# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist / Engineer - Sustainable and synthetic fuels |
| Job Reference | 97567 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$126,313 - AU$148,014 per annum (pro-rata for part-time)  plus up to 15.4% superannuation |
| Location(s) | Clayton, VIC or  Kensington, WA |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents * Australian Temporary Residents, with an existing valid visa and unrestricted work rights for the duration of the 3-year term |
| Position reports to the | Research Team Leader |
| Client Focus – Internal | 40% |
| Client Focus – External | 60% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact James Kear via email at [james.kear@csiro.au](mailto:james.kear@csiro.au) |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

### Role Overview

The CSIRO Gas Process Engineering Team is focused on developing decarbonisation solutions for industries and applications which are heavily reliant on carbon-intensive fuels.

This group has a diverse project portfolio spanning H2 utilisation and storage, biofuels, synthetic fuels, low-carbon H2 production, and CO2 utilisation. The team is dedicated to driving innovation in sustainable energy practices.

Harnessing state-of-the-art laboratory facilities at Clayton VIC and Kensington WA, the team brings together expertise in catalyst synthesis, H2 combustion, gas process development, material analysis, apparatus design, and specialist equipment fabrication. Recent initiatives have seen the team forge significant external collaborations to advance zero-carbon fuel technologies.

As a Research Scientist/Engineer at CSIRO, you will lead innovative research aimed at advancing scientific knowledge and supporting our strategic goals. Your work will span fundamental research to solving specific industry and community challenges, with a focus on technologies to achieve Australia’s net-zero emissions targets. You will play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

Achieving Australia’s net-zero emissions targets will require new technologies which lower the barriers to uptake of hydrogen and low-carbon fuels. Green methane, power-to-ammonia, hydrogen for industrial heat and eFuels are all promising technologies which will be required to fill niche challenges in hard-to-abate sectors.

CSIRO has a strong capability and reputation in developing, validating, and commercialising innovation in chemical processes, catalysts, and new reactor designs. This deep expertise has been deployed successfully to the production, integration, and utilisation of a range of low / zero carbon fuels including green methane, ammonia, hydrogen, wax-based air fuels, and biogas.

The ideal candidate would bring a strong background in chemistry, chemical engineering, or process engineering related to sustainable and/or synthetic fuel production from low carbon feedstocks.

### Duties and Key Result Areas

* Develop challenging but realistic research plans related to green methane, power-to-ammonia, hydrogen for industrial heat, and/or eFuels and negotiate resource requirements with research managers or clients.
* Under general direction, use professional expertise, knowledge of other disciplines and research experience and achievement to formulate, develop and complete an approved research program.
* Provide expert contributions to existing projects, particularly in Green Methane Production and Power-to-ammonia process design.
* Lead the delivery of significant research projects including securing project funding and providing scientific leadership.
* Identify changes in client needs and market directions and anticipate industry and/or community needs through client liaison and networking.
* Adapt to emerging trends and technological advancements to address industry and community needs with creative and original solutions.
* Communicate research results to clients and the scientific community through reports, publications, and presentations. Prepare documentation for patents where applicable.
* Communicate openly, effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy and diversity initiatives.
* Other duties as directed.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. PhD or equivalent qualification in chemistry, chemical engineering, process engineering, or a related field.
2. A publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.
3. Experience leading the generation and execution of research projects related to zero carbon fuels and/or industrial decarbonisation research production such as:

* Decarbonisation technologies including carbon-free fuels (green ammonia & hydrogen), H2 production and e-fuel production,
* hydrogen and or ammonia for industrial heat,
* catalyst development for novel renewable energy processes, and/or
* development of catalytic reaction processes & systems.

1. Excellent interpersonal skills with ability to collaborate and lead cross-functionally with engineers, scientists, and researchers to leverage collective expertise in achieving project goals.
2. Strong analytical and problem-solving skills, with the ability to apply scientific principles to practical challenges.

## **Desirable**

1. Experience taking early-stage technologies through to pilot scale implementation and successful commercialisation.
2. Experience in integration of techno-economic analysis of zero-carbon fuels into the wider energy and societal systems.

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goal and priorities.

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted