

# World Glass Fibre Reinforced Plastic (GFRP) Composites Market 2013-2023: Prospects for Fibreglass & GRP

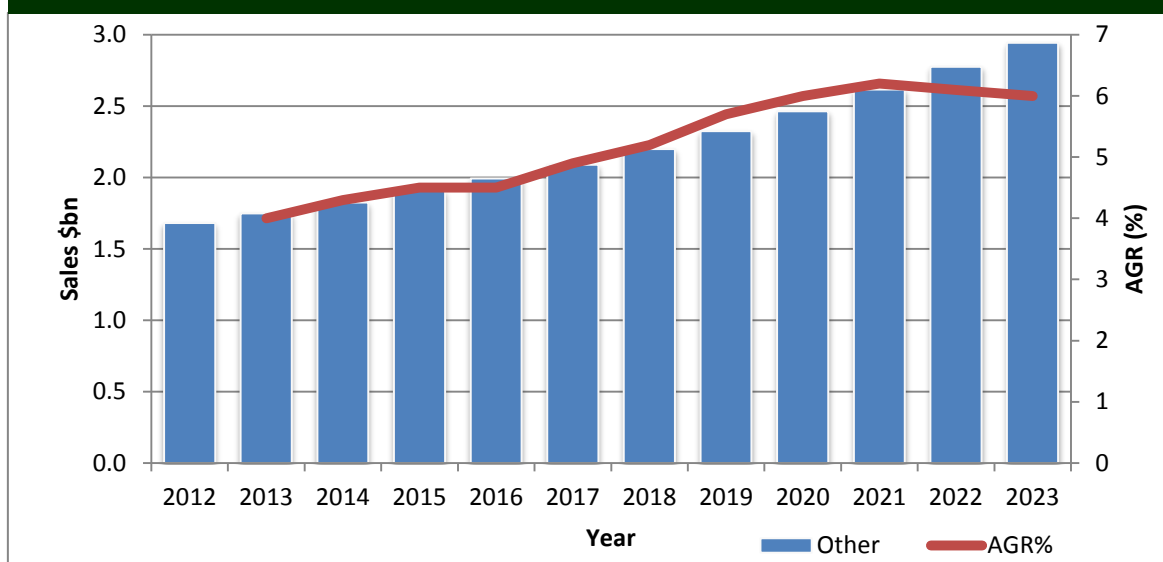
## 4.8 Other GFRP Composites Submarket Forecast 2013-2023

**Table 4.9 Other GFRP Composites Submarket Forecast 2013-2023 (\$bn, AGR %, CAGR% Cumulative)**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013-23
Sales \$bn	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.5	2.6	2.8	2.9	24.9
AGR (%)		4.0	4.3	4.5	4.5	4.9	5.2	5.7	6.0	6.2	6.1	6.0	
CAGR (%) 2013-18	4.7					2018-23		6.0					
CAGR (%) 2013-23	5.3												

