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Hands-On Innovation: Palmerston Christian College Students Tackle the Realities of Hydrogen Engineering

At Palmerston Christian College, a quiet classroom has been transformed into a bustling engineering lab. Here, a group of thirteen Year 10 students are embarking on an ambitious, hands-on journey as part of their Northern Territory Certificate of Education and Training (NTCET) studies.

They are building on the previous work of the very first team that represented the Northern Territory in the global Horizon Hydrogen Grand Prix (H2GP) in Los Angeles in 2024, with TE H2 proudly sponsoring the school in the program for three consecutive years. They are tasked with designing, building, and racing a functional remote-controlled car powered by a hydrogen fuel cell. While the ultimate goal is a high-stakes endurance race, the true magic is happening right now in the classroom, where the students are getting their hands dirty and learning the real-world fundamentals of engineering.

Pictured: Palmerson Christian College H2GP team building their hydrogen-powering race car.

The Competitive Backdrop: Racing to the Global Stage

While the daily focus is on troubleshooting wires, fuel cells, and chassis parts in the classroom, the scale of the competition provides an exciting backdrop. The students are participating in a rigorous six-month global program managed by Horizon Education, which has educated students across more than 20 countries in renewable technologies since 2016.

Later in the year, the Palmerston team will put their hard work to the test. They will join teams from across Australia in a gruelling four-hour endurance race designed to push their car's design, efficiency, and battery power to its absolute limits. Should they triumph, they will earn the chance to represent Australia against other global finalists.

Principal Aaron Maidment is pleased with the students' enthusiasm and look forward to seeing their confidence and technical skills continue to grow throughout the program.

Fuelling the Next Generation of Clean Energy Leaders

This pioneering classroom experience is made possible through a crucial partnership with TE H2 - a dedicated joint-venture between Total Energies (80%) and Eren Groupe (20%) that has the aim to deliver globally impactful renewable energy projects which deliver more energy with fewer emissions. TE H2 is currently developing the Wak Wak Solar Farm, located 38km south of Darwin.

For TE H2, backing the school represents a direct investment in the Northern Territory's future workforce. Managing Director (APAC) Kam Ho highlighted that bringing these technologies into classrooms is an "effective way to motivate students to pursue careers in renewable energy", adding that "STEM education plays a vital role in advancing a more sustainable and environmentally responsible future".

Horizon Education Director (APAC) Ales Rakovsky shares this vision, pointing out that the skills learned in the Palmerston workshop are the building blocks of tomorrow's green economy: "Today these students are designing, building and racing remote-controlled hydrogen fuel cell cars, tomorrow they'll be taking the lead in building the energy infrastructure that will power Australia for decades to come".

As the school year progresses, the enthusiasm in the Palmerston Christian College workshop remains high. Through their struggles and successes at the workbench, these thirteen students are not just building a remote-controlled car—they are building the confidence, critical thinking, and technical prowess to lead the Northern Territory into a clean energy future.

More information on the H2GP program can be found at their website:

https://www.h2grandprix.com/

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