

ASSIGNMENT 01

MODULE: BMSP7003D

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“I declare that this assignment is my own work and that all sources quoted have been acknowledged by appropriate references”.

ASSESSMENT OF THE CURRENT LEVEL OF SUSTAINABILITY WITHIN FORMULA ONE

Section A: Introduction

The first part of this assignment, Sections B and C, provides an introduction to Formula One or F1 as well as an overview of the present level of environmental sustainability within the prestigious and glamorous global motorsport known as Formula One or F1. With many challenges facing it, F1 is balancing the cost of doing business, responding to stakeholders' expectations and managing its carbon footprint against maintaining the business as a financially viable operation whilst delivering returns to its investors.

The second part of the assignment (Section D) deals with aspects of sustainability that are interrelated and/or cause conflict of interest within F1 or between F1 and its stakeholders including sponsors, host cities and racing teams.

Finally, the paper provides a comparison of the present levels of sustainability of F1 against Formula E (Section E), a premier motorsport championships which aims to use 100% renewable energy in the form of the battery-powered engines.

Section F provides a conclusion of this report.

Section B: Background to F1 motorsports

Bekker and Lotz (2009, p.952) and Ma (2023) summarise F1 as a fiercely competitive and glamorous racing sport with fans all over the world. It traces its roots to the European motor racing in 1947 and is governed by the Fédération Internationale de l'Automobile or FIA. F1's single-seater racing cars fast and technologically advanced under the control of the best drivers in the world. Each team is supported by a team of engineers, strategies, mechanisms, technicians and sporting professionals (nutritionists, physiotherapists and so on) in order to perform at maximum. A race event, known as grand prix, includes all event activities from Friday (three practice sessions plus a qualifying session) to Sun (the main race event) (source). The number of fans at each race event varies from 98 000 to 440 000 (Statista, 2022). As of 2017, F1 is owned by Liberty Media Corporation, a US-based media company (BBC, 2016).

In 2023, the F1 calendar featured a record-breaking twenty-four race events (Horton, 2022), up by three events from 2021. F1 is hosted in South and Northern Africa, Europe, Asia and Middle East.

Section C: Overview of F1's Sustainability Strategy and its current levels of implementation

Recognising the need for change, F1 launched its 2030 Net Zero Sustainability Strategy in order to transition both the company and the sport into a greener future. The intent of the strategy is to organise the whole of F1 (race teams, promoters, sponsors and race hosts) to decarbonise by 2030. It focuses on the following key operational areas -

- i. On the track or race venue
- ii. On the road, sea and air (transportation)
- iii. At the office

F1's strategy also aims to develop objective environmental offsets and carbon dioxide sequestration initiatives that will assist in offsetting its unavoidable emissions (F1, 2022).

The key goals of the strategy can be summarised as follows -

- i. To become net zero carbon by year 2030;
- ii. To develop a future engine powered by a sustainable-sourced fuel (introduce a sustainable fuel by 2026);
- iii. To achieve zero waste on and off the race track;
- iv. To minimise the carbon footprint of the F1 headquarter office;
- v. To leave a lasting positive environmental impact; and

vi. To reduce total emissions by 50% (F1, 2022)

When planning each race event, F1 engages with its promoters to develop an event-specific sustainability plan that looks at energy use, fan travel, waste and the impact on the local communities and their environment. The plan also establishes year-to-year targets (Smith, 2023). These are then tracked and the information is shared with the race promoters and its local partners.

Although emissions from F1 race cars is less than 1% of the total emissions, F1 hopes that the development a sustainable fuel will have a wider environmental benefit to the world's transport sector due to its 'drop-in' feature that the fuel to be used immediately on existing road cars (thus accelerating adoption and saving retrofitting costs). As of 2022, F1 engines are powered by E10 fuel, which comprises of 90% fossil fuel and 10% ethanol (F1, 2021).

