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Major step towards full-scale CCUS in Eastern Europe: Heidelberg Materials starts carbon capture pilot in Bulgaria

- **Construction start for a pilot carbon capture installation was celebrated at Heidelberg Materials' plant in Devnya, Bulgaria, on Monday.**
- **The pilot unit called ANRAV.beta will be a key proof of concept for the company's first full-chain carbon capture, utilisation, and storage (CCUS) project in Eastern Europe and will show the scalability of the new OxyCal capture technology.**
- **Construction of the pilot unit will take only a few months, with the subsequent demonstration phase scheduled to last 12 to 24 months.**

In the presence of Milena Stoycheva, Bulgaria's Minister of Innovation and Growth, and representatives of Heidelberg Materials and the local community, the start of construction for the pilot carbon capture installation was celebrated on Monday at Heidelberg Materials' plant in Devnya. The ANRAV.beta unit is a key next step in the implementation of the company's large-scale ANRAV project in Bulgaria, which was announced in early 2023. As the first full-chain CCUS project in Eastern Europe, ANRAV will eventually cover carbon capture, transport, and geological storage as well as utilisation.

Ernest Jelito, Member of the Managing Board of Heidelberg Materials and responsible for the Northern and Eastern Europe-Central Asia Group area: "The OxyCal technology we will be trialing in Devnya is a crucial addition to our portfolio of capture technologies. Obtaining solid operational data from industrial pilots like this is essential to ensure the successful implementation of projects under our comprehensive CCUS investment programme. At the same time, we can demonstrate an economically feasible way to decarbonise carbon-intensive industries in Eastern Europe."

"This is a significant moment for the further development of CCUS technologies across Heidelberg Materials," says Dr Nicola Kimm, Chief Sustainability Officer and Member of the Managing Board. "ANRAV.beta is an important step on our journey to offer our customers in Eastern Europe fully decarbonised cement already in the near future. This pilot will greatly facilitate the implementation of the overall ANRAV project. I am very pleased that the Devnya team, together with our global Competence Center Cement, have been able to get this off the ground in a very short time."

OxyCal is an innovative carbon capture technology based on the addition of pure oxygen to the clinker burning process. The result is a CO₂-rich flue gas with a high degree of purity that can be reused or safely stored. The new pilot at the Devnya plant will not only prove the efficiency of the technology, but also its scalability to ANRAV CCUS and other projects of the Group such as Anthemis in Belgium. The demonstration period is expected to last 12 to 24 months.

“We welcome Heidelberg Materials' investment in this highly visionary carbon capture project,” says Minister Milena Stoycheva. “R&D initiatives such as ANRAV are transforming Bulgaria into an innovation hub for the whole region of Southeastern Europe, and we are glad to support this as a partner.”

ANRAV is the first full-chain CCUS project in Eastern Europe. Subject to regulatory and permitting aspects, it could start operation as early as 2028, with a capturing capacity of 800,000 t CO₂ p.a. It is also the first project in the region to receive support from the EU Innovation Fund, amounting to €190 million. The implementation of the project will unlock the potential of CCUS in Bulgaria and contribute significantly to CO₂ emission reduction at the national level.

Captions

Image 1: Celebrating the construction start of the ANRAV.beta pilot plant – from left to right: Member of the Heidelberg Materials Managing Board Ernest Jelito, Minister Milena Stoycheva, Antonio Clausi (Director Global Competence Center Cement).

Image 2: The team of Heidelberg Materials' Devnya plant and guests at the launch ceremony.

About Heidelberg Materials

Heidelberg Materials is one of the world's largest integrated manufacturers of building materials and solutions with leading market positions in cement, aggregates, and ready-mixed concrete. We are represented in more than 50 countries with around 51,000 employees at almost 3,000 locations. At the centre of our actions lies the responsibility for the environment. As the front runner on the path to carbon neutrality and circular economy in the building materials industry, we are working on sustainable building materials and solutions for the future. We enable new opportunities for our customers through digitalisation.

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