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1. Civil Aviation Overlapping Responsibilities.

Every new government looks at what is in place that does not meet their agenda and then sets about making changes to society to meet their agenda. It is fast becoming clear that trades and qualifications are high on the government's agenda. This includes a person's qualification database. Our future needs to keep with these new priority changes being implemented to prevent overlapping regulatory burdens.

New Office for Regulatory Impact

The ORI also produces a Regulatory Impact Analysis Guide that has 6 principles.

1. *Policy makers should clearly demonstrate a public policy problem necessitating government intervention, and should examine a range of genuine and viable options, including non-regulatory options, to address the problem.*
2. *Regulation should not be the default option: the policy option offering the greatest net benefit — regulatory or non-regulatory — should be the recommended option.*
3. *Every major decision to regulate should be the subject of a Regulation Impact Statement.*
4. *Policy makers should consult in a genuine and timely way with affected businesses, community organisations and individuals, as well as* ***other policy makers to avoid creating cumulative or overlapping regulatory burdens****.*
5. *The information upon which policy makers base their decisions must be published at the earliest opportunity.*
6. *All regulation should be periodically reviewed to test its continuing relevance*

Overlapping Responsibilities

It is not industry that should be identifying overlapping burdens, this should be done within government departments and agencies. For example:

WHS(OHS) Requirements (All States): To meet these requirements, with very hefty penalties, a company must:

- *provide a safe work environment.*
- *provide and maintain safe machinery and structures.*
- *provide safe ways of working.*
- *ensure safe use, handling and storage of machinery, structures, and substances.*
- *provide and maintain adequate facilities.*
- *provide any information, training, instruction, or supervision needed for safety.*
- *monitor the health of workers and conditions at the workplace.*

Deleting these aspects from aviation regulations would remove overlapping regulatory requirements.

National Training System: Government has taken action to make DEWR responsible for aviation maintenance personnel training and qualification to comply once again with Convention Annex 8 and packaged to underpin CASA's licences.

- This should remove CASA prescribing training standards and qualifications.
- CASA accept NVET qualification; and
- CASA only examine trade qualified persons applications for a licence against current Part 66 module 10, or ICAO Doc 7192, Chapter 3.

Deleting these aspects from CASA requirements will remove overlapping regulatory requirements

There are other aspects where overlapping requirements exist that could also be deleted.

2. Outcome Based LAME System (possibility)

Maybe one day this may happen but don't hold your breath.

A simplified LAME system could be attained if CASA did not have a micro-management approach to the AME licencing system. To make it happen, we need to return to ICAO standards 'avionics', 'mechanical' and 'structures' trade training.

AMROBA has never presented this type of system to CASA because we know CASA would reject it.

Step 1 – Trade Training: Return to full trade training that meets ICAO AME Training manual Three-(3)-Phase course syllabi of knowledge + practical skills at NVET trade training schools approved by ASQA, plus employer provided applied workplace experience.

Knowledge and Practical Skills (*simulated or real, if fully supervised*) at an ASQA recognised training school is essential as not all employer workplaces can provide Phase Two Skills and full applied-Pase 3 workplace skills/experience.

- CASA or DEWR publicise training standards compliant with ICAO Standards.
- ***Phase One***: *Knowledge*; ***Phase Two***: *Skills* & ***Phase Three***: *Applied Experience* (workplace)
- Phase One and Two DEWR responsibility and Phase Three **employer** responsibility.

Step 2 – Work Experience: Irrespective of the depth of workplace applied experience attained, CASA issue an AME licence, without any exclusions, if the AME has met training and the employment periods specified in the above ICAO Document, Chapter 13 of 2 years base maintenance applied experience or 3years line maintenance applied experience.

Stage 3 – Applied Experience: Employers under WHS responsibilities must ensure their staff are trained and experienced to hold the position within the business. CASA provide the licence based on training knowledge and practical skills and the employer be responsible for providing relevant applied experience. A self-monitoring system much like the FAA approach – **make the employer responsible** for applied experience and applicable recency required by a LAME to take responsibilities in an AMO.

- Today, the employer reviews a LAME's workplace experience before hiring to ensure the LAME can **meet employer & regulatory responsibilities** related to the actual job.
- If the job does not need an aircraft type rating, then **the employer must** ensure the person has recency experience appropriate to the job requirements.
- **Under WHS regulations**, if the LAME, or any employee, has not the recency/experience associated with the job, then the **employer must** provide the LAME with recency/experience training before giving them such responsibility.
    - This provision does not need to be duplicated/overlapped by CASR/MoS.