When the strategy was developed, F1 also established the baseline carbon footprint through detailed analysis in order to get an understanding of the status quo and to get a sense of how big the challenge is (F1, 2019). For Scope 1, 2 and 3 emissions, the total estimated carbon footprint was 256,551 tonnes of carbon dioxide equivalent (CO₂E) in 2019 (refer to Table 1 below). The are emitters by F1 as a sports company, ten racing teams, twenty race cars and all twenty-three race events.

Key areas / functions of F1	% of estimated carbon footprint
Power unit emissions from racing cars	0,7%
Event-related operations (broadcasting, support races, paddock club, energy use, backup power (generator) and activities of race teams)	7,3%
Offices and facilities for F1 and race teams	19,3%
Business travel (air and land) by F1, teams and event partners plus accommodation	27,7%
Transport logistics (air, sea and land) to move F1 and team equipment from race to race	45,0%
	100%

Table 1: Breakdown of F1's estimated carbon footprint (F1, 2019)

From the above information, it is clear that the majority of F1's carbon footprint is related to business travel and transportation. Jennifer L (2023) observes that this carbon footprint profile is not dissimilar to other similar motorsports. For the year 2023, as Gpblog (2023)

observes, F1 and its stakeholders (promoters and race teams) would have clocked a massive 133,735 kilometers of race-related travel i.e. excluding the business and personal travel between races or duration the mandatory season break.

In comparison, the contribution by the actual cars on the race circuit is minimal. This is made possible by the newer hybrid, efficient engines that deliver the same high-speed performance through high thermal efficiency and the use of an energy recovery system that translates the waste heat from brakes into additional engine power (Jaques, 2016 and Butcher, 2022).

Since the launch of the sustainability strategy in 2019, F1 has taken many steps to make progress its sustainability goals (F1, 2019 and F1, 2022), namely:

- i. The reduction of the quantity of broadcast equipment as well as the number of personnel required on on-site events through the establishment of F1's remote broadcasting division. This has led to a 34% and 36% decrease in quantity of technical cargo and personnel required for each race event, respectively.
- ii. The migration to fuel-efficient cargo planes (with gains of 19% less carbon footprint per cargo plane).
- iii. The migration to 100% renewable energy for F1's main office, which are located in the United Kingdom.

- iv. The achievement the FIA's highest sustainability management award (3-Star accreditation).
- v. F1 engaged with its promoters on the reorganisation of the race calendar for future races with the intention to have a regional approach to the allocation of race events. This will in turn reducing the travel distances between the race venues without affecting the number of race events.
- vi. The achievement of the Albert Certification in 2021 and again in 2022 for the most sustainable broadcast in the UK for the broadcasting of the British F1 event. This award is industry-backed and is presented annually by the British Academy of Film and Television Arts.
- vii. When new race venues are considered, one of key criteria applied is the protection of biodiversity and the promotion of well-being for fans. Race venues are encouraged to offer healthy-eating food options.

During race events, all waste generated is re-used, recycled or composted. This includes the use of recyclable or compostable materials (F1, 2022).

For the year 2022, F1 specifically took the following actions towards their sustainability goals ((F1, 2022) -

- i. The launch of the 2030 Net Zero Campaign at the British race event through branding and communication (media and digital platforms);
- ii. Develop internal capacity and capability within the F1 company through the recruitment of its Head of Sustainability, Sustainability Coordinator, Diversity and Inclusion Business Partner;
- iii. Update internal policies and procedures that relate to sustainability e.g. Sustainability Policy, Code of Conduct and Procurement Guidelines;
- iv. Maintenance of the FIA 3-Star Environmental Accreditation. As of June 2023, the FIA publicly announced that all F1 race teams have achieved the FIA 3-Star accreditation (FIA, 2023a);
- v. Developed and released the first Environment, Social & Governance (ESG) briefing note, that spells out the “how” in finding solutions to address the challenge with transportation;
- vi. The ESG note also provides a progress update on the overall performance progress against the sustainability strategy;

