# **Powering Up the Future competition as an assignment**

# **How to use this document:**

1. This document contains all assignment resources aligned to Years 7 and 8 of the Australian Curriculum.
2. It is editable so you can tailor it to suit your students and teaching schedule.
3. Make any changes needed to adapt the content for your class.
4. Use the document as a single reference point to make changes, then separate into the task sheet, assessment rubric, and student self-assessment checklist for your students as needed.

## **In this resource you will find:**

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| **The assignment instructions and  task description** | **The assignment marking rubric** | **The student self-assessment checklist** |
| The context and prompt are provided in the assignment instructions and task description.  Students can either:   * Enter the competition individually, or * Submit their entry to you, and you submit on their behalf.   Before submitting any student work, please use the document titled ‘1 Guardian and Parent Communication Template’ to ensure appropriate consent has been obtained for sharing student images. | One assignment rubric is provided, aligned to AC (v9) **Years 7 and 8.** The rubric includes:   * Key criteria for a successful competition entry * Links to general capabilities and cross-curriculum priorities * The far-right column shows the curriculum links. These can be cross-referenced in the ‘2 Curriculum Alignment’ document.   We recommend removing this column before sharing with students. Each criterion is graded on a 1–4 scale. The Scientific Understanding criterion is optional and highlighted in green. Other optional, non-assessed criteria that still link to the curriculum are shaded grey. | The student checklist includes a checklist statement for each row of the rubric.  Science Understanding content is:   * Shaded green * Aligned to the relevant year level (noted in the ‘Notes’ column)   If you do not wish to assess Science Understanding, simply remove these rows from both the rubric and the checklist. |

**How would you help to build a future powered by   
sustainable energy?**

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| **Imagine it’s the year 2050. You wake up in your home, head to school, or walk through your community. Everything runs smarter, cleaner, and more efficiently.**  *How did we get there?* |

**2025 Competition Task**

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| As a Snowy Hydro futurist, it is your mission to:  **invent a bold new idea, technology, or system that helps save or reuse energy to lower emissions.** |

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| **Your project will have two parts:** | **How to enter the competition:** |
| * **Part 1:** An idea or invention that creatively addresses energy conservation or emission reduction. * **Part 2:** An explanation (written or video) that clearly answers:   + What is the problem you are addressing?   + What is your idea?   + How does it work? | Once you have finished your assignment, you can submit your entry to win prizes on the [Powering Up the Future competition](https://www.snowyhydro.com.au/poweringup/) website for your chance to win you and your school prizes of up to $3000!  Each class can submit their entries all at once, so check with your teacher to see if they want you to submit your entry to them first.  Make sure you read the [2025 competition terms and conditions](https://www.snowyhydro.com.au/wp-content/uploads/2025/07/Snowy-Hydros-Powering-Up-The-Future-Competition-Terms-and-Conditions-2025.pdf) before you enter. |

# **Assessment rubric**

| **Criteria** | **1 – Beginning** | **2 – Developing** | **3 – At level** | **4 – Extending** | **Teacher notes: Curriculum & Capability Links** |
| --- | --- | --- | --- | --- | --- |
| **Creativity & Innovation** | Idea is unclear or lacks originality. | Shows some creative thinking. | Creative and relevant to real-world problems. | Highly original, feasible, and demonstrates strong creativity and future-thinking. | *Critical & Creative Thinking* |
| **Explanation of the problem** | Problem being addressed is unclear or not real-world. | A real-world problem is identified with basic detail. | Clearly explains the issue being solved. | Comprehensive explanation with global or community relevance. | *Environmental and social issues* |
| **How the invention works** | Little explanation of invention provided. | Basic explanation with some considerations missing. | Clear explanation of how the invention works. | Detailed, scientifically accurate explanation with systems thinking. | *Communicating science* |
| **Connection to reducing emissions** | No clear link to reducing emissions. | Some understanding shown. | Explains how emissions are reduced or avoided. | Clear, evidence-based link to sustainability and renewable solutions. | *Use of science in society* |
| **Year 8 Science Understanding content** *(optional)* | Demonstrates limited understanding of energy types. Does not relate energy to the invention. | Identifies basic energy types (e.g. heat, electricity, movement). May describe energy transfer or transformation, but with limited clarity or connection to the invention. | Correctly classifies energy types as kinetic or potential. Explains how energy is transferred or transformed in the invention (e.g. electricity to light or motion). Identifies heat as a by-product where relevant. | Accurately classifies multiple forms of kinetic and potential energy. Clearly explains energy transfer and transformation in the system. Identifies useful and waste energy (e.g. heat), and connects understanding to increasing efficiency and reducing emissions. | *AC9S8U05 - Students classify types of energy (kinetic and potential) and investigate how energy is transferred and transformed in simple systems.* |
| **Science communication & presentation** *(optional)* | Disorganised or unclear presentation. | The messages are partly clear but lack polish. | Clear, structured, and engaging presentation. | Professionally presented, highly engaging and tailored to the audience. | *Communicating science*, *Digital Literacy* |
| **Scientific vocabulary and language** *(optional)* | Minimal or incorrect terms. | Some science vocabulary used. | Correct and appropriate science language used. | Extensive use of accurate, discipline-specific vocabulary. | *Literacy – Creating Texts* |
| **Cultural, ethical, or social considerations**  *(optional)* | No consideration shown. | Some relevant impacts mentioned. | Ethical/social impacts considered with relevance. | Deep, reflective insight into ethical, social, and cultural implications. | *Ethical & Social Capabilities* |
| **Use of digital tools** *(optional)* | No or ineffective use of digital tools. | Some basic digital support. | Digital tools are used clearly and appropriately. | Creative and professional digital communication enhances impact. | *Digital Literacy – Communicate & Collaborate* |

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## **Student self-assessment checklist**

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|  | **📝 Checklist** | **✅ I did this well** | **🔄 I'm still working on this** | **✍️ Notes for myself** |
| **💡** | I clearly explained the problem I am trying to solve. | **☐** | **☐** |  |
| **🧠** | My idea or invention is original and creative. | **☐** | **☐** |  |
| **⚙️** | I explained how my invention works using science. | **☐** | **☐** |  |
| **🌏** | I showed how my invention reduces emissions and supports a sustainable energy future. | **☐** | **☐** |  |
| **🎤** | My presentation is clear, well-structured, and easy to understand. | **☐** | **☐** |  |
| **📚** | I used accurate scientific vocabulary in my explanation or presentation. | **☐** | **☐** |  |
| **⚡** | I explained the types of energy in my invention (kinetic or potential). | **☐** | **☐** | **\*\*Year 8 Science Understanding Content** |
| **🔁** | I explained how energy is transferred or transformed in my invention and how energy can be conserved | **☐** | **☐** | **\*\*Year 8 Science Understanding Content** |
| **🧭** | I considered social, cultural, or ethical impacts in my invention. | **☐** | **☐** |  |
| **💻** | I used digital tools (video, slides, digital drawing, etc.) to communicate my ideas. | **☐** | **☐** |  |