



Submission

Aviation Green Paper Towards 2050

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Aviation White Paper

Department of Infrastructure, Transport, Regional Development,

Communications and the Arts

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[Overview...](#)

For over seven decades, Gliding Australia has been an integral part of the aviation landscape in Australia, significantly influencing the sector with our connections, vast expertise, and innovative spirit. Our diverse community of aviators, a veritable brains trust, has continuously propelled forward the frontiers of aviation technology, skills transfer, innovation, and safety.

At Gliding Australia, we understand that the realm of aviation thrives on nuanced and bespoke approaches rather than one-size-fits-all solutions. Our commitment goes beyond merely participating in the sector; we strive to be at the vanguard, shaping a sustainable, well-resourced aviation industry recognised globally for its leadership and prowess in practical implementation and cutting-edge innovation.

Our unique position within the aviation community, coupling the rich heritage of traditional gliding with contemporary technological advancements, enables us to offer unparalleled insights and contributions. This blend of historical wisdom, grass roots DNA and modern innovation, positions us not only as participants but as architects of an evolving aviation narrative. Our focus extends to nurturing a dynamic and inclusive environment that fosters the next generation of aviation professionals, ensuring the continued growth and excellence of the Australian aviation sector on the world stage.

We present this submission, to highlight the distinctive role Gliding Australia can play in contributing to the Australian aviation sector towards a future marked by innovation, safety, inclusivity, and environmental stewardship.

The opportunity to provide this submission is both welcomed and appreciated.

Sincerely

A handwritten signature in black ink, appearing to read 'Doug Flockhart', with a stylized flourish at the end.

Doug Flockhart
Chief Executive Officer

INTRODUCTION

Founded in 1949, the Gliding Federation of Australia Inc (GFA), now trading as Gliding Australia, stands as a pioneering Sporting Aviation Body in Australia. We are currently transitioning to a Civil Aviation Safety Authority (CASA) Approved Self-administering Aviation Organisation (ASAO) under Civil Aviation Safety Regulations 1998 (CASR) Part 149. As an Incorporated Association registered in Victoria, and a Federated organisation, we represent the cornerstone of Australian gliding.

At the heart of Gliding Australia is our central organisation, which is the nucleus around which a vibrant network of Regional Associations and gliding clubs revolve. We are dedicated to elevating gliding as a recreational pursuit and a competitive sport, in association with promotion of *the spirit of aviation* in its purest form.

Our role transcends the boundaries of traditional sports, as we are committed to establishing a robust framework for safe gliding operations, airworthiness, training, skills transfer, and national and international competitions. We operate and maintain VH-registered aircraft, designed and supported to certified standards. We are the custodians of soaring sports, supporting, and nurturing our members and clubs across Australia.

Gliding Australia takes immense pride in contributing to the long-term viability and skill enhancement of Australia's aviation sector. Our community of glider pilots has been instrumental in advancing general, commercial, and military aviation for decades. The innovative designs and technologies developed in our gliders and powered sailplanes have significantly influenced various aviation sectors. This confluence of gliding talent and expertise, in synergy with the broader sporting aviation community, forms the bedrock of the aviation workforce, playing a critical role in upholding and advancing our national interests.



Women pilots at Darling Downs Soaring Club QLD, DG1001S two-seater soaring at Bunyan NSW, New generation AS 34 ME electric powered self-launching sailplane with motor extended.

STRATEGIC RESONANCE – AUSTRALIAN AVIATION TOWARDS 2050

As we envision the future of Australian aviation towards 2050, it becomes imperative to align closely with the Government’s aspirations of cultivating a “safe, efficient, sustainable, and productive aviation sector.” This vision, aimed at bolstering the economy and enhancing the wellbeing of Australians, hinges on the implementation of robust policies and dedicated, well-resourced initiatives, executed in harmony with industry partners and communities.

The Aviation Green Paper casts a spotlight on pivotal themes such as decarbonization, emission reductions, and the transition to net zero, underscoring the necessity of fostering new skills and innovations for sustainable transformation. The resurgence and growth of the aviation sector are also deeply entwined with the revitalisation and expansion of the aviation workforce.

While the Green Paper predominantly addresses major aviation industry stakeholders – including the managers of significant airports and infrastructure, and entities crucial to

economic viability and technological advancement – respectfully, it is also crucial to adopt a holistic perspective. By nurturing the aviation sector as an integrated ecosystem, we can foster enhanced strategies that encompass smaller entities, regional and remote aviation capabilities, and cultivate grassroots interest and participation in diverse aviation-related activities.

To achieve strategic resonance, it is essential to acknowledge and utilise diverse talent pools and sources of future expertise. This approach involves harmonising technological developments and minimising bureaucratic and economic barriers to participation in the aviation sector. Integration with educational, vocational, and industrial systems and policies is key. Merely continuing established practices is no longer sufficient. We must forge new paths and collaborative ventures, especially in areas where cutting-edge technologies are instrumental in realising desired outcomes.