- vii. Schedule and hold regular meetings with race teams to (a) share notes on broadcast briefing and race logistics, and (b) have a discussion on water and carbon management;
- viii. 80% of F1 promoters -
 - a. worked with host communities and charities to distribute surplus food donations
 - b. made progress to adopting refillable cups and water refill stations to reduce the need for single-use products.
- ix. 70% of F1 promoters introduced greener options for last-mile transport transport to race venues via shuttles and public transport;
 - a. Spectators are given incentives to make use of greener transportation options when travelling to the race venue e.g. by foot, bicycle or electric vehicles.
 - b. Some venues offer electric vehicle charging stations.
- x. More than half of F1 promoters switched to alternative, greener energy solutions such as solar panels, biofuels and eco-tariffs; and
- xi. Work towards FIA Environmental Accreditation by race promoters.

Section D: Challenges in the way of F1's journey to sustainability

In the opinion of Diya (2023), F1 faces a challenge of credibility due to its infamous history of over-the-top and flashy events with celebrities and load racing races with little disregard to the environment and carbon emissions. Because of this, F1 has received criticism from its own race drivers and climate activists.

Furthermore, F1 is faced with the striking a balance between financial performance and reducing its carbon footprint. The introduction of new race venues and therefore added to the race calendar is seen by others are undoing the gains of sustainability initiatives (Smith, 2023). To make matters worse, F1 is seen as not doing enough to move fast at grouping races by regions, a commitment it has made in 2022. However, there is an acknowledgment that changes will take time, in particular as big changes require the concurrence of race promoters. Without a race promoter to secure a venue, partner with local sponsors and sell tickets, F1 would not be able to bring an event for a race venue (NMA, 2021). It would seem that F1 is at the mercy of promoters.

As the debate of calendar rationalisation continues, Smith (2023) further points out that the weather also plays an important part in deciding the calendar. Both F1 and race promoters seek venues that offer suitable weather outside the extremes i.e. not too cold, not too hot or duration low rainfall season). Another factor to consider as pointed by

Gpblog (2023) is cultural and religious holidays. For example, take the month of Ramadan, which means that makes it unsuitable for F1 to run race events in Islamic countries. This in turn makes organising the F1 to select the shortest path over the season.

Another area is contestation between F1 and promoters is the hosting of the night races to avoid unsuitable, high temperatures during the day. The problem is, racing at night requires high energy for lighting (Holn, 2023). These venues include Singapore, Abu Dhabi, Bahrain, Qatar, Las Vegas and Saudi Arabia. There is some good news though. F1 reported that the Singaporean GP is an example is a night venue has made great strides to reducing its carbon footprint (F1, 2023b). These include -

- ✓ Overall, 85% of the energy supplied is carbon neutral
- ✓ B7 biodiesel is used to energy to 48% of the race track
- ✓ Replacing all existing track lights with energy-efficient LED lights (reducing the energy usage by about a third)

F1 hopes that the Singaporean GP will inspire the F1 community to step and do more to minimise their carbon footprints.

Section F: Comparison with similar premier motor sports

Introduced in 2014, the FIA-backed Formula E launched as a new generation of motorsport to lead the sustainability journey for motorsport (Carosella, 2023). To the casual spectator, both cars appear to be similar, however that is where the similarities end. All Formula E engines are originate from one manufacturer, which further reduces the environmental impact of the sport (Holm, 2022).

If one looks at the annual race calendar, Formula E has 33% less race events per annum, another plus for the environment in the long term (FIA, 2023b). All Formula E race events make are held on existing city streets (McLaren, 2023). The programme for the race week is compressed in a single day (practice, qualifying and main event), unlike F1's 3-day week programme.

Formula E was ranked by Global Sustainability Benchmark in Sports as the 2022 Best Total Performer (Formula E, 2022, p.8).

Section G: Conclusion

Like many organisations, it is not an easy task to transmission into a more sustainable future as this requires a change in direction. Whatever the challenge, the time is running out for F1 to adopt a greener and cleaner future by engaging its stakeholders and innovating in the space of sustainability.

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