Green Aviation Market to 2020 - Stringent Regulations to Drive Investment in Green Technologies

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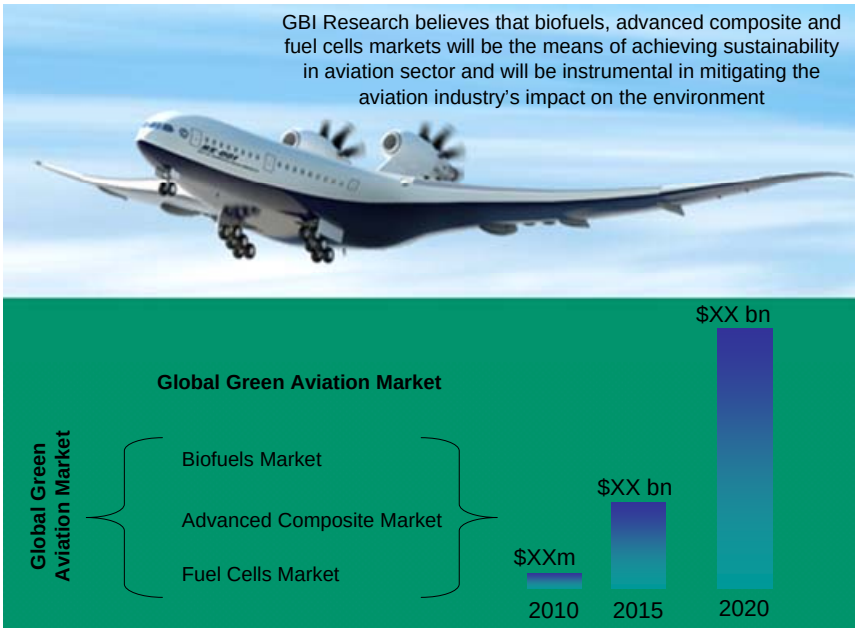
Escalating demand for air travel will be a key reason for increased emissions from the aviation industry in the future.

Green Aviation Market Holds Enormous Revenue Potential and is Expected to Reach $ XX billion by 2020

The global aviation industry annually contributes around XX % of total worldwide anthropogenic carbon dioxide emissions. Though, the emissions from the aviation industry currently account for a small part of total man-made emissions, the escalating demand for the aviation industry will be a major reason for increased emissions. Furthermore, the growth in air traffic over the last couple of decades has outweighed the contribution of significant improvements in aircraft technology and aircraft operations.

GBI Research believes that in the years ahead, the aviation industry will turn to green technologies in order to develop business-led solution to address climate change. Tightening regulations on the aviation industry to curb its emissions will drive green aviation technology market in general and the aviation biofuels and fuel cells market in particular. GBI Research anticipates the green aviation market will reach $XX billion in 2020 from $XXm in 2009.

Global Green Aviation Market, Key Markets



Source: GBI Research

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Green aviation market to be worth $XX billion in size by 2020.

3 Green Aviation Market Analysis and Forecasts, 2005–2020

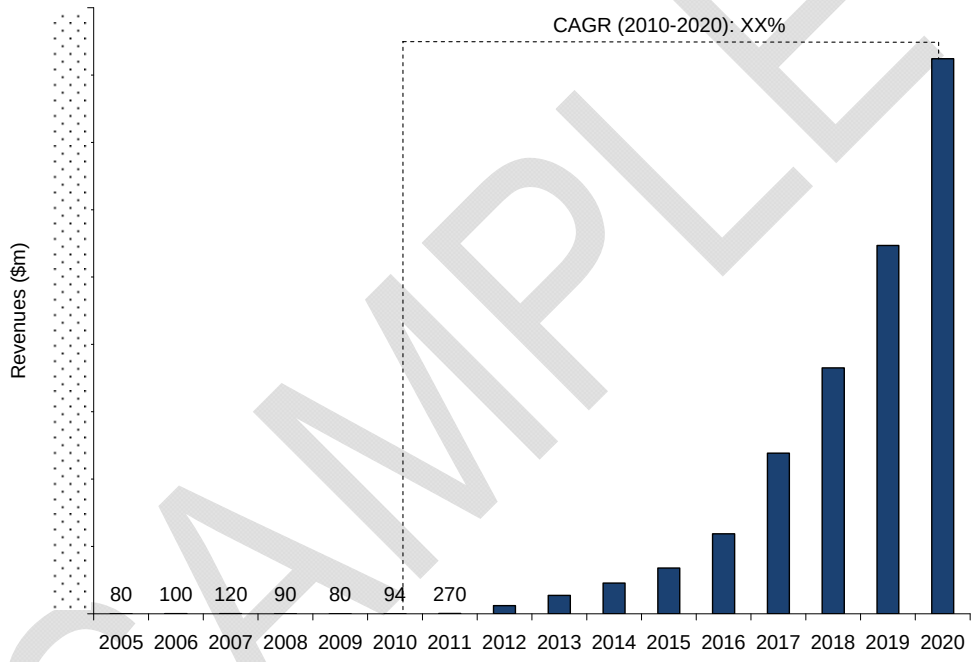
3.1 Green Aviation Market Revenue, 2005–2020.