“Encouragingly, some of these advanced technologies are already being harnessed within the realm of gliding.”

Innovations in new gliders, and systems, along with the skills and knowledge of both current and future enthusiasts, are increasingly permeating other aviation sectors, technology-driven industries, and the supporting workforce. This diffusion of innovation exemplifies the adage that from small beginnings, significant developments can arise, shaping the future of aviation in profound ways.

SPORT OF GLIDING & AVIATION SKILLS DEVELOPMENT

One may wonder about the impact a network of 60 clubs and 2,500 ‘active’ gliding enthusiasts can have on the vast aviation sector. The answer lies not just in the number but in the diverse roles and remarkable contributions these individuals make. Gliding, a sport that intertwines skill, passion, and precision, has been the nursery for many accomplished aviators, astronauts, scientists, engineers, academics, and innovators. It has also nurtured individuals from diverse walks of life, including farmers, tradies, health practitioners,

teachers, meteorologists, wind farm designers, and composite material craftsmen, enriching communities with their skillset.

Gliding's influence extends into popular culture and history, with icons like Neil Armstrong, the first man on the moon, and Chesley "Sully" Sullenberger, known for his miraculous Hudson River landing, both having roots in gliding. This sport has sharpened their instincts and honed skills critical in their historic achievements. In Australia, this legacy continues with numerous professional aviators, including Air Force leaders like Air Marshal Geoff Brown, air show pilots like Matt Hall, and commercial airline captains, all of whom began their journey in the world of gliding.

This contribution is acknowledged by the government, particularly in the context of the Australian Air Force Cadets (AAFC). The AAFC's involvement in gliding operations and training is instrumental in seeding future talents in the armed services, airlines, and the broader aviation industry. Gliding clubs affiliated with AAFC introduce hundreds of young people to aviation annually, sparking lifelong passions and careers in the field.

In conversations with CASA, aviation professionals, and industry experts, the need for innovative approaches in pilot and technical workforce training is evident. As we face an aging workforce and the escalating costs of training, it's crucial to nurture the next generation of Licensed Aircraft Maintenance Engineers (LAMEs) and technologists. Gliding Australia plays a pivotal role in these development pathways, advocating for the reduction of bureaucratic barriers and a broader recognition of skills and competencies. This approach is crucial, especially in harnessing talent from regional and rural areas, not just urban centres.

In alignment with the Aviation Green Paper, key technology and skill areas are already being integrated into gliders and powered sailplanes. For instance, electric propulsion technology, a game-changer in aviation, is at the forefront in gliders like the Pipistrel Taurus Electro, Diana FES, Jonker JS3 RES, and the AS 34 ME. These electrically powered sailplanes represent the future of gliding, symbolising independence from traditional launch methods and

embracing cutting-edge technologies in batteries, motors, and energy management. The expertise developed in operating and maintaining these advanced systems has broader applications, potentially benefiting sectors like renewable energy.



Leading edge electric propulsion technologies now incorporated in gliders and sailplanes in Australia: Clockwise from top left - Schleicher AS 34 ME, Diana FES, Pipistrel Taurus Electro, Jonker JS3 RES.

Gliders and powered sailplanes are often the testing ground for innovative aviation technologies. Developments in aerodynamics, such as winglets and laminar flow aerofoils, and advancements in composite materials, like Kevlar and carbon fibre, and recently hydrogen fuel cells as a power source, have found their genesis/testing in gliding. Major aerospace companies such as Airbus use powered sailplanes for research, development, prototyping, and testing. Moreover, the crossover of technologies like surveillance systems, avionics, and autonomous vehicle control from gliding to other aviation sectors demonstrates the sport's far-reaching influence and potential.

“Achieving the lofty aspirations outlined in aviation policy necessitates a holistic approach that extends beyond conventional problem-solving boundaries.”

CHANGING THE SHAPE OF THE FUNNEL

To understand the aviation sector comprehensively, we must view it through multiple lenses, not just those traditionally favoured by economists, airlines, airport owners, and vocational institutions. The Civil Aviation Safety Authority (CASA) plays a pivotal role, focusing on safety and regulation. While their intentions to improve engagement and outcomes are clear, they are often constrained by legal frameworks, ingrained cultural norms, existing resources, and systemic processes. Our goal at Gliding Australia is to deepen and enrich our engagement with CASA, fostering mutual benefits and shared growth.

Achieving the lofty aspirations outlined in aviation policy necessitates a holistic approach that extends beyond conventional problem-solving boundaries. This approach is evident in how different nations have cultivated their aviation industries and talent pools, reshaping the proverbial funnel to accommodate diverse pathways and perspectives.

