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ascend

Taking your airline to new heights



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CO₂ Emissions: Manage And Trade Wisely

Under the governance of the European Union Emission Trading System (E.U. ETS), in 2012, airlines operating to and from Europe will be required to obtain carbon credits to continue operating in Europe. Airlines will need to report their CO₂ emissions and plan for how their carbon credits will be used, and advanced technology is in place to assist with these efforts.

■ By Christine Kretschmar, Brent O'Brien and Kamal Singhee | *Ascend* Contributors

The E.U. ETS as related to the aviation industry went into effect in January with the majority of airlines filing their emissions tracking plans with their respective member countries. With these plans being approved and airlines tracking their emissions for 2010, the stage is set for the next steps of the plan, which, by March 31, 2011, includes:

- Submitting a 2010 ton-kilometer report,
- Submitting the 2010 CO₂ emissions report,
- Applying for free emissions allowances.

The E.U. ETS is a “cap-and-trade” system where the emissions in 2012 are capped at 97 percent of the 2004 through 2006 average. In 2013, the cap is further lowered to 95 percent of averages for the same period. Each airline, based on its 2010 ton-kilometer report, will be allocated a share of the total emissions pie as determined by the European Union. As an airline’s share is determined, 85 percent is deemed as free allowance while 15 percent is to be purchased from carbon markets — the trade aspect of the scheme. Revenue generated from auctioning the 15-percent credits will go to member countries. Using the submitted ton-kilometers data from all airlines and participating operators, the European Union will define the benchmark by Sept. 30, 2011, for determining the allocation for each participating airline/operator.

The scope of this legislation is quite clear — any flight departing or arriving into an aerodrome situated in an E.U. member country is included for purposes of reporting. However, particular flights are exempt from emissions reporting, such as:

- Search and rescue flights;
- Flights performed exclusively for the purpose of checking, testing or certifying aircraft;
- Public-service obligation flights;
- Commercial aircraft operators with fewer than 243 flights per defined period (January to April, May to August and September to December).

Recent events, such as disruptions due to volcanic ash and industrial actions, are expected to have an impact on airlines as they submit their 2010 ton-kilometer report. Lufthansa, for example, requested a one-year delay to the inclusion of airlines in Europe’s emission trading scheme due to flight disruptions from a volcanic ash cloud. The airline expressed its concern about using 2010 as the base year, due to the number of forced cancellations from the recent disruption. The industry is awaiting the direction from the European Union on how these events will be accounted in allocating free credits for 2012.

Through the E.U. ETS process, airlines must work with a verifier to ensure accuracy of specific reports as well as properly manage credits and reporting.

Verification

Data collected by airlines/operators as part of the emissions reporting must be verified by an independent and accredited verifier. Each member country will publish a list of accredited verifiers that airlines will be responsible for working with to ensure emissions reports are certified before they are submitted to the responsible member state agency that oversees monitoring and managing emissions tracking. The verifier ensures:

- Completeness of flight and emissions data compared to air traffic data collected by EUROCONTROL,
- Consistency between reported data and mass and balance documentation,
- Consistency between aggregated fuel consumption data and data on fuel purchased or otherwise supplied to the aircraft performing the aviation activity.

It also must verify the emissions and ton-kilometer reports according to the monitoring and reporting guidelines (MRG) and issue an opinion stating that reasonable assurance of the reports are free of material misstatements and non-conformities. In addition, the verifier is required to provide the details of methodology used by the airline/operator and submit it with the emissions reports to the designated agency.

