

Appendix 1



SCHWEIZ SUISSE SVIZZERA

FAI Environmental Commission - Annual Report 2011 Switzerland

On a national level, Switzerland continues to benefit from relatively mild environmental pressure on general aviation. Repeatedly, state (canton) laws or decrees interfere with federal law, exclusively applicable for airspace regulations.

Landscape rest zones

Instead of prohibiting aerial activities for 12 landscape rest zones, as claimed by environmentalists and the Federal Office for the Environment FOEN, the Swiss regulator (Federal Office of Civil Aviation FOCA) only recommends “avoiding” 4 landscape rest zones.

Mountain landing sites

Pressure from various ecological groups continues to close existing airstrips in the Alps. As previously reported, the Aero-Club of Switzerland und its affiliated associations for powered flight, glacier pilots, helicopter pilots, helicopter operators, local aero-clubs etc orchestrate the arguments to keep all mountain landing sites open to the benefit of mountain flying, education, training etc.

Lucerne, January 18, 2011/KI

Appendix 2



FAI Environmental Commission – Annual Report 2010/11 Norway Proposal for FAI initiative on problems related to future fuel situation

As agreed on at last year EnvC meeting Norway produced a paper to the FAI Executive Board on this matter. Several drafts were discussed with the EnvC president, and a finale paper was almost ready when the president passed away. As the proposer, Norway felt responsibility for addressing the issue directly to the FAI Executive Board and to relevant FAI Air Sport Commissions. Our proposal was sent to FAI dated July 7th 2010. (Appendix 1)
FAI Executive Board putted the item on the agenda for the FAI General Conference in Dublin, without any recommendations or any proposals for action. Our NAC president had the opportunity to present the proposal and the conference was informed by the French fuel company Total on the development of alternative fuel.

Future fuel situation and potential negative focus on lead

The future fuel situation and the potential for negative focus on lead pollution, is not as critical as it was a year ago. Information's received from both fuel companies, engine producers and authorities convince us that the industry and authorities takes this issue seriously.

ASTM has issued a non proprietary standardised specification for 91 octane unleaded fuel (D7547) witch can be produced by any fuel company. Total has started production and the Norwegian company Statoil is ready to start production when 100LL is less available. EASA has issued an SIB approving some more aircraft types to use unleaded fuel (expl Cessna 172S).

NAC Strategic plan on environmental

Our strategic plan is in force and is under implementation in our organisation.
The planned development of a simplified Environmental Management System for our clubs is set on hold until a National Sport Environmental Strategy is implemented.

National Sport Environmental Strategy

The Norwegian Sport Federation and Olympic Committee have under development a national environmental strategy for all sport disciplines. Our NAC together with the national federation for motorcycles, powered boats and snow scooters have played a leading role in initiating this work. The proposed strategy will be on the agenda for the National Sport Federations General Conference in May 2011, for approval.

Requirements for Environmental Certifications for Sport

The Norwegian Sport Federation and Olympic Committee have, in cooperation with an Environmental Organisation, under development a system for Environmental Certifications of Norwegian Sports administrations, Sport arenas and Sport events (Green Events).
The outcome of this work will have influence on our NAC's Environmental Strategy and our plan for a simplified Environmental Management System for our clubs.

Joined International Environmental Meeting

After initiative from the International Federation for motor boat sports (UIM) a Joint Environmental Meeting of the international federation for sport boats (UIM), cars (FIA), motorcycles (FIM) and air (FAI) was held in Arendal, Norway in July 2010. This in connection with a large boat race held the following days.

FAI EnvC Vice President Kåre Liasjø was asked by FAI Secretary General to represent FAI at this meeting. I (Arne Mathisen) had the opportunity to be observer at the meeting, since I was present at a similar national meeting held just prior to the international meeting. Minutes from the international meeting is enclosed (Annex 2).

Oslo, January 19th 2011

Arne Mathisen

Assistant Secretary General

Annex 1 – Letter to FAI Executive Board re Future fuel situation

Annex 2 – Minutes of Joint UIM FIA FAI FIM meeting 2010

Appendix 3

UK Report to FAI Environmental Commission 2011

Biodiversity

The British Model Flying Association (BMFA) has had a further study conducted into the effects of model flying on wildlife. The first study was carried out in 2003 by Dr. Leo Batten (a respected biodiversity consultant) on a model flying site in southern England. His study concluded that the model flying had no detrimental effect on the wildlife present on the site. Under the stewardship of the model flyers, it was believed that not only was the model flying of no detriment to the wildlife on the site, but that it was thriving and increasing. In a repeat study of the same site in 2010 it was concluded that the wildlife was indeed thriving and the number of breeding bird colonies had actually shown a significant increase.

The BMFA has now commissioned three studies and have plans to conduct further ones.

