2. Describe the unique qualities that attract you to the specific undergraduate College or School (including preferred admission and dual degree programs) to which you are applying at the University of Michigan. **How would that curriculum support your interests**? (550 words)

After the oil price plunged in 2016, I revisited my childhood home, Brunei, and witnessed how the downfall of petroleum could upend a country's social setting. The once vibrant orange donkey pump was now rusty and stagnant, and the once flourishing ‘petroleum residential camp’ it stood in became a dreary, empty set of houses, no longer resembling a neighborhood. At this point, I knew that it was time for the rise of a new form of energy: sustainable energy.

My drive to find a feasible form of renewable penetration to the grid led me to research the benefits of smart grid technology on the sustainability of the power grid, which I hope to continue pursuing at Michigan Engineering. In my own research, I found that renewable penetration could be more cost-effective than fossil fuels. Therefore, I am particularly excited to explore methods of renewable generation at the Michigan power and energy lab, specifically in tandem with the Grid Integration of Alternative Energy Sources - EECS 498 course. Through this course, I am keen to dive into the less obvious aspects of renewable integration such as its limitations and working with variability, and use the lab to investigate how these limitations translate to the real world.

Implementing my knowledge from the EECS 498 course, I look forward to joining UMich’s *GRID Students for Sustainable Energy.* As an advocate for renewable energy use, it is exciting to be able to implement learning in the classroom to work towards a more sustainable campus with like-minded people. I hope to make meaningful conversations about the potential of using smart meters together with solar photovoltaics to create a more consumer friendly grid.

To expand my knowledge on the feasibility of solar photovoltaics on a large scale, I aspire to work under Professor Stephen Forrest on his research on organic solar cells. Knowing that his research can bring forth efficient, organic solar cells that can soon be commercially viable brings me optimism towards the widespread use of more sustainable power usage. To complement my knowledge on the EECS 498 course, I hope to work with Professor Forrest to develop a method to reduce the power loss of solar cells, which are currently their greatest drawback compared to fossil fuels. I believe that this can bring us a step closer to achieving a feasible smart grid.

Ultimately, our shared drive towards sustainability is why I aspire to study at UMich; the practical nature and ability to create environmental change has driven me to pursue electrical engineering. Through the course’s focus on renewable innovations, I don’t doubt that UMich would enable me to fulfill my desire to contribute to the development of electrical innovations to transform our current fossil-fuel-powered grid.