- **Sustainability / circular construction** (e.g. CSRD, CPR – 7th basic requirement of sustainable use of primary raw materials, EU Taxonomy, resource efficiency and CE) -> LCA, LEVELS already well positioned, an opportunity for ETV.
- **Mineral carbonation:** long-term carbon capturing in new materials based on mineral reaction.

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Sustainability in construction

LIFE PRO ETV

BREEAM®

ZAG EPD

ETV ENVIRONMENT TECHNOLOGY VERIFICATION ISO 14034

DGNB

QUANTIFICATION

ADDITIONALITY

LONG-TERM STORAGE

SUSTAINABILITY

This project has received funding from the European Union's LIFE Progra
and the Ministry of Agriculture, Hungary

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and the Ministry of Agriculture, Hungary

Technology & Company Information		
Technology Name	**Company**	**Technology Type & Application**
CarbonBuilt Reversa™	CarbonBuilt™ https://carbonbuilt.com	Direct utilization/conversion of carbon dioxide (CO_2) borne in a CO_2-dilute flue gas stream to produce concrete components

Verification Parameter	Verified Performance
Operational Scale	0.34 tonne CO_2/carbonation period (24 hours)
CO_2 Utilization	0.26 tonne CO_2/carbonation period (24 hours)
CO_2 Embedded in Product	19.5 kg CO_2/tonne concrete
CO_2 Conversion Efficiency	75.6 %
Energy Usage	3,704 MJ/batch, 282 MJ/tonne concrete
Water Usage	0.28 m³/batch, 0.02 m³/tonne concrete
CMU 28-day Compressive Strength	22.43 MPa

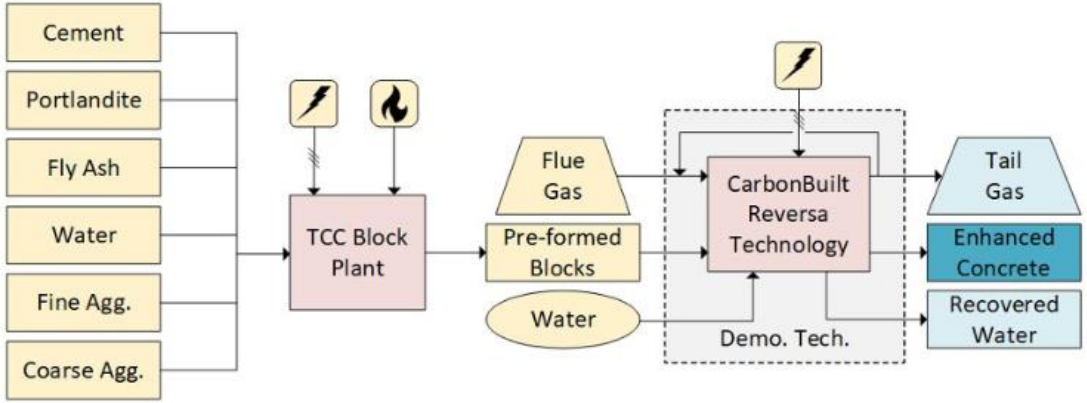

Figure 1. Carbonbuilt Reversa Block Flow Process Summary

Verifier Information			
Verification Body	**Lead Verifier**	**Verification Body Accrediation**	**Verification ID**
350Solutions, Inc. https://350solutions.com	Bill Chatterton	ANAB Cert. AI-2618 for ISO:IEC 17020-2012 / ISO 14034-2016	VS- CXP-A-01

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EU Environmental Technology Verification pilot programme

Statement of Verification

Technology:	PVStop
Registration number:	VN20180031
Date of issuance:	29 August 2018

The verification process, the results of which are summarised in this Statement of Verification, complies with the **EU ETV General Verification Protocol 1.3** and with **ISO 14034:2016** Environmental Management - Environmental Technology Verification (ETV)

