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The Green Energy Corridor along the US-Mexico Border: Changing the Conversation

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ABSTRACT:

Advances in technology offer unprecedented opportunities to bring the world together. However, recent mass migrations due to violence, lack of economic opportunity and war have raised geopolitical tensions and led to artificial border barriers. About one-third of the countries around the world have built some type of border fence [1]. Such physical barriers generate discord and exacerbate the rhetoric of "us" versus "them"—such is the case of the U.S.-Mexico border. As climate change begets extreme weather (e.g., droughts, hurricanes, tornadoes, floods), migration across international borders is likely to swell, and with it cries for more boarder barriers [2]. Such issues call for alternative non-partisan, sustainable solutions for addressing the pressing socio-economic challenges of border regions. Here we detail a solution: leveraging local resources (sun, wind, natural gas) along the border to produce energy, clean water and food, essentials of life needed to create an economic development corridor along the border that improves the human condition on both sides.

BIOGRAPHY:

Prior to joining Purdue University as the Kenninger Chair Professor of Renewable Energy & Power Systems, Luciano was the inaugural Center Director of the National Wind Resource Center and the Don-Kay-Clay Cash Distinguished Engineering Chair in Wind Energy at Texas Tech University. For many years he was Professor at Rensselaer Polytechnic Institute in the Mechanical & Aerospace Department. His areas of research interest include: turbulence, renewable energy and bioengineering. He has published over 100 publications, edited several books on renewable energy and co-authored several patents (e.g., energy, health care, etc.). Some of his awards include: Fellow ASME, the NASA Faculty Fellowship, the Martin Luther King Faculty Award, the Robert T. Knapp Award Best Paper Award from the ASME, the Best Paper Award from the Journal of Renewable Energy, the Best Paper Award from IEEE, and the Rensselaer Faculty Award (twice). He gave several keynotes lectures, plenary lecture, and distinguished lectures on wind energy. Currently, he serves as Associate Editor of Wind Engineering & Science, and serves in various scientific committees on renewable energy in Europe. He is passionate about inclusiveness and mentoring students and young faculty, and founded and organized several summer research institutes on renewable energy & medicine, which included students, faculty and K-12 teachers. For his contributions and impacts on inclusiveness he received in 2016 the McDonald Mentoring Award from ASME, and was nominated for a Presidential Award given by the President of the USA. He was recently appointed as Deans Faculty Fellow for Hispanic Engagement in the College of Engineering at Purdue University