

Press Release

Urban solar power production beyond building roofs

Innovative photovoltaic solution from Liechtenstein: Official opening of the first Urbanbox demonstration plant in Bendern

On Monday, October 3, Arthur Buechel, inventor of the Urbanbox, together with international representatives from politics, business and science, opened the demonstration system at the wastewater treatment plant ARA Bendern (FL). Key feature: Urbanbox generates solar power on unused urban areas - exactly where the solar energy is needed. It retracts automatically in bad weather and cleans itself at the same time.

"Solar power from the roofs alone is not enough" says Arthur Buechel, and that was the reason for him to look for new solutions together with Prof. Dr. Franz Baumgartner to develop available urban areas. They have been working on this topic for 15 years and on October 3, 2022, the time had come: The first Urbanbox at the waste water treatment plant ARA Bendern was officially opened with invited guests. After words of welcome from Sabine Monauni, Deputy Head of Government of Liechtenstein and speeches by the founder and representatives of PV research and the financial sector, the official opening and demonstration of the Urbanbox at ARA Bendern took place.

The Urbanbox is a box with a retractable PV sunroof consisting of several solar module carriers. In adverse conditions, for example during storms or snowfall, the solar module carriers are automatically retracted and cleaned at the time. This reduces the maximum load on the substructure by more than 70%. It can be fabricated with a wood or steel structure. The box with the PV module carriers and the mechanics can be completely prefabricated and tested in the factory.

Large spans for urban integration

The standard model has an installed capacity of about 80 kWp. "Spans of more than 20 meters, which are feasible with Urbanbox, allow easy integration with few supports in complex urban areas" says Buechel. For example, he sees waste water treatment plants, parking lots, logistics areas, and in the medium term, roads and highways as ideal locations for Urbanbox systems. According to Buechel, Urbanbox offers unimagined opportunities to expand solar power generation in urban areas.

The implementation of the demonstration system was made possible by the support of the State of Liechtenstein, the Swiss Climate Foundation, Innosuisse and other committed supporters. Urbanbox is ideally suited for a wide range of applications in urban areas, but also for AGRI PV applications in the medium term. With Urbanbox, a huge international, so far untapped market can be developed. Based on initial estimates, there is a potential area for cost-effective solar power production in urban areas of more than a quarter of the

world's electricity demand. With the novel design, both investment costs and operating costs in volume can be brought to a completely new level compared to the current state of the art.

Second plant to the megacity of Singapore

At the opening, Arthur Buechel signed a memorandum of understanding for the second Urbanbox with Dr. Thomas Reindl of the Solar Energy Research Institute of Singapore (SERIS) at the National University of Singapore (NUS). Dr. Reindl sees enormous potential even in the most densely populated megacities, such as Singapore, for electricity production with Urbanbox and plans to tap exactly this potential in the near future with a lighthouse project. He also sees Urbanbox as an opportunity for other megacities to increase self-sufficiency in the future.

For 15 years, founder and ideator Arthur Buechel has been involved in the field of photovoltaics for urban areas and, together with Prof. Dr. Franz Baumgartner of the ZHAW Winterthur. They have initiated and accompanied various lightweight PV projects. It is their ambition to tap the huge potential for solar power production in urban areas, apart from rooftop PV systems. Back in 2014, they developed a retractable folding roof solution, a predecessor product of Urbanbox. With Urbanbox, the new lightweight PV solution Buechel already achieved second place in the final voting at the Investor Summit Liechtenstein 2020.

Iworks AG is a public limited company in Liechtenstein and was founded by Arthur Buechel in 2007. The focus of Iworks AG is now the launch of the Urbanbox. Reference projects are planned for 2023, followed by the market launch of this innovative solar system in 2024. Iworks AG is open and interested in partnerships in supply chain, distribution, financing and project financing.

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Image 1: In front of the Urbanbox system are the speakers of the opening ceremony from left to right Dr. Thomas Reindl, Prof. Dr. Christophe Ballif, Arthur Buechel, Sabine Monauni, Prof. Dr. Franz Baumgartner, Dr. Philipp Hofstetter and Michael Konzett, project manager (Image: Lucia Kind).