Verification Body		**Proposer**	
Name:	BRE Global	Name:	Solar Developments Pty Ltd
Contact:	John Holden	Contact:	Jim Foran
Address:	Bucknalls Lane Watford WD25 9XX United Kingdom	Address:	Wakefield Business Park Dural NSW 2158 Australia
Telephone:	+44 (0)333 321 8811	Telephone:	+61 2 9652 5000
E-mail:	etv@bre.co.uk	E-mail:	jim@pvstop.com.au
Web:	www.bre.co.uk/etv	Web:	www.pvstop.com.au
Signatures			
Verification Body: John Holden		Proposer: Jim Foran	

Accreditation Mark

UKAS INSPECTION
4601

Type A
Inspection Body

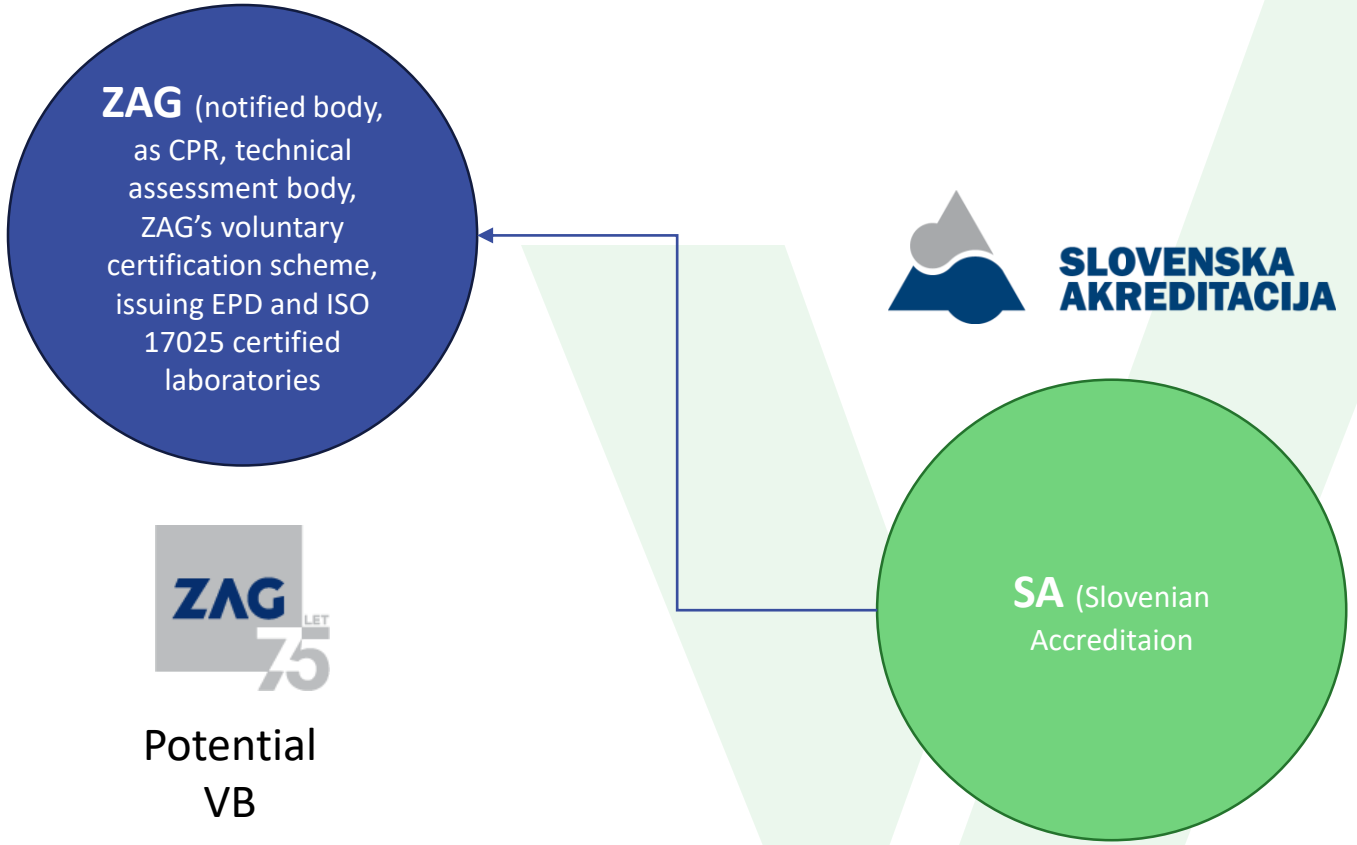
Accredited to
ISO/IEC 17020:2012

BRE Global Verified ETV

Internet address where this Statement of Verification is available:
https://ec.europa.eu/environment/ecoap/etv