Licencing skills are the same irrespective of the kind of aircraft or aircraft systems.

- Technical:- Inspect and sign as airworthy after maintenance of aircraft or part of an aircraft or system.
- Coordination:- Sign a maintenance release after final certification of maintenance.

LAMEs provide the quality control of maintenance.

Type Ratings

Completion of an aircraft manufacturer's, manufacturer's endorsed training course or Regulator approved course is all that is, or should be, required to enable CASA to add to the LAME licence.

Completion of the course, issue the licence. It is still an employer's responsibility to ensure the LAME has the recency experience to exercise the privileges of the licence.

Of course, all the above is nothing but a dream as CASA micro-manages this aspect of aviation.

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3. New Technology – New Skills

No individual should be in aviation unless they can accept continual changes and continual new technologies. Look at the difference between a Gypsy Major Mk 4 piston engine and the new MagniX 750HP madni500 (Electric Power Unit), the next generation engine. Or look at a Tiger Moth compared to low and high-altitude, low and high-speed composite aircraft. This massive advancement has all happened in one person's lifetime. The rate of change is quicker now than back then.

Maybe the biggest change is the electrical, instruments & radios that went digital and now have advanced to "glass cockpits" utilising Artificial Intelligence, especially in the autopilot field.

All these changes have added to safety and aviation maintenance personnel are crucial in adopting, adapting, and implementing these new technologies. Over the years, it just keeps happening and the irrepressible aviation businesses and personnel just get on with new technology implementation.

Compare the toolbox of a maintenance engineer 50 years ago to the current toolbox. Many tools and support equipment have now been digitalised.

Aging mechanical maintenance personnel understand the difference between piston, especially radials, engine maintenance and turbine maintenance. The change from turbine to electric engines will be just another new technology. It is not that big a change and is being implemented fairly smoothly.

Drones impact on Personnel Air Transport

Urban Air Mobility: UAM are drones **that** have the potential to transform the transport and logistics industry by providing alternative methods for delivering parcels, food and medical supplies. Drone air taxis and private air transport (UAMs) will become common depending on availability of airports designed for drones and UAM operation.

Not much has been raised regarding maintenance but once "commercial" operations come a reality, the drone, like all other aircraft operations will need preventive action. The digital avionic packages will be important for safe operations and a maintenance program to ensure the drone's remain airworthy.

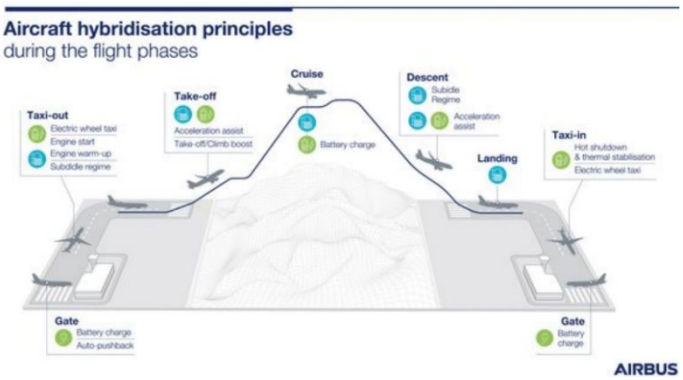
It is another flight platform carrying out an air transport operation.

Setting up autopilot landing/takeoff autopilots and maintaining their accuracy will be crucial to safety.

These are exciting new technologies that current participants look forward to mastering.

Commercial Air Transport Electric Engines

Simply put, electric planes use batteries to power an electric motor. The motor turns electric power into mechanical energy. Electric batteries have a charge that powers the motor, which spins when magnetic forces pull on the rotor.



From pure battery power to hybrid powered like the Airbus hybridisation project is happening with all project leaders saying their projects will happen.

Electric aviation is still in its early stages, but FlyOnE has been increasing development in retrofitting existing planes with electric propulsion systems. FlyOnE, an Australian company, has been developing 3 key versatile battery electric propulsion systems with our technology partners to suit aircraft from 2-9 seats in single or multi-prop configurations with 60kW, 120kW and 240kW system designs. In a dual configuration of 2 x wing-mounted 240kW systems, that is the equivalent of 640hp from a pair of piston engines. FlyOnE is not the only company working to change piston engine aircraft to electric powered aircraft.