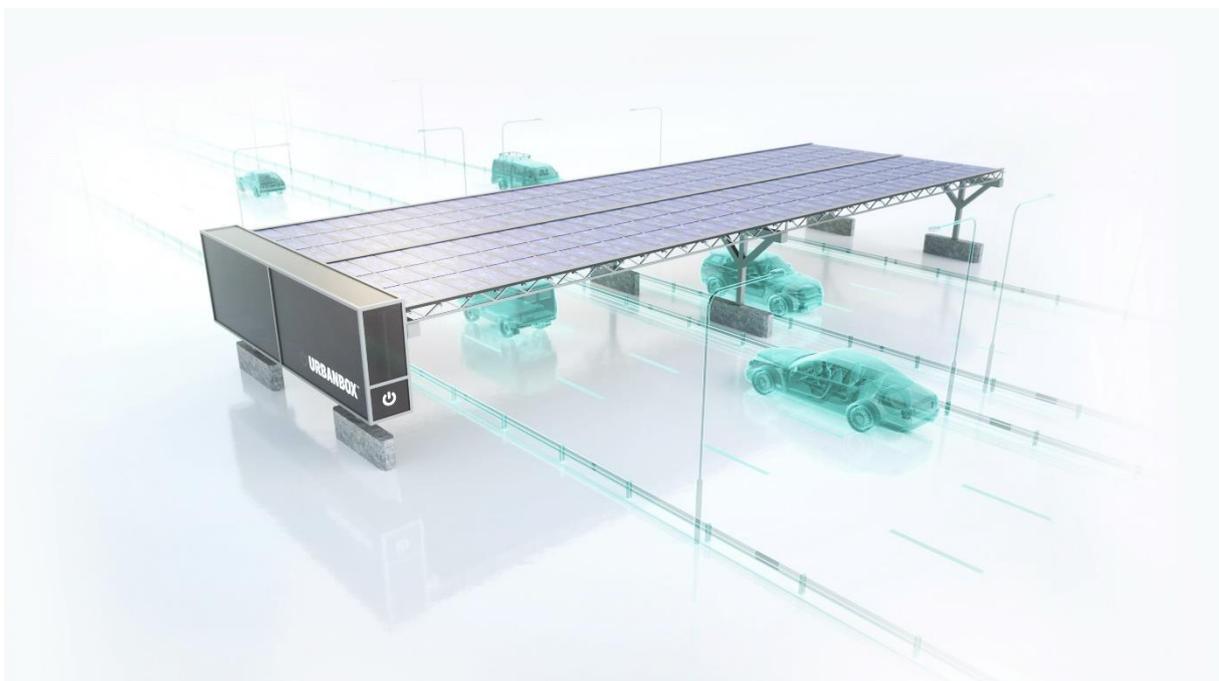


Image 2: Impression of Urbanbox over freeway (Image: Iworks AG)



Image 3: Impression of Urbanbox in pedestrian zone (Image: Iworks AG).

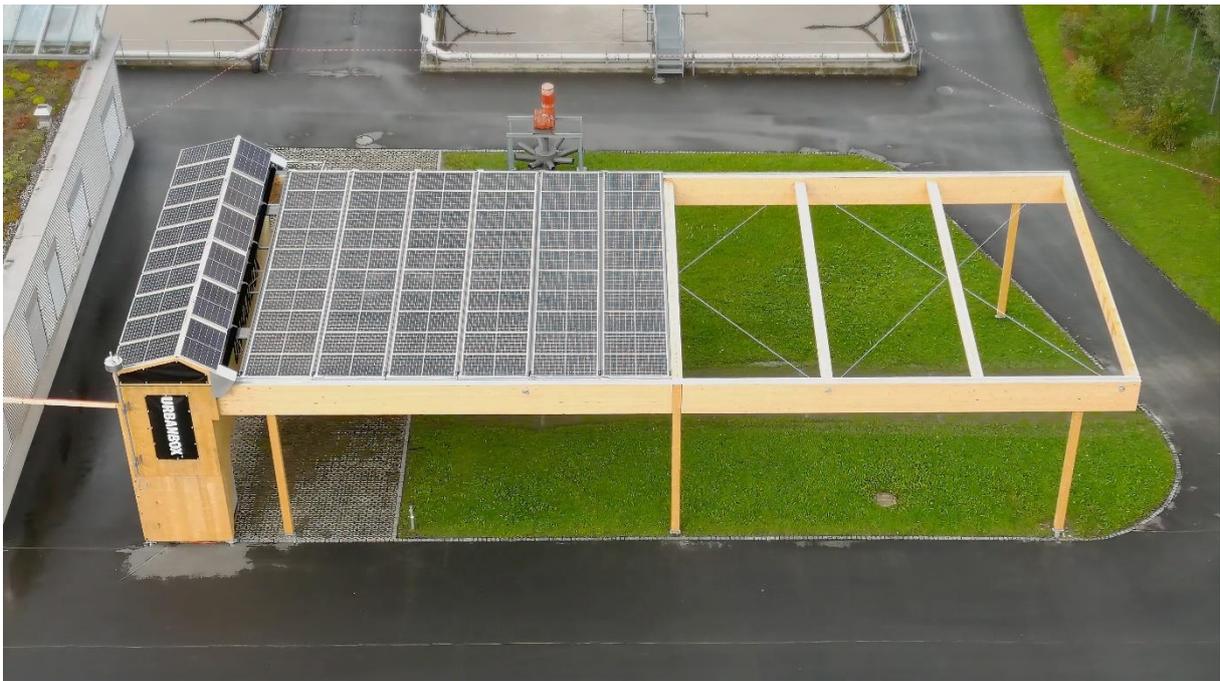


Image 4 : Views from Urbanbox demonstration system with 6 PV module supports extended (Image: Iworks AG).



Image 5 : Views from Urbanbox demonstration system with 6 PV module supports extended (Image: Iworks AG).



Image 6 : Views from Urbanbox demonstration system with 6 PV module supports extended (Image: Iworks AG).