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

# **How to use this document:**

1. This document contains all assignment resources aligned to Years 3 and 4 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 3 and 4.** 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. |

# **Assignment instructions and task description**

**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** | Basic or copied idea. | Some creative thought shown. | Original, thoughtful and relevant idea. | Highly inventive, insightful, and clearly solves a real-world problem. | *Critical & Creative Thinking – Generating and Creating Possibilities* |
| **Explanation of the problem** | Problem not clearly described. | Problem is mentioned but unclear. | Clearly explains a real problem. | Thoughtful, real-world problem explained with insight. | *Science as a Human Endeavour*, *Analysing & Inquiring* |
| **How the invention works** | Vague or incomplete explanation. | Explains parts of how it works. | Describes how it works using logical steps. | Clear and thorough explanation of all parts and purpose. | *Science Inquiry*, *Reflecting – Transfer Knowledge* |
| **Connection to reducing emissions** | Unclear or weak link to emissions or sustainability. | Some link to emissions or energy saving. | Clear and logical connection. | Strong, insightful justification of how the idea helps the environment. | *Science as a Human Endeavour* |
| **Year 3 Science Understanding content** *(optional)* | Shows little or no understanding of heat or where it comes from. | Mentions heat or warmth but explanations are unclear or incorrect. | Identifies heat sources (e.g. sun, fire, appliances) and describes how heat moves from one object to another. | Explains heat transfer clearly using examples or models (e.g. drawings, role-plays), and compares how well different materials transfer heat (e.g. metal vs plastic). | *AC9S3U03 – Identify sources of heat energy and examine how temperature changes when heat energy is transferred* |
| **Year 3 Science Understanding content** *(optional)* | Shows little or no understanding of heat, materials, or recycling. | Mentions heat or materials but lacks clarity; no real link to recycling. | Describes how heat moves to change materials’ state; to be recycled or reused. | Clearly explains heat transfer, and identifies how different materials can be used or recycled to conserve energy and reduce waste. | *AC9S3U03 – Identify sources of heat energy and examine how temperature changes when heat energy is transferred.*  *Elaborations:*  *Investigate properties of solids and liquids and how heat causes a change of state*  *Introduce concepts of recycling and reuse* |
| **Year 4 Science Understanding content:** *(optional)* | Limited awareness of materials or their properties. | Mentions some materials but without explanation of properties or recycling | Describes properties of materials (e.g. strong, waterproof) and identifies which ones can be recycled. | Clearly compares and contrasts materials based on their properties, explains how those properties affect their use, and discusses environmentally friendly alternatives. | *AC9S4U04 – Examine the properties of natural and made materials and consider how these influence their use.*  *Elaborations:*  *Investigate recycling and alternatives for commonly used materials* |
| **Presentation and communication** *(optional)* | Hard to follow; unstructured. | Some structure or clarity. | Clear, structured and communicates ideas. | Highly engaging, creative and clearly presented in video or writing. | *Digital Literacy – Communicate & Collaborate* |
| **Scientific Vocabulary** *(optional)* | Minimal or incorrect use. | Some correct terms used. | Mostly correct and appropriate vocabulary. | Consistent and accurate use of scientific terms. | *Science Inquiry – Communicating*, *Digital Literacy* |
| **Use of Materials & Resources**  *(optional)* | No or poor explanation of materials. | Mentions materials but lacks purpose. | Materials are suitable and explained. | Materials are carefully selected and clearly justified. | *Science Understanding – Properties of Materials*, *Managing & Operating Tools* |
| **Use of Digital Tools** *(optional)* | Digital tools not used or used inappropriately. | Some appropriate use. | Tools used effectively for purpose. | Tools used creatively and confidently to enhance message. | *Digital Literacy – Create, Manage & Operate* |

## **Student self-assessment checklist**

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|  | **📝 Checklist** | **✅ I did this well** | **🔄 I'm still working on this** | **✍️ Notes for myself** |
| 🧠 | I used a creative and original idea to help the environment. | ☐ | ☐ |  |
| 💡 | I explained the problem my invention is trying to solve. | ☐ | ☐ |  |
| ⚙️ | I clearly explained how my invention works. | ☐ | ☐ |  |
| 🌱 | I explained how my invention helps reduce emissions or helps the planet. | ☐ | ☐ |  |
| 🧠 | I explained how different materials can keep things hot or cold and why it is useful. | ☐ | ☐ | **\*\*Year 3 Science Understanding Content** |
| 🧠 | I explained how something can be reused or recycled. | ☐ | ☐ | **\*\*Year 3 Science Understanding Content** |
| 🧠 | I talked about different materials and why we use or recycle them. | ☐ | ☐ | **\*\*Year 4 Science Understanding Content** |
| 🎤 | I presented my idea clearly (writing or video) and it’s easy to understand. | ☐ | ☐ |  |
| 🧰 | I chose good materials or examples to show my idea. | ☐ | ☐ |  |
| 💻 | I used digital tools (like video, drawing or slideshow) to show my idea. | ☐ | ☐ |  |