For instance, in the European Union, nations like Germany, France, Poland, and Switzerland have successfully fostered gliding as both a sport and a professional pursuit. This success is underpinned by robust educational and industry foundations. There, especially in urban and rural areas, a significant emphasis is placed on nurturing a youth cohort, with club-based organisations playing a crucial role in encouraging aviation experience and participation. Such experiences fuel interest and commitment and are further supported by educational systems that value knowledge and skills developed outside formal institutions.

In these countries, formal training and educational institutions are tailored to meet the demands of high-value sectors, with a focus on cultivating transferable skills, recognising current competencies (RCC), and acknowledging prior learning (RPL). This approach channels a strong cohort into formal aviation-accredited skills and qualifications, with some participants branching into related fields like wind farm technology, aerodynamics, or advanced material sciences.

Gliding Australia endeavours to emulate these successful models. However, our efforts to establish new technical training pathways, particularly for young people in approved

maintenance organisations, have been met with challenges. The high costs of formal accreditation and the development of courses that meet CASA's stringent requirements pose significant economic barriers, particularly in regions and remote communities. These challenges are not unique to us but are also faced by general aviation and recreational aviation, where the requirements for formal maintenance training are less stringent than in commercial aviation.

We advocate for the recognition of multiple, less formal funnels into aviation, yielding positive cultural and social dividends. For instance, students in remote areas should have the opportunity to study emerging fields like battery technology and renewable energy sciences, gain practical experience at local aero clubs and gliding clubs, and acquire domain-specific knowledge in diverse aviation environments. This pathway could lead them to airworthiness qualifications in gliding, flight experience, and eventually, to more advanced CASA-approved technical ratings and university courses. Such cross-industry recognition and articulation of skills and knowledge need to be streamlined, with a reduction in the burdens of training and educational accreditation.

NOTE: By embracing a more inclusive and varied approach to aviation training and development, we can foster a more dynamic and responsive aviation sector, better equipped to meet the challenges and opportunities of the future. Gliding is well positioned (with the appropriate government support) to significantly contribute to this area.

Gliding Australia's Vision for the Future of Aviation

As Gliding Australia, we stand at a pivotal juncture, *eager to 'significantly' contribute* to the development of innovative policy options and cross-departmental strategies as outlined in the White Paper. Our vision is to also *importantly* foster and *deliver* environment/physical outcomes, where aviation skills and knowledge are not just nurtured but flourish, where the development of new aviation and renewable energy technologies is a priority, and where the aviation sector is made more robust and viable, bolstered by increased community participation and societal support.

1. Training Excellence: At the core of our contribution is our unparalleled commitment to training. We have cultivated a rich heritage of equipping individuals with essential aviation skills, a commitment that extends from the foundational levels of gliding and maintenance to advanced aviation expertise. This can be significantly expanded (affordably) with government, aviation, and workforce participants broadly, as the benefactors.

2. Technology Development and Testing: Manufacturers and engineers ongoing endeavours in technology development and testing, particularly in areas like electric propulsion and energy-efficient designs, have positioned us as pioneers, charting the course for the future of aviation technology.

3. Cost-Effective Training and Transferable Skills: We recognise the value of *cost-effective and accessible* skills training. Our programs (existing) are designed to provide transferable skills that empower individuals not only within the aviation sector but in broader fields, fostering career versatility and adaptability. We believe we can (with government support) deliver enhanced *cost-effective* training that is transferable nationally and internationally whilst also being welcomed by industry and workforce alike.

4. Innovation and Forward-Thinking: Innovation is the lifeblood of our operations. We continually *embrace* and *drive* forward-thinking concepts and practices, ensuring that gliding remains at the forefront of technological advancement and sustainable practices.

5. Job Creation and Economic Contribution: Central to our vision is the creation of jobs and *constructive participation*. Through our training and innovation initiatives (with assistance and support from government), we aim to open new 'expanded' career pathways and employment opportunities, contributing to the economic vitality of the aviation sector and beyond.

In SUMMARY, Gliding Australia's involvement in shaping future aviation policy goes beyond traditional paradigms or assumptions. We advocate for a dynamic approach where soaring, maintenance, and training skills, coupled with a focus on new generations and broad aviation

expertise, become instrumental in addressing larger agendas. By doing so, we aim to not only enhance the aviation sector as a leader, but also contribute significantly to societal progress and environmental stewardship. The future we envision is one where continuous innovation, skill development, and sustainable practices are the norm, ensuring a thriving and resilient aviation industry for generations to come. Collaborative, holistic engagement strategies are strongly supported.



Flight training in a DG1001S sailplane, Airbus Blue Condor program testing Hydrogen Cell propulsion in Arcus sailplane, Jonker electric sailplane propulsion maintenance course.