The global aviation market is striving hard to overcome the challenges of rising operational costs, low revenue growth and the need to meet targets to mitigate greenhouse gas emissions from aviation. All these challenges can only be overcome with a planned strategy which will also lead to the healthy development of air transportation.

The green aviation market was estimated to be worth $XXm in 2005. The green aviation market rose to $XXm in 2008, with a Compound Annual Growth Rate (CAGR) of XX%. GBI Research foresees the global green aviation market to be worth $XX billion in size, with a CAGR of XX% for the forecast period 2010–2020. GBI Research believes that the tightening regulations on the aviation industry to curb its emissions will drive green aviation technology market in general and the aviation biofuels and fuel cells market in particular.

The figure below shows the green aviation market for the period 2005–2020.

Figure 8: Green Aviation Market, Global, Revenues ($m), 2005–2020



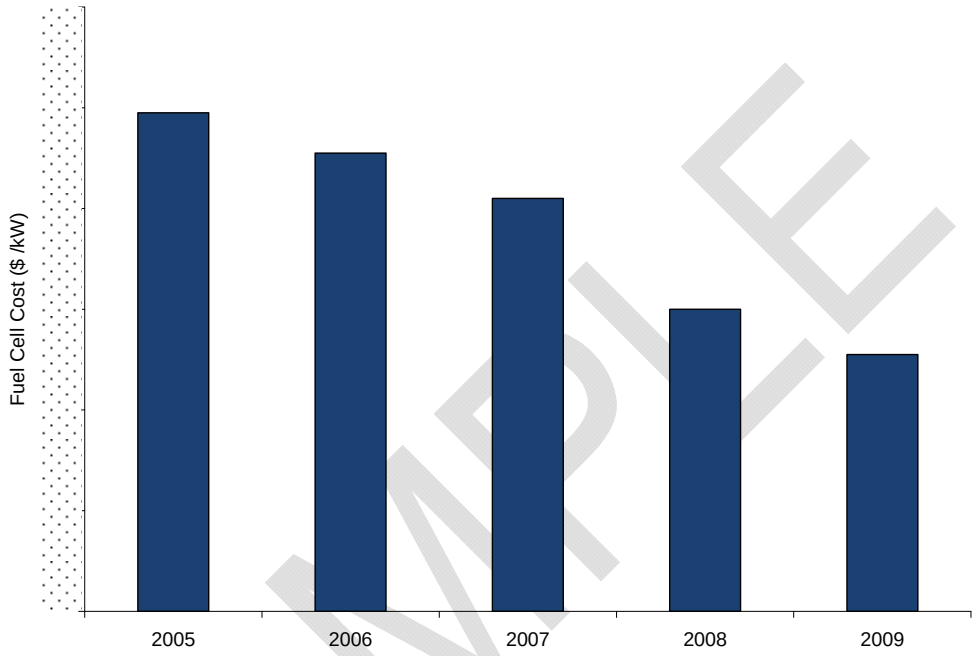
Source: GBI Research

Reduction in fuel cell costs is expected to spur their deployment into the green aviation market

6.1.1.1 Reduction in Fuel Cell Costs

The reduction in fuel cell costs is expected to spur their deployment into the green aviation market. The costs of fuel cells have been decreasing for the last few years and GBI Research anticipates that the trend will continue in the future. The reducing cost of fuel cells will open up the market for fuel cells in aviation as well as other sectors. GBI Research understands that the reducing costs will be a key driver for the fuel cell market. According to many industry analysts, the fuel cell costs have reduced drastically over the last few years due to many initiatives taken by the fuel cell industry to reduce the platinum loading of fuel cells, as the platinum increases the cost of the fuel cells considerably.

Figure 44:Global Fuel Cell Cost ($/kW) , 2005–2009



Source: GBI Research

The table below shows the fuel cell cost for the period 2005–2009.

Table 37: Global Fuel Cell Cost ($/kW), 2005–2009

Year	Global Fuel Cell Cost($/kW)
2005	
2006	
2007	
2008	
2009	

Source: GBI Research

The global aviation industry is increasingly showing sensitivity toward environmental concerns and is choosing to invest in green technology products. However, the prices of such technology still remain the main issue for purchasing green products. GBI Research believes that the successful commercialization of fuel cells will eventually reduce the costs of fuel cells and make them affordable enough for the aviation industry.

9 Appendix

9.1 About GBI Research

GBI Research is a leading business information company providing global business information reports and services.

Our highly qualified team of analysts, researchers, and solution consultants use proprietary data sources and various tools and techniques to gather, analyze and represent the latest and the most reliable information essential for businesses to sustain a competitive edge.