Slovenian campaign goals and ETV model exploitation

- Goals:
  - **G1: Support companies by validating their innovative environmental technologies**
  - **G2: Increase understanding of the benefits brought by ETV statements among SMEs and decision-makers.**
  - **G3: Provide investors reliable and useful information on verified environmental technologies to support their trust in investments/projects support.**



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Slovenian camapign

WORKSHOPS (1): How can a company improve its sustainability by using ETV, 15.2.2024 (Ljubljana – hybrid, 20 participants)

EXTERNAL EVENTS (5): presentations and booth(Ljubljana, Nova Gorica, Celje, Brussels, Maribor, ca. 250 participants)

On-line publications (23): LinkedIn, Twitter, websites, portals (759 unique views)

Networking (40): decision makers (SI Ministry for Environment, Climate and Energy, Ministry of Public Affairs, Ministry for Natural Resources and Spatial Planning, ministries of West Balkan countries, OECD, CO2Value Europe, ERAMIN, LIFE, Horizon Europe, EIT RawMaterials projects, companies, chambers of commerce and industry,

Publications (1): expert paper

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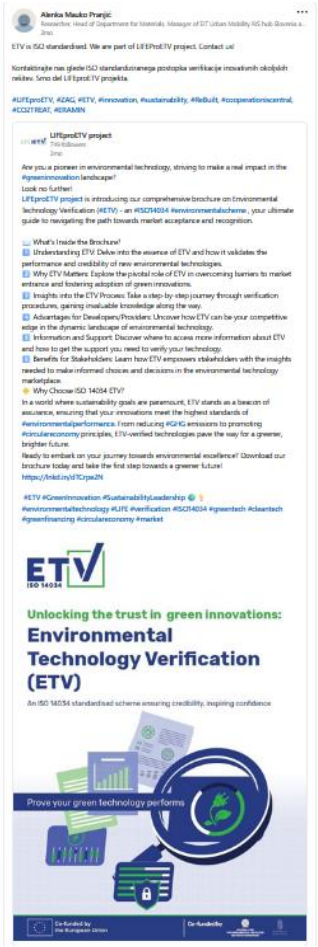
Alenka Mauko Pranjič's Post



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ETV to improve company's sustainability

30.01.2024

The requirements of the new **CSRD** (EU 2022/2464) already affect most Slovenian companies, which are now obliged to report qualitatively and quantitatively on various environmental, social and governance (**ESG**) **challenges**. This applies to large companies (and indirectly to their operators in the value chain) as well as to small and medium-sized enterprises (SMEs).

One of the 13 mandatory **CSRD reporting** areas is **resource use and the circular economy**, which can be complex and quite challenging to implement. The construction sector is known for its environmental footprint, with high resource and energy consumption as well as high waste production, which makes **environmental screening** all the more important.

LIFEproETV workshop

LIFEproETV project aims to raise awareness of a **verification scheme**, called **Environmental Technology Verification** (ETV) **scheme**, which can be very helpful in the reporting of described above. To this end, the **Slovenian National Building and Civil Engineering Institute** (**ZAG**) is organizing this Thursday, **15 February 2024**, between 9.30 and 12.30, a workshop entitled "**How a company can improve its sustainability by using ETV?**". It will focus on the use of the Environmental Technology Verification Scheme (ETV) (SIST EN ISO 14034:2019), which has been present in Europe and around the world for several decades, but is currently one of the lesser-known methods for verifying innovative technologies in Slovenia.