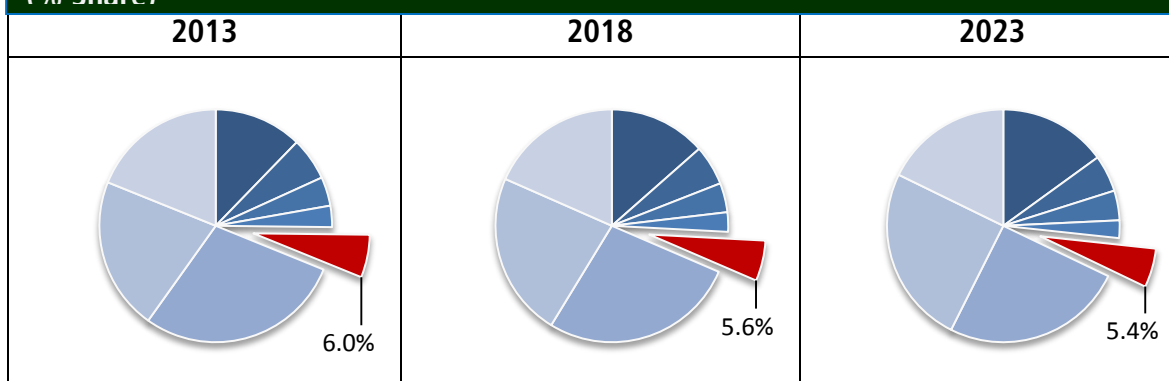
Source: Visiongain 2013

**Figure 4.19 Other GFRP Composites Submarket Forecast 2013-2023 (\$bn, AGR%)**



Source: Visiongain 2013

**Figure 4.20 Other GFRP Composites Submarket Share Forecast 2013, 2018 and 2023 (% Share)**



Source: Visiongain 2013

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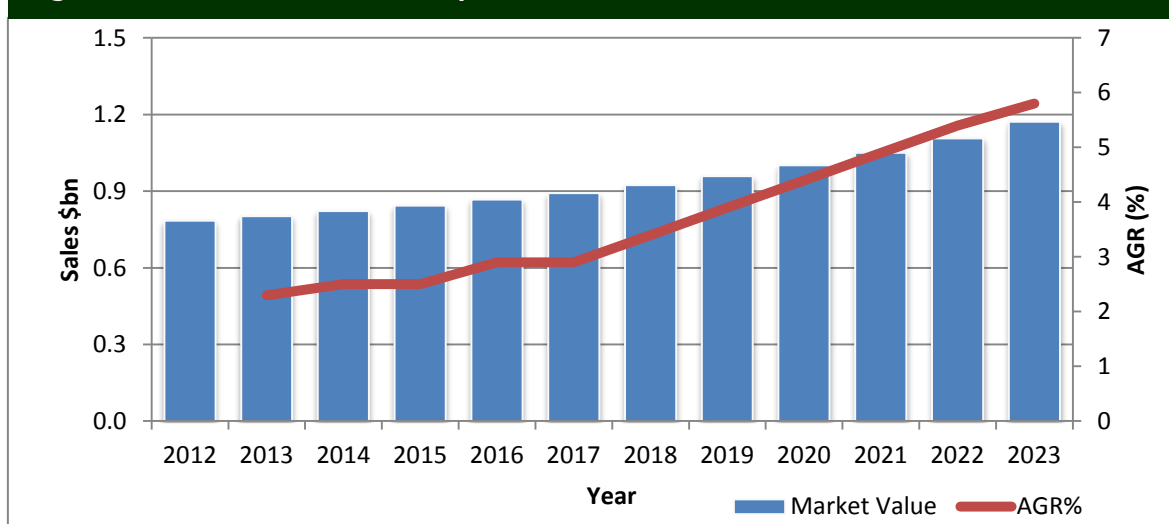
## 5.13 Canadian GFRP Composites Market Forecast 2013-2023

**Table 5.12 Canadian GFRP Composites Market Forecast 2013-2023 (\$bn, AGR %, CAGR% Cumulative)**

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2013-23	
Sales \$bn	0.78	0.80	0.82	0.84	0.87	0.90	0.93	0.97	1.01	1.05	1.11	1.16	10.46	
AGR (%)		2.3	2.5	2.5	2.9	3.3	3.8	3.9	4.0	4.8	5.0	4.9		
CAGR (%) 2013-18	3.0						2018-23	4.5						
CAGR (%) 2013-23	3.8													

