ATR: The Optimum Choice for a Friendly Environment
ATR: The optimum choice for a friendly environment

Regional aircraft are good neighbours for the environment. Modern regional turboprop and namely ATR aircraft meet both external noise and gaseous emission level regulatory requirements with ample margins.

- Regional aircraft operate at relatively low altitude, leaving the ozone layer unaffected and barely contributing to pollution of the upper atmosphere.

- Turboprops are highly efficient and tend to operate at lower speeds. In recognition of their low pollutant emission levels, turboprop aircraft remain unregulated and are not covered by ICAO Annex 16. They also have low OPR (Overall Pressure Ratio), 10-20:1 as against 20-40:1 for the large turbofans, and hence produce much more lower NOx levels.

- ATR’s short field capability, their optimum integration in air traffic flow, and their cumulative noise level margins to new potential regulations or airport restrictions, make them welcome visitors at the smaller city airports and regional hubs with minimal environmental impact.

- Both turboprop and turbofan aircraft use exactly the same jet technology maximizing efficiency and reliability.

Comprehensive noise footprints - 90 EPNdB
The benefits of the new technology

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Area sq miles (sq km)</th>
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<tbody>
<tr>
<td>Modern regional turboprop (ATR)</td>
<td>1.2 (3.5)</td>
</tr>
<tr>
<td>Modern regional jet</td>
<td></td>
</tr>
<tr>
<td>30-year old turboprop</td>
<td>2.1 (5.4)</td>
</tr>
<tr>
<td>30-year old jet</td>
<td>5.2 (13.5)</td>
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Thanks to the high technology 6-blade propeller system and efficient aerodynamics, the ATR -500 series is one of the quietest in the industry.

The turboprop is more fuel efficient for a given thrust. ATR turboprop aircraft, recognized as the most fuel efficient aircraft in their category, maintain distinctive advantages with respect to other modes of transport such as road and rail, also in terms of pollutant emissions. Turboprop aircraft and ATR in particular can justify their view that they are already respecters of the environment and good neighbours for airlines and airport communities. ATR stands out as a modern, comfortable and cost saving regional turboprop with the particular ecological advantage of safeguarding the environment.
ATR family, more and more environment friendly

Cumulative noise margin (EPNdB)
With 26.6 EPNdB (ATR 72-500) and 31.3 EPNdB (ATR 42-500) cumulative margin to Chapter III, and comfortable margins to future Chapter IV noise regulation, the ATR-500 series has the greatest latitude for even more stringent regulations on airport restrictions.

All ATR models will comply with even the most stringent stage IV noise recommendations.

Regional Air Transport
The benefits of technology for external noise

ATR -500 series: the quietest neighbours in the sky!
ATR: the green turboprop of tomorrow

The ATR fuel efficiency: adapted powerplant

The proven level of low fuel consumption is a primary concern for airlines eager to lower cash operating cost and wishing to be environment friendly. ATR aircraft are recognized as the most fuel efficient aircraft in their category, thanks also to high-tech engines and propeller efficiency. Just for reference, an ATR 42 uses only as much fuel on a typical 200 Nm trip as a B747 uses in 10 minutes of taxiing!

It appears evident that low levels of engine emissions are essentially driven by low fuel consumption. On a 200 Nm sector, the ATR72-500 fuel consumption per passenger is up to 11% lower than a typical European car; the associated ATR gaseous emissions per pax in terms of CO (Carbon Monoxide) are 15 times less than a car and comparable to the train.

As far as the nitrous oxides are concerned, the ATR is 3 times less pollutant than a car and 40% less than a train. Moreover emissions of NOx (Nitrogen oxides) by new generation turboprops are at low altitude, well below the levels at which ozone depletion is a major concern.

Gaseous Emission Spectrum
200 NM (370 km) typical sector - 65% load factor

ATR: shortfield capability

• ATR is easily manoeuvrable and features short take-off and landing capability to meet operational requirements for unrestricted passenger loading.
• On a given standard mission, a 50-seater jet requires about 40% more take-off field length than the ATR on a typical mission with a full passenger payload.

Short Field Capability
50-Seater jet vs ATR take-off field length

Thanks to their excellent landing and take-off performance, ATR aircraft are able to use the shorter runways set aside for commuter operations at many airport hubs.

They contribute in this way to reduce air traffic congestion, decrease Airline fuel consumption and to reduce environmental impact.

GIE Avions de Transport Régional
1, allée Pierre Nadot - 31712 Blagnac Cedex