These findings are similar to those experienced on other types of airfield, such as gliding sites.

Organisations such as the General Aviation Awareness Council (GAAC) have been attempting to spread the message that general aviation airfields are not concrete and polluted areas. Publications produced by the GAAC show a completely opposite view and identify secluded airfields as almost the only places left which have the wild flowers and fauna now missing from much of the UK's agricultural land.

Ballooning

Don Cameron, leading light in the UK ballooning community, has carried out some calculations that show that the greenhouse gas emissions from the operation of a hot air balloon (including the impact of the retrieve vehicle) are somewhat less than those arising from ownership of one cow. The calculations are attached as Appendix 1.

In 2010 the hosted the Gordon Bennett Championship for hydrogen balloons, which have no carbon footprint and make no noise.

Gliding

A number of gliding clubs are starting to develop environmental policies and are being referred to the FAI policies as well as other texts that are available in the UK, to give them a starting point.

Guild of Air Pilots and Navigators Environmental Committee

The Guild of Air Pilots and Navigators (GAPAN) has established an Environmental Committee which includes several very senior members of GAPAN, indicating the high level of importance that the organisation attaches to the topic. A number of issues have been discussed, mainly focussed on Commercial Air Transport. John Broad of the Light Aircraft Association (LAA) has reported on their discussions and extracts of his report appear below.

LAA Home built Permit Aircraft in the UK

Due to the high certification process requirements for C of A type aircraft, the potential for developing new technologies is being stifled. This problem is not so apparent with home built aircraft designs, meaning that efficiencies in airframe, instrumentation and engine performance are very much more advanced, with the fuel and speed performance of some home-built aircraft being significantly better than equivalent certified aircraft. Modern kit built aircraft benefit from today's technology whereas certificated aircraft tend to use technology from 50 years ago.

Bio-Fuels

There is growing concern in the UK about the gradual imposition of bio-ethanol into motor fuels. Barry Plumb, LAA Engineering, has produced two methods of checking for any ethanol content in Mogas and these are marketed by Airworld UK for aviators to use before any bulk purchase of Mogas. There are two fuel companies who are in negotiations to supply ethanol free Mogas to airfields in the UK, but it is anticipated that the problem is going to get worse in future. The UK CAA specifies that aircraft cannot fly with ethanol but they allow micro-lights to do so, although some micro-lights have the same engines as some light aircraft. The new Tecnam twin from Italy, fitted with two Rotax engines, is designed to run on Mogas with ethanol but cannot be flown in the UK using Mogas.

At a recent meeting of the GAPAN Committee, a representative from Boeing gave a talk on research into producing fuel from algae. This process produces fuels for both turbine and diesel engines. The move away from petrol powered aircraft towards diesel power for economic reasons will fit in well with the production of these bio-algae fuels.

Alternative Power Plants

The LAA ran a competition in conjunction with the Royal Aeronautical Society for the design of a lightweight Single Seat De-Regulated (SSDR) aircraft. Two of the designs submitted were designed for electric power. Under the UK SSDR rules the weight of the aircraft without fuel must not exceed 115kgs. As the batteries are the fuel they were not counted!

Airfields and the Environmental Benefits

On the ground we have a number of major issues regarding the loss of airfields as the UK Government have still not produced a policy which had been promised, to define airfields as an important part of the UK transport infrastructure. The problems on brownfield sites which were mentioned in previous reports still remain. Under new planning definitions, planners and councils now look at airfields as previously developed and therefore available for housing, unless the remains of the permanent structure or fixed surface structure have blended into the landscape (to the extent that it can reasonably be considered as part of the natural surroundings). This is the only aspect of the planning guidance that offers any protection to grass airfields.

More positively, the Planning Policy Guidance on Transport includes aviation and states:

1. The New Deal for Transport encourages regional airport growth to cater for local demand where it is consistent with sustainable development; and

2. the role of small airports and airfields in serving business, recreational, training and emergency services needs. As demand for commercial air transport grows, this General Aviation (GA) may find access to larger airports increasingly restricted. GA operators will therefore have to look to smaller airfields to provide facilities. In formulating their plan policies and proposals, and in determining planning applications, local authorities should take account of the economic, environmental, and social impacts of GA on local and regional economies.

6. Local planning authorities should consult the Department of Environment and Transport Airports Policy Division on draft development plan policies and proposals relating to airports and airfields. In consultation with DETRs Airports Policy Division, local authorities should:

1. identify and where appropriate protect sites and surface access routes, both existing and potential (including disused sites), which could help to enhance aviation infrastructure serving the regional and local area; and

2. avoid development at or close to an airport or airfield which is incompatible with any existing or potential aviation operations.

This last point does not seem to be followed strongly by planning authorities when wind turbine developments are under consideration. The pressure on local authorities to assist in the achievement of environmental targets including the increase of sustainable energy results in numerous applications for permission for wind turbine developments, many of which are detrimental to general aviation and sporting airfields.

The policy guidance also states *'The environmental impacts of aviation proposals will always need to be very carefully considered. Existing sites with established aviation uses, including redundant military airfields, will often provide the best opportunities for aviation facilities, in so far as neighbouring development is likely to be compatible with aviation use. Conditions may be necessary to limit the environmental impacts of aviation, and this should be made clear in the development plan where possible.*

Negotiations and lobbying continue as the UK planning system for housing is currently in chaos since the new coalition government came into power.

Noise

The UK Planning Policy Guidance on noise has been used the wrong way round by Councils and developers to try to curtail operations from existing aerodromes as it would be noisy for the proposed developments. The intention of the Policy was that developments should not be proposed close to a source of existing noise.

Airspace

With ever changing areas of controlled airspace and the threat of the penalties for infringing these, pilots are being forced to take long detours to the detriment of any attempts at fuel saving.

Wind turbines

Since the workshop held in the autumn of 2009, applications for planning permission for windfarms have increased significantly, with over 100 new proposals being registered each week and a total of 11,000 currently in the pipeline.

The grants and reduced planning requirements for the construction of turbines are of concern to sporting and recreational pilots in the UK. Some airfield users have succeeded in negotiating with turbine developers to agree locations that do not threaten flying operations. Aviation's objections are often helped by local residents, who having previously objected to an airfield in their locality, become supportive of the airfield when they realise that a wind farm can be objected to on aviation safety grounds.

The UK CAA is redrafting its guidance to windfarm developers on implications for aviation. Representatives of sporting and recreational aviation are involved in this process. The CAA is no longer processing pre-planning enquiries for wind turbine developments, on the grounds that the wind energy industry is aware of the potential problems and dangers to aviation. There is some scepticism about this approach.

Diana King
Delegate to EnvC
Royal Aero Club of the UK
17 January 2011

Appendix 1

Do balloons have a green problem?

Hot air balloons work by burning fuel and they do produce CO₂. Propane is a hydrocarbon with a lower carbon content than motor fuels, so the CO₂ output per litre is less. Compared to a typical car, however, the consumption is greater and, of course, there usually is a car following, so some CO₂ footprint is undeniable.

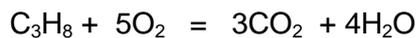
It is important to keep matters in proportion, however. The number of hot air balloons in the country is very small when compared to cars and there are many more important sources of greenhouse gases.

For example, the amount of climate damage produced by a balloon in flight for one hour is the same as that produced by a cow in four days. Balloons only fly for about an hour occasionally, whereas the cows' digestions are in action 24/7. A balloonist who flies one hour a week, therefore, has a lower impact on the climate than a person who keeps only one cow. Livestock are responsible for 18% of the world's greenhouse emissions.

The Science:

Cows produce about 500 litres of methane (CH₄) per day and the greenhouse effect of methane is 23 times that of carbon dioxide.

The chemistry of propane combustion is as follows:



$$44 + 160 = 132 + 72 \quad (\text{molecular weights})$$

A typical sporting balloon may burn 30 kg of propane / hour

30 kg of propane produces $30 \times 132 / 44 = 90$ kg of CO₂ = 48.03 cu.m.

(CO₂ density is 1.8739 kg.cu.m. at 15°C)

This is equivalent to 2.09 cu.m. of methane, or 4.18 cow days

The retrieve only consumes 1 kg or so of motor fuel, perhaps a further 2 cu.m. of CO₂.

Don Cameron

19.3.08

Appendix 4

Swedish Report to FAI Environmental Commission 2011

Policies

Last year I could report that Airsport Sweden the Motor Flying Union has adopted an environmental policy similar to that Norway presented.

The next step is taken by Airsport Sweden Parachute Union. An environment policy is taken and even an environmental management system. From next year all competitions in parachuting will be climate compensated.

Fuel

So far Sweden has been the only country where unleaded gasoline approved for flying has been distributed. Now this fuel has been approved by EU and both production and delivery start in several countries inside EU. In Sweden more than 50 % of the fleet of airplanes in the clubs uses unleaded fuel. That gives new hope that 100LL can be replaced.

Airfields

Earlier I have reported about reduction in open hours for airfields, even small ones due to noise. Now this problem has been spread even to airfield for model flying. The problem is not big so far but the phenomenon is alarming.

Environmental work

It is still very hard to recruit persons to work with this matters voluntary. The members and the clubs in general are very uninterested to do something even if most of them understand how important it is for future life..

Rolf Björkman
Alternate delegate EnvC
Airsport Sweden