Svante

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The Honorable Paul Tonko
Chairman
Subcommittee on Environment and Climate Change
Committee on Energy and Commerce
U.S. House of Representatives

The Honorable John Shimkus
Ranking Member
Subcommittee on Environment and Climate Change
Committee on Energy and Commerce
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Dear Chairman Tonko and Ranking Member Shimkus:

My name is Claude Letourneau and I am the CEO of Svante. I am submitting these remarks on behalf of Svante. Svante appreciates your leadership in holding this hearing of the Subcommittee on Environment and Climate Change to examine the issue of carbon capture technology, and H.R.1166, the Utilizing Significant Emissions with Innovative Technologies (USE IT) Act. Deploying carbon capture technology is vital if we are to address rising concentrations of carbon dioxide in the atmosphere and curb the impacts of climate change.

Named for Svante Arrhenius, recipient of the 1903 Nobel Prize in Chemistry and one of the first scientists to discover the relationship between atmospheric carbon dioxide (CO_2) and warming Earth temperatures, Svante is an innovative, North American company manufacturing proprietary carbon capture technology.

First-generation capture technology uses liquid chemicals to capture CO_2. It is costly and requires a lot of space. Svante, in contrast, uses proprietary solid adsorbents with very large internal surface areas, which maximizes efficiency and requires only half the capital to construct. Svante's technology enables these adsorbents to switch between adsorbing CO_2 (catch) and releasing CO_2 (release) very quickly, resulting in more CO_2 being captured per unit volume of adsorbent. This results in very compact, less expensive equipment.

While this technology can be used for carbon capture from almost any source, including fossil fuel power plants, industrial sources, and direct air capture, its comparative efficiency enables capture of CO_2 from industrial sources at approximately half the capital cost of other technologies. Svante currently has a pilot facility in operation at a Husky Energy plant in Saskatchewan, Canada, which is capturing 30 tonnes per day of CO_2.

As the Committee knows, industrial emissions are responsible for approximately 21% of total global greenhouse gas emissions—more than all car, truck, aviation, and marine transportation

emissions combined. About 60% of direct CO_2 industry emissions come from large emitters such as cement plants, steel/iron and metals foundries, and chemical facilities. Currently, there are limited incentives for cement producers and other industrial sources to implement CCUS technology to capture emissions from the production processes at their plants, and few substitutes for the materials being produced at such plants.

Accordingly, while a central focus of HR 1166 is on Direct Air Capture, I strongly urge the Committee to support proposals to encourage the development of viable technologies and projects for capture of industrial emissions. This will be a crucial step in the quest to reduce GHGs worldwide.

Svante recently announced a collaborative project with Lafarge North America to construct a CO_2 capture project at Lafarge's Portland Cement Plant outside of Colorado Springs, Colorado. The Lafarge plant has an annual capacity of 1.8 million metric tons of cement, supplying cement throughout a seven-state region. This application of Svante's technology will capture approximately 2,500 tonnes of CO_2 per day per train, and can capture more than 90% of the plant's current CO_2 emissions. The cement plant is near an existing CO_2 pipeline that connects to the Permian Basin, so Svante is partnering with Occidental Petroleum. Occidental will be the CO_2 off-taker and will utilize the CO_2 for enhanced oil recovery (EOR). Occidental is the largest user of CO_2 for EOR in the world. This supply of anthropogenic CO_2 will supplant a comparable amount of CO_2 currently being mined for use in EOR, while enhancing the economic viability of the full-scale pilot project.

I also want to note that, in a newly announced partnership with Climeworks, we are collaborating on integrating industrial CO_2 capture with direct air capture to focus on achieving net-zero emissions, as well as leveraging Svante's core technology to help make direct air capture more economic. This collaboration could demonstrate the technology's capability for direct air capture of CO_2 at the same site.

As the Chairman's memo recognizes, the use of captured CO_2 for EOR is not a panacea, but absent both a price on carbon and a market demand and price on CO_2 for alternative uses, the combination of selling CO_2 for EOR and the 45Q tax credit are crucial for making an industrial capture project economically viable.

Accordingly, we support all efforts to increase demand for alternative uses of CO_2, and strongly support H.R. 1166 and its Section 101, which would provide support for research and development of new and existing CO_2 utilization technologies that transform captured emissions into commercial products or inputs to commercial products.

The Chairman's memo also references the 45Q tax credit for capture and storage of CO_2. While the tax credit is not in the jurisdiction of this Subcommittee, I would like to recommend that the credit should not only be extended, but the length of time for which emitters receive the credit should be lengthened beyond the current twelve years. The current credit enables emitters to recover the capital costs of carbon capture facilities, as well as provide very modest support for the operations and maintenance costs during the initial 12 years. However, absent a price on

carbon, the economics of operating a carbon capture facility beyond the twelve-year duration of the credit will be challenging, even if emitters are able to sell their captured CO_2 at the current rate of $20 a ton.

Regardless of whether captured carbon is utilized for yet-to-be-developed uses of CO_2, stored, or used for EOR, virtually all capture projects will rely on pipelines to carry the captured CO_2 to its next use or permanent storage. The process for permitting of pipelines may be the long pole in the quest to deploy cost effective CCUS projects, given the complexity and overly lengthy timeframes of the current processes for permitting. Accordingly, Svante strongly supports Title II of HR 1166 that addresses the current challenges for permitting pipelines.

We are proud to be a major player in this emerging industry that will be critical to the efforts to capture CO_2 and the efforts to address climate change. This is an important hearing in those efforts, and this legislation will be key. We thank you again for holding this hearing and for the Committee's support of CCUS going forward. I would be happy to answer any questions the Committee may have about Svante, or the business model for deploying carbon capture projects in a cost-effective manner.

Sincerely,

Claude Letourneau
CEO
Svante