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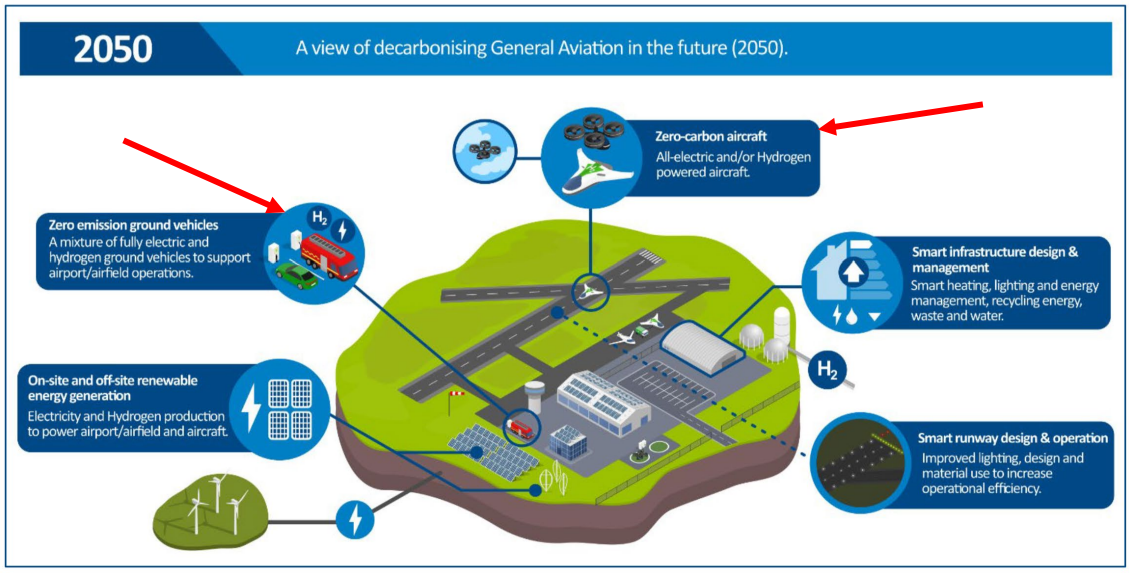
4. Decarbonisation – New Buzz Word!

Will 'decarbonisation' take over from 'diversity' as the government's primary policy?

Decarbonising General Aviation (UK Department of Transport 2022)
"Decarbonising aircraft emissions is far more challenging. We identified 10 separate solutions for aircraft, ranging from moderate cost solutions like improving aircraft traffic management, sustainable aviation fuels and conducting more training via flight simulators, to high-cost solutions like aircraft engine replacement and new types of aircraft powered by electricity and hydrogen where these become commercially and operationally viable."

A vision of low carbon GA in 2050



Two main areas of aviation will affect civil non large aircraft air transportation and that is zero carbon aircraft and the zero emission ground vehicles.

What happens to legacy aircraft and will historical and older aircraft still be able to fly or just become museum displays.

There are so many departments and agencies involved in decarbonising Australia, we are yet to realise just what commitments government has made to international bodies to really understand just what effect their decisions have, or will have on civil aviation.

With airline practices under the spotlight, and government carbon policy always under the spotlight, the Federal Government's upcoming transport sectoral pathway will make for interesting reading. There remains a tough balancing act between the Government's economy-wide expectation that all sectors decarbonise, and the commercial reality that technological alternatives for aviation are not there yet.

Zero-Emission Planes

Zero-emission planes (ZEPs) are an emerging technology that uses hydrogen and electricity as power sources. Due to the weight of current batteries, electric aircraft will be limited to short-range commuter missions before 2050 (Mukhopadhaya & Graver, 2022). Aircraft fuelled by liquid hydrogen (LH2), on the other hand, could potentially service short- to medium-haul flights up to 3,400 km in stage length (Mukhopadhaya & Rutherford, 2022).

The successful development and deployment of these aircraft are not guaranteed, which is why they are excluded from the Action scenario and introduced incrementally in the Transformation and Breakthrough Scenarios. Their introduction is represented by percentages of the new deliveries of the aircraft class they would replace.

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