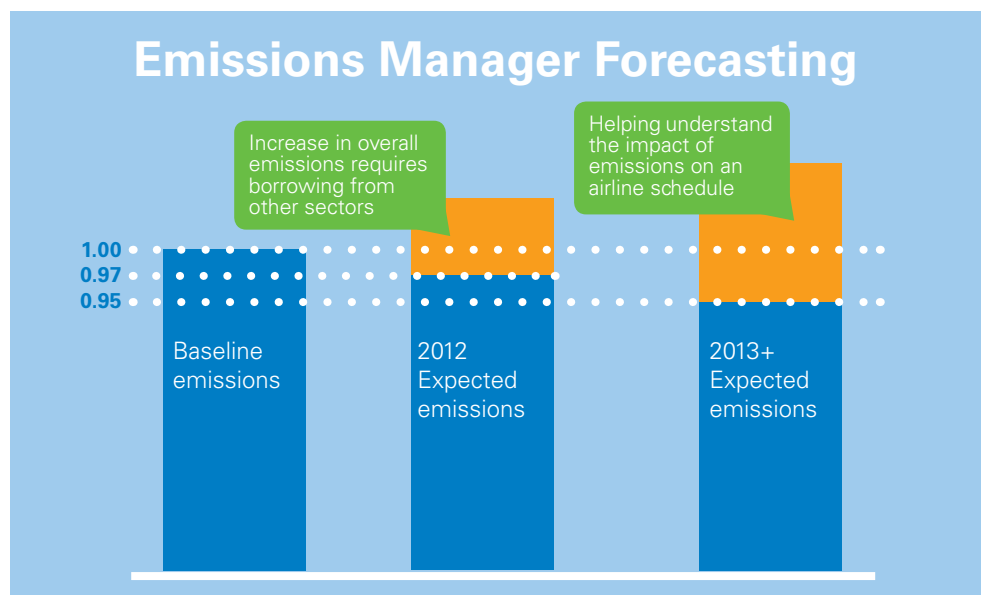
Getting the report approved by a verifier may not be easy for airlines. They’ll need to collect various documents for each flight from different sources. If incomplete or inaccurate information exists, the verifier will reject the report, causing delays likely to cost airlines valuable time and money.

Managing Credits And Reporting

As part of submitting emissions reports, airlines must also present a request for free allowance by March 31, 2011. Based on the request and information collected from the emissions reports, in particular the ton-kilometer report, the European Union will determine the emissions allowance based on historical emissions. By Sept. 30 of the same year, the E.U. Commission will finalize the total quantity of allowable emissions, the free allowance and quantity to be auctioned. The calculations of the individual airline/operator and the associated free allowance will be available no later than Dec. 31, 2011.

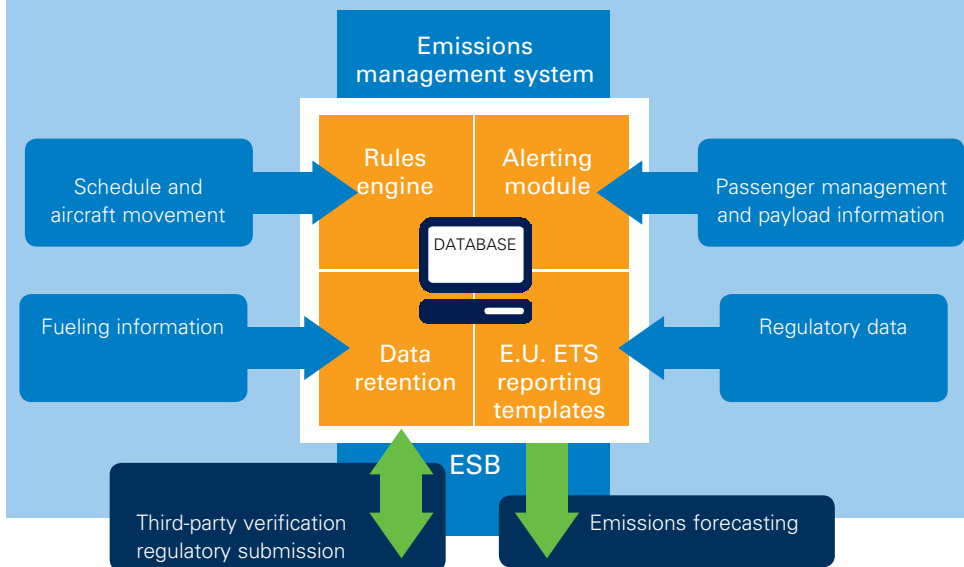
In 2012, with the allocation of free allowances and requirement to purchase 15 percent of the credits, airlines will need to plan their schedule to minimize the impact of emissions and manage the free allowances. This requires understanding the impact of CO₂ emissions to be able to forecast the requirements of emissions credits. The forecasting capability requires knowledge of historical data and the use of a CO₂ calculation methodology that meets the airline’s requirements. This information will be used as part of the schedule-planning process to incorporate the cost of emissions into the fleet assignment to determine aircraft types to operate a given sector.