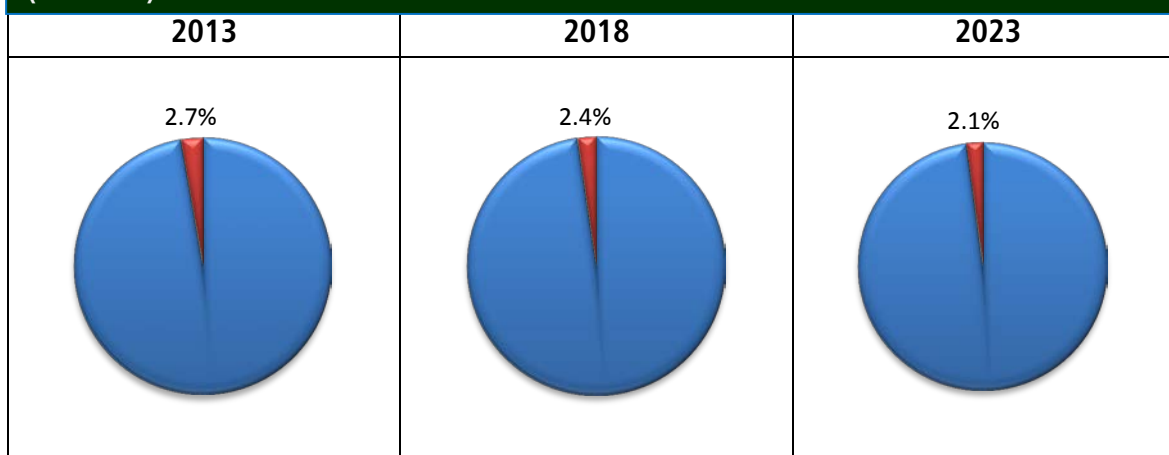
Source: *Visiongain 2013*

**Figure 5.26 Canadian GFRP Composites Market Forecast 2013-2023 (\$bn, AGR%)**



Source: *Visiongain 2013*

**Figure 5.27 Canadian GFRP Composites Market Share Forecast 2013, 2018 and 2023 (% Share)**



Source: *Visiongain 2013*

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## 7. Expert Opinion

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### 7.1 Dr. Hong Li, Scientist from PPG Industries' Fibre Glass Business

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PPG Industries' vision is to continue to be the world's leading coatings and speciality Products Company. The company's fibreglass business is a global manufacturer of reinforcement materials for thermoset and thermoplastic composite applications. It serves the transportation, energy, infrastructure and consumer markets, as well as the electronic circuit board and specialty yarn markets. Visiongain interviewed Dr. Hong Li and he and his team very kindly offered to share their thoughts and gave us a comprehensive and detailed insight into the glass fibre reinforced plastics (GFRP) composites market. We would like to thank him and the PPG Fiber Glass team for their contributions.

#### 7.1.1 What are the Key Trends in the global GFRP Composites Industry?

**Visiongain:** What would you say are the key trends and developments in the GFRP market and why?

**Dr. Hong Li:** One of the key trends for GFRP composites is to develop specialty high performance glass fibre products, which surpass existing products made from traditional E-Glass fibers. A review of recent patent literature focused on fibreglass composition suggests a shift in the research and development focus in the fibreglass industry. Recent development initiatives have focused on reinforcements and yarns with improved performance to meet the unmet needs of higher energy efficiency, lower energy production costs, and high-speed electronics.

In terms of the average GFRP consumption, the per capita consumption in the US is the highest, followed by Europe & Japan, and then China. The US and European countries are the leading regions for the research and development of high performance glass fibre products while developing countries are in the early stages of new product development. However, in the past 5 years, many leading fibre producers, including PPG, have established significant manufacturing footprints in China for producing not only E-Glass products, but are expected to produce high performance glass fibre products in a significant quantity in the near future, primarily covering the market segments mentioned above.

Regarding the sports & leisure applications of GFRP composite materials, there is a good potential for glass fibre material to grow further. For example, the cover of computers and laptops is usually

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## 8. Leading Companies in the GFRP Composites Market

Global glass fiber market is characterized by high degree of consolidation. Key players in this market include Owens Corning Inc., PPG Industries Inc., China Fiberglass Company Limited, Guardian Fiberglass Inc., Advanced Glassfiber Yarns LLC, Johns Manville Corporation, Nippon Sheet Glass Co., Ltd., Taishan Fiberglass Inc.

This chapter of the report details twelve leading companies in the GFRP composites market. The companies in most cases are multinational in nature, and have several business segments. An introduction to their operations and business structure is given, with information on the amount of employees, their headquarters, locations of operations and CEO also given. Basic financial information such as total revenues is also given when possible.

### 8.1 Advanced Glassfiber Yarns (AGY) LLC Overview

**Table 8.1 AGY Overview 2012 (Total Revenue, HQ, Ticker, Contact, Website)**

	<b>2012</b>
<b>Total company revenue \$bn</b>	\$190.9mn
<b>Headquarters</b>	2558 Wagener road 29802 Wilsonville, South Carolina United States
<b>Employees</b>	1148
<b>IR Contact</b>	803.643.1257
<b>Website</b>	<a href="http://www.agy.com">http://www.agy.com</a>

Source: *Visiongain 2013*

**Table 8.2 AGY Products / Services (Product, Specification)**

<b>Product</b>	<b>Specification</b>
E Glass products	E Glass yarn is a natural, lustrous, white, continuous filament yarn, which is evenly twisted on supply packages. The yarns are made of glass of high stability and durability and are, with the exception of sizing ingredients, inorganic, incombustible and will neither expand nor contract with moisture changes. The glass composition meets the certification for E glass as defined by ASTM's D578-00 Standards Specification for Glass Fiber Strands.
S-2 Glass® products	S-2 Glass® products are the ultimate in high strength glass fiber products that provide the highest level of performance available in all glass fibers. Produced with