

# **EXHIBIT X**

**UNIVERSITY OF WISCONSIN  
(MADISON)**



**Nelson Institute for  
Environmental Studies**  
UNIVERSITY OF WISCONSIN-MADISON

**Audi CO2 Cy Pres Settlement Fund**

**Executive Summary: Investing in UW-Madison for Decarbonization**

*The University of Wisconsin-Madison* is a global leader in environmental research and is committed to sustainability, carbon neutrality, and engaged scholarship that will bend the curve of global climate change. As the environmental “front door” to the UW-Madison campus, *The Nelson Institute for Environmental Studies* supports the research of faculty across campus who seek to reduce greenhouse gas emissions, innovate sustainable energy systems, and create governance regimes to limit carbon outputs and halt runaway climate change.

The UW-Madison campus is “one stop shopping” for complex problem-solving for issues like climate change mitigation. Because the solutions to our predicament will require technological innovation, but also attention to land use, clean air policy, health impacts, and transportation, they require both breadth and depth of expertise that is rarely found in a single institution. The Nelson Institute at UW-Madison is that kind of destination and contributes to real progress on climate change.

We propose investments in two areas of UW-Madison’s vast expertise in decarbonization: conservation of standing carbon stocks and attention to emissions and air quality.

We can immediately do more through further investment and support. We intend to invest in labs and projects that: 1) attend to carbon storage in trees and soils, and 2) advance clean air efforts that reduce carbon while improving human health.

**1) Land Use, Forestry, and Tree and Soil Carbon**

Protecting rainforests is essential for achieving the goals of the Paris Climate Agreement. Tropical forests are enormous reservoirs of carbon, storing 250 billion tonnes of carbon in their trees alone. This storage is equivalent to 90 years of global fossil fuel emissions at today’s level. When these trees are cut down and burned to make room for crops and cattle, huge amounts of carbon dioxide are emitted—typically more than 5 billion tonnes each year. This means that tropical deforestation now causes more emissions on an annual basis than 85 million cars would over their entire lifetime. In fact, global deforestation ranks third in carbon dioxide-

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equivalent emissions, behind only national emissions from China and the USA. If this forest destruction continues, it will be nearly impossible to keep warming below the pledged two degrees Celsius (3.6 degrees Fahrenheit).

The Nelson Institute's **Gibbs Land Use and Environment Lab** ([www.gibbs-lab.com](http://www.gibbs-lab.com)) leads research to evaluate and strengthen company action and public policies that aim to reduce tropical deforestation and save their carbon and biodiversity reservoirs. Using remote sensing, local monitoring, and work with producers, processors and global exporters, Dr. Holly Gibbs' research has been credited with saving Brazil's zero-deforestation soy agreement, and is now leading the way to reduce emissions from the cattle sector through the pre-competitive deforestation monitoring tools she developed that are now being implemented by the world's largest food commodity companies. Closer to home, Gibbs' analysis of grassland conversion across the United States and its links to national biofuels and agricultural policies has been used to brief congress and the EPA.

Investments in UW-Madison in the area of land use, forestry and tree and soil carbon would expand the scope of monitoring and managing forest carbon stocks, as well as those related to land uses in the US where real progress must be made in the next twenty years (e.g., carbon sequestration in agricultural soils).

Budget: \$350,000

Timeline: 2-year dispersal

## **2) Air Quality, Health, and Decarbonization**

Solving the climate challenge requires turning the corner on carbon emissions. Unfortunately, carbon stays in the atmosphere for about 100 years — so the atmosphere response to emission changes slowly over the decades. Air quality links the sometimes-distant concerns of global climate change with near-term, local benefits of clean energy to public health.

Fortunately, the same energy choices that reduce carbon also reduce other air pollutants: the haze over cities and the reactive gases that cause asthma attacks. And these chemicals change hour-by-hour in the atmosphere. So, the impacts of energy change on these “air quality” chemicals occur — often literally — overnight. When air gets cleaner even for a few days, studies have shown fewer hospital visits and reduced death rates. By linking climate solutions with local, immediate, public health concerns, air quality serves as a bridge between global solutions for the future climate and local, “now” concerns facing communities.

**The Holloway Group** (<https://hollowaygroup.org>) at the Nelson Institute and the Department of Atmospheric and Oceanic Sciences advances carbon reduction by attending to air quality monitoring and management. Specifically, Dr. Tracey Holloway, along with her colleagues and students, works with climate advocacy organizations, government agencies, and private companies to link clean energy with air quality and

health. Holloway and her team use information from ground-based instruments, satellites in space, and advanced computer models. They take a data-driven approach to applied research and policy analysis. Computer models are especially powerful for answering “what if?” questions related to climate solutions. For example, how many fewer asthma attacks would occur if 50% of cars were plug-in electric vehicles? By working with real-world organizations to identify key policy questions and applying top-of-the-line models to answer these questions, Holloway’s work ensures that rigorous, transparent science is used to support urgent climate decisions.

An investment in UW-Madison and Nelson’s air quality, health, and decarbonization work would expand these efforts. Specifically, with the proposed funds, we would expand on our work in the Midwest to other U.S. regions. Funded by the Joyce Foundation and the McKnight Foundation, current work has focused solely on the Upper Midwest. Other stakeholders have made requests to expand our efforts — e.g. the Northeast States seek to evaluate off-shore wind energy impacts — but this work cannot currently be undertaken without new investment.

Budget: \$350,000

Timeline: 2-year dispersal

#### **Summary of Expected Expenditures and Timelines**

Each of the two projects would be implemented over 2-4 years after the receipt of funding. The \$350,000 investment for work related to land use, forestry and tree and soil carbon and the \$350,000 investment for work related to air quality, health and decarbonization would be used to support things such as the time of the primary UW-Madison faculty investigators, scientists, consultants, and researchers (both staff and student researchers). It would also be used for data analysis, travel, operational and fieldwork expenses.

Paul Robbins



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