9.2 Abbreviations

Table 74: Glossary of Terms

Acronyms	Expansion of Terms
AAPA	Association of Asia Pacific Airlines
ADS-B	Automatic Dependent Surveillance–Broadcast
AFC	Alkaline fuel cells
A-FC	Alkaline Fuel Cells
AGD	Aviation Global Deal
APAC	Asia Pacific
APU	Auxiliary Power Units
ATM	Air Traffic Management
bbl	Barrels
bblpd	Barrels per day
CAEP	Committee on Aviation Environmental Protection
CAGR	Compound Annual Growth Rate
CDA	Continuous Descent Arrivals
CDM	Clean Development Mechanisms
CEM	Cytec Engineered Materials
CER	Certified Emission Reduction
CFRP	Carbon Fiber Reinforced Plastic
CIS	Commonwealth of Independent State
CO2	Carbon Dioxide
DLR	German Aerospace Center
EADS	European Aeronautic Defence and Space Company
EC	European Council
EISA	Energy Independence and Security Act
EMEA	Europe, Middle East and Africa
EP Act	Energy Policy Act
EPA	Environmental Protection Agency
ETS	Emissions Trading Scheme
EU	European Union
EU-ETS	European Union Emission Trading Systems
FAA	Federal Aviation Administration
FTK	Freight Tonne Kilometre
GHG	Green House Gases
GIACC	Group on International Aviation and Climate Change

GWP	Global Warming Potential
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IPCC	International Panel on Climate Change
JI	Joint Implementation
kW	Kilowatt
Mbblpd	Million Barrels per day
MBM	Market Based Measures
MC-FC	Molten Carbonate Fuel Cells (M–FC)
MoU	Memorandum of Understanding
MRC	MITSUBISHI RAYON CO LTD
MSC	Marine Stewardship Council
NOx	Nitrogen Oxide
OEM	Original Equipment Manufacturers
OPD	Optimized Profile Descent
PA-FC	Phosphoric Acid Fuel Cells
PAN	Polyacrylonitrile
PEM-FC	Proton exchange membrane fuel cell
RFS	Renewable Fuel Standard
RNAV	Area Navigation
RNP	Required Navigation Performance
ROW	Rest of the World
RPK	Revenue Passenger Kilometre
SEC	Securities and Exchange Commission
SESAR	Single European Sky Air Traffic Management Research Program
SO2	Sulphur Dioxide
SO-FC	Solid Oxide fuel cells
UNFCC	United Nations Framework Convention on Climate Change
US	United States
USDOE	United States Department of Energy
WG5	Market–Based Options Working Group
Source: GBI Research	

9.3 Methodology

GBI Research's dedicated research and analysis teams consist of experienced professionals with a pedigree in marketing, market research, consulting backgrounds in the energy efficient displays industry and advanced statistical expertise.

GBI Research adheres to the codes of practice of the Market Research Society (www.mrs.org.uk .) and the Society of Competitive Intelligence Professionals (www.scip.org)

All GBI Research databases are continuously updated and revised.

9.3.1 Coverage

The objective of updating GBI Research's coverage is to ensure that it represents the most up to date vision of the industry possible.

Changes to the industry taxonomy are built on the basis of extensive research of company, association and competitor sources.

Company coverage is based on three key factors: market capitalization, revenue and media attention/innovation/ market potential.

- An exhaustive search of 56 member exchanges is conducted and companies are prioritized on the basis of their market capitalization.
- The estimated revenue of all major companies, including private and governmental, are gathered and used to prioritize coverage.
- Companies which are making the news, or which are of particular interest due to their innovative approach are prioritized.

GBI Research aims to cover all major news events and deals in the energy industry, updated on a daily basis.

- The coverage is further streamlined and strengthened with additional inputs from GBI Research's expert panel (see below).

9.3.2 Secondary Research

The research process begins with exhaustive secondary research on internal and external sources being carried out to source qualitative and quantitative information relating to each market.

The secondary research sources that are typically referred to include, but are not limited to:

- Company websites, annual reports, financial reports, broker reports, investor presentations and US SEC (United States Securities and Exchange Commission) filings
- Industry trade journals and other literature
- Internal and external proprietary databases
- National government documents, statistical databases and market reports
- News articles, press releases and web–casts specific to the companies operating in the market

9.3.3 Primary Research

GBI Research conducts hundreds of primary interviews a year with industry participants and commentators in order to validate its data and analysis. A typical research interview fulfills the following functions:

It provides first–hand information on the Market Revenue, market trends, growth trends, competitive landscape, and future outlook.

- Helps in validating and strengthening the secondary research findings.
- Further develops the analysis team's expertise and market understanding.
- Primary research involves email correspondence and telephone interviews as well as face–to–face interviews for each market, category, segment and sub–segment across geographies.
- The participants who typically take part in such a process include, but are not limited to:
- Industry participants: CEOs, VPs, business development managers, market intelligence managers and national sales managers
- Outside experts: investment bankers, valuation experts, research analysts and key opinion leaders specializing in the energy efficient displays market.