

Re: Approval of Prince George's County Education and Community Partners to Build Six Public Schools

Dear Prince George's County Council,

This is in regards to the vote to approve Prince George's County Education and Community Partners to construct six new schools under a public-private partnership. At this point it is challenging to evaluate this action since little information is publically available. We urge the Prince George's County Council to postpone this vote and provide more information about the proposed agreement with Prince George's County Education and Community Partners so that the public can evaluate it. In particular, we will want to see that any agreement includes a requirement that these six new schools are built to an environmental standard that meets the definition of Net Zero Emissions.

We represent the Sierra Club's Climate Parents in Prince George's County. Sierra Club's Climate Parents is a diverse national movement of parents and families mobilizing for bold clean energy and climate solutions. The specific campaign involves getting school districts around the country to commit to 100% Clean Energy. We are leading that charge in Prince George's County. If achieved these goals will reduce greenhouse gas emissions, make school environments healthier, and in many cases save money in the long term.

The useful life of school buildings and the equipment within schools is quite long. We currently have schools that are nearing seventy years old in active use. The useful life of heating and cooking equipment in schools is not quite as long, but this equipment can still be in use thirty years or more after installation. This is important to consider, since the scientific evidence published by the International Panel on Climate Change (IPCC) shows that in order to stave off the worst of climate change world-wide we must be at net zero greenhouse gas emissions by 2050.¹ These schools will only be about 25 years old in 2050, so still well within their useful life, and much of their heating and cooking equipment will still be in use. If we do not want to prematurely have to retrofit these buildings they must be built to be Net Zero Emissions now.

Building these six schools to Net Zero Emissions will provide other benefits as well. A recent study found that better indoor air led to increased test scores in the Los Angeles Unified School District, to the same extent as reducing class size by one third.² Work at the Rocky Mountain Institute has found that using natural gas-fired equipment for heating and cooking increases indoor air pollution and can lead to health problems from the increased levels of oxides of Nitrogen (NO_x).³ Additionally, elevated levels of NO_x are related to increased asthma exacerbations which both harm the students and staff and can increase the number of lost days from school.⁴ It is imperative for the health and learning environment of the students that these schools be built without fossil-fuel burning equipment for heating and cooking.

¹ IPCC (2018). Special Report: Global Warming of 1.5 °C. <https://www.ipcc.ch/sr15/>

² Gilraine, Michael (2020). Air Filters, Pollution, and Student Achievement. <https://www.edworkingpapers.com/ai20-188>

³ Rocky Mountain Institute (2019). The Impact of Fossil Fuels in Buildings. <http://rmi.org/insight/the-impact-of-fossil-fuels-in-buildings/>

⁴ American Lung Association. Nitrogen Dioxide. <http://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/nitrogen-dioxide>

Ventilation and air conditioning systems must also be both efficient and allow for increased levels of fresh air. Use of ventilation systems with Dedicated Outdoor Air Systems (DOAS) in these new schools will allow for an energy efficient solution that makes sure fresh air is circulating inside the buildings.⁵ This is important because of time we buildings that do not have sufficient ventilation can develop sick building syndrome, which again impacts the health and learning environment of students.^{6,7} This will also be important in the case of future events like the one we are experiencing now with Covid-19, which may occur with more regularity.⁸

Additionally, schools often have roofs with square footage larger than typical buildings with the same internal size due to the need to build few stories. This also opens up the opportunity to install solar panels on the new buildings. This will allow the school to partially, if not fully, power itself with electricity produced on site. It will also allow for sale of the power back to the grid, in particular during summer months when demand is high and the schools are not in regular use. This can be used to reduce the cost to the school system during the payback period from the partnership.

These solutions also can lead to cost savings through both reduced maintenance costs and the need to spend less on fuel. For example, Hillsborough County Schools in Florida, a district slightly larger than Prince George's County partnered with two companies to invest \$200 million dollars in energy improvements that over time are expected to save the school district \$850 million dollars.⁹ Kern County Schools in California also recently partnered with a company to invest in onsite solar generation that will save the school system \$80 million over 25 years with no upfront costs, and this was only on 27 buildings.¹⁰

If these six schools rely on electric heat pumps for heating, have a highly efficient building envelope, rely on smart efficient lighting, have electric cooking equipment, use DOAS for ventilation, and have installed solar panels then it seems reasonable from our perspective to proceed. We do understand that we do need to speed up school given the state of some of our buildings and possibly use innovative techniques to get this done, but we shouldn't rush in without a public process, in particular one that insures that these schools will be Net Zero Emissions. At this point the public needs more information to determine whether Prince George's County Education and Community Partners can commit to make schools that are

⁵ DOAS: A New Approach to HVAC - Environment + Energy. <http://www.energymanagertoday.com/doas-a-new-approach-to-hvac-0124935/>

⁶ Mendell, Mark, Garvin Heath. Do Indoor Pollutants and Thermal Conditions in Schools Influence Student Performance? A Critical Review of the Literature. <https://iaqscience.lbl.gov/sites/default/files/performance-2.pdf>

⁷ Haverinen-Shaughnessy U, Moschandreas DJ, Shaughnessy RJ. Association between standard classroom ventilation rates and students' academic achievement. Indoor Air. <https://pubmed.ncbi.nlm.nih.gov/21029182/>

⁸ Bernstein, Aaron. Coronavirus, Climate Change, and the Environment Conversation on COVID-19. <https://www.hsph.harvard.edu/c-change/subtopics/coronavirus-and-climate-change/>

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<https://www.prnewswire.com/news-releases/minimise-usa-and-generate-capital-deliver-1-7-million-to-hillsborough-county-public-schools-300761722.html>

¹⁰

<https://newsroom.sunpower.com/2015-05-28-Moving-to-the-Head-of-the-Class-Kern-High-School-District-Selects-SunPower-to-Deliver-22-Megawatts-of-Solar-Power-Systems-at-27-Sites>

going to be sufficient for the 21st Century so we would like to see the vote delayed and such information be provided in a transparent fashion.

Sincerely,

A handwritten signature in cursive script that reads "Joseph Jakuta". The signature is written in black ink and is positioned below the word "Sincerely,".

Joseph Jakuta
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