In addition to incorporating the cost, it will be vital to continuously understand the emissions forecast as well as track it against actual flight operations data. This exercise alone can provide a constant view of the requirements and manage them against the allowance. For example, a flight between Boston, Massachusetts,



E.U. ETS, based on a “cap-and-trade” system, begins with a baseline that is calculated from the average emissions used between 2004 and 2006. The CO₂ emission cap is set at 97 percent in 2012 and reduced to 95 percent in 2013. Airlines need to include an overall E.U. ETS into their strategic decisions for future development and competitiveness.

Sabre AirCentre Emissions Manager



Designed to help airlines ensure compliance with E.U. ETS regulations, **Sabre AirCentre Emissions Manager** automates data collection, verification and reporting processes through defined integration with airlines' operations, airport and reservations systems.

Managing Carbon Assets Planning to Operations

Sabre AirCentre Emissions Manager

Reporting	Verification	Forecasting	Consulting and Support
Data collection Validation and alerting	Generating reports Connecting with verifier	Carbon forecasting Forecast to actual comparison	Update with access to new E.U. ETS schemes Consulting and health-check support



When managing CO₂ emissions, they must be treated as an asset and their usage must be monitored from planning processes to operations. This information going forward will influence airline fleet selection processes, network planning and operations.

and Frankfurt, Germany, can generate approximately 125 tons of CO₂, costing more than US\$750,000, and with 15 percent of purchased credits, it would cost an additional US\$120,000 a year at the current prevailing rates. A flight between New Delhi, India, and London can generate around 175 tons of CO₂, costing more than US\$1 million, and with 15 percent purchased credits, it would cost an additional US\$170,000 a year.

Operating without sufficient emissions credits will attract a fine from regulatory authorities (expected to be US\$123 per ton of CO₂). On the other hand, if the airline has excessive credits based on the forecast, these can be traded within the confines of the allocated year.

With changing market dynamics, it is important for airlines to understand, plan and manage their emissions footprint to avoid significant costs as other countries around

the world adopt emissions trading schemes. Recent actions by the German government to introduce the Ecological Levy, estimated to be an additional cost of US\$1.19 billion, will require airlines to better manage their emissions.

The Solution

Sabre Airline Solutions[®] recognizes the importance of effectively and accurately managing emissions credits and offers state-of-the-art technology to help airlines not only comply with the E.U. ETS but also reduce costs and improve operations overall.

The recently launched *Sabre AirCentre Emissions Manager* collects, validates, stores and reports carbon emissions data, simplifying compliance with E.U. ETS requirements. The solution is designed to support requirements for emissions management and reporting such as data collection and storage for 10 years, validating the data when multiple sources are available, interfacing with an accredited verifier and reporting data in electronic form or through defined reports. The solution provides significant automation and data validation to ensure correct data is reported and enables airlines to manage emissions within the defined requirements.

Additionally, *Sabre Airline Solutions* experts consult with airlines around the world to help them resolve current challenges related to emissions management. Its consultants are prepared to help airlines develop a strategy to reduce fuel consumption and emissions as well as implement the right solutions to comply with emissions reporting requirements.

With reducing emissions in mind, these experts also assist airlines in applying for earned credits and setting up necessary programs to support their emissions initiatives. They ensure airlines are compliant with relevant regulations and help them benefit from essential credits to guarantee efficient and environmentally friendly operations.

The E.U. ETS can present numerous challenges for airlines around the globe. However, a sound strategy combined with well-trained personnel, robust technology and knowledgeable industry experts can offset unnecessary costs and keep airlines aligned with the new trading scheme. **F**

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