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Upcomming – postLIFE

On-line ETV event (June-July)

Presentation of poster and round table on mineral carbonation (TBMCE, Portorož Sept 2024)

3 Papers in expert magazines (Gradbenik, Grajeno okolje, EOL)

Social media and individual meetings

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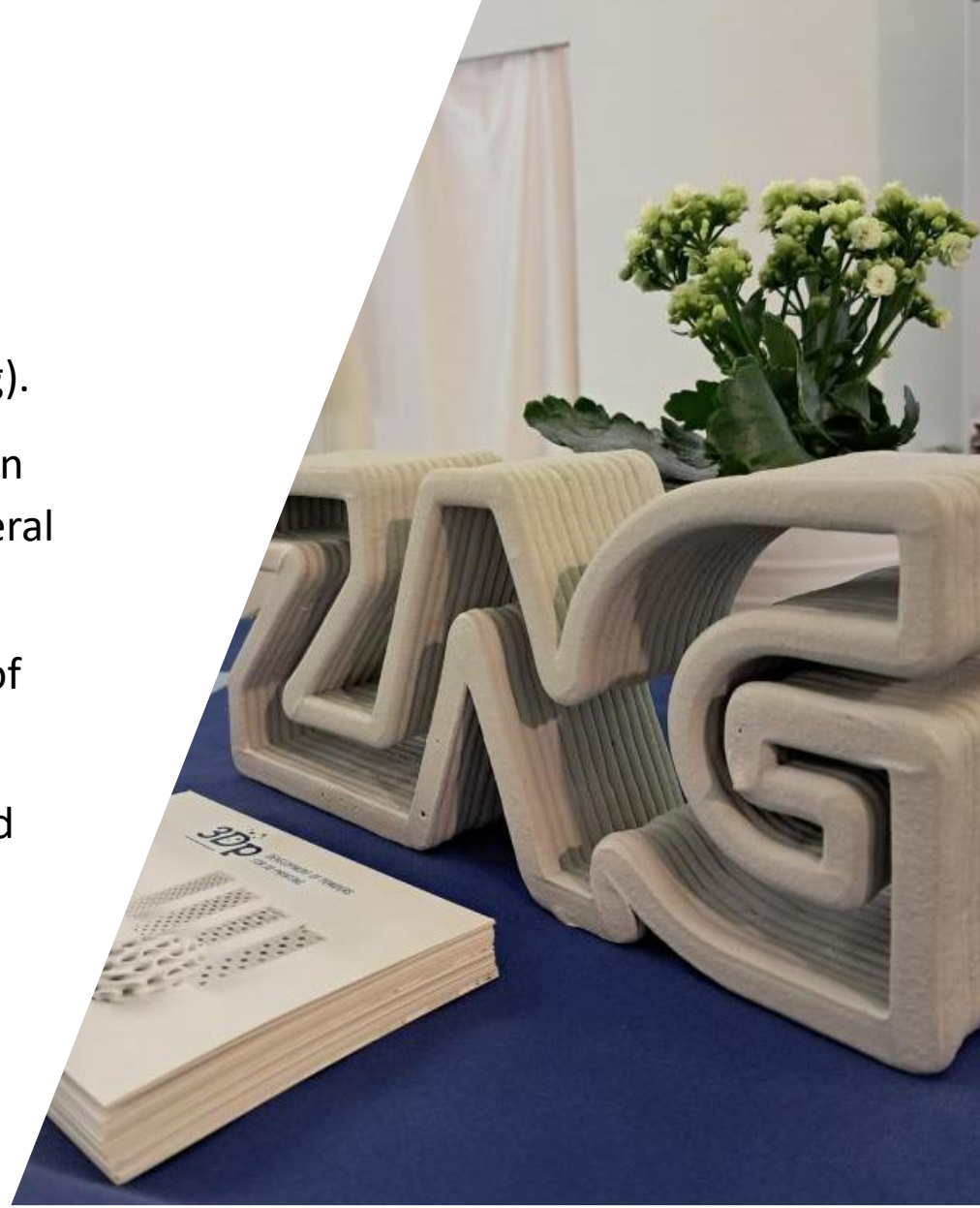
Key achievements

- VB at ZAG (have all necessary conditions as a notified body for construction products, also having service in environmental labelling).
- ETV implementation in the field of circular economy and construction (buildings and infrastructure) industry (especially in the field of mineral carbonatization for catching CO2 from carbon-intensive processes).
- Cooperation in the process of GPP renewal in Slovenia (ETV as part of sustainability assessment of construction products and technology).
- Potential funding for SMEs through Slovenian Entrepreneurship Fund for development of ETV.



THANK YOU!

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