How can the Lego Group adapt to a world more focused on environmental sustainability?

Introduction

Plastic, a material which revolutionised the world, has in recent years begun to cause much controversy due to the realisation of its considerably dangerous impact on the natural environment. For companies like the Lego Group whose whole business relies on the use of this material, finding an environmentally sustainable future is proving to be quite challenging. This project will cover the growing importance of environmental sustainability, Lego's use of ABS plastic in the past and finally what they are doing to adapt to the changing perception of plastic. It will be important to consider why they need to change, what has been done already, the goals for the future and whether any of this is manageable.

Defining environmental sustainability and understanding it's growing importance worldwide

In the Brundtland Report of 1987, sustainable development is defined as "the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987, p. 41). Using this idea, environmental sustainability could be described as an attempt to continue developing while having a lesser impact on the environment. It could also be maintaining the same level of development but adapting to make sure that whatever is done has less impact on the environment. This can directly apply to the Lego Group as the production and distribution of its products has led to negative consequences for the environment in the past.

The reason this concept has become so important in recent years is due to the growing awareness of the effect that human activity has on the world. Consumers are now beginning to demand more sustainably sourced goods and so companies need to adapt to this. One article has put a large part of this change down to 'The Attenborough Effect' (Martiniko, 2019). This is the idea that Attenborough's documentaries, having been viewed by large audiences all over the world especially the younger generation, has led to people demanding we consider the environment more in our everyday lives. By showing people the beauty of the world around them and then the damage that has been done because of them, it has made people reconsider how they should live their lives. This is an important reason for a more aware society and as consumers begin to seek out more sustainable options, the Lego Group and other companies will need to adapt this in order to continue to profit.

Another reason for the Lego Group wanting to be more environmentally sustainable is to keep up with its competitors. In the US roughly 90% of toys are made of plastic (Katanich, 2020). This is a shocking but not unexpected proportion of toys. Some start-up companies, such as BiOBUDDi and Green Toys, are beginning to gather large audiences as they offer more 'green' choices like being made from all recycled material or using alternatives that have a smaller effect. This is not as easy for companies who have already been running for a long time but in recent years, most have been trying to become more sustainable. At the New York Toy Fair this February, environmental sustainability was recognised as one of the biggest trends of the year (Katanich 2020). It is being driven by companies worldwide competing to sell to a world more focused on being green.

The importance of the Lego Group

Lego is handed down through the generations, loved by children and adults alike all over the world. It has gone from a tiny Danish producer to arguably the world's largest toy company ever. There are around 62 pieces for every single human, sets are officially sold in 130 countries and there are 19,000 employees worldwide (Smith, 2020). The Lego Group is best described as a 'superpower brand' dominating global toy markets and influencing companies and consumers.

This is demonstrated as Lego is currently ranked as the world's most reputable company in the RepTrak 100 (The Lego Group ranked as the world's most reputable company, 2020). Having featured in the top ten for the past ten years they have now overtaken the likes of Disney, Ferrari, Microsoft and many others. The ranking is based on several factors including product and service, innovation, performance and leadership. Reputation institute CEO, Kylie Wright-Ford, said that Lego "innovates with a proven commitment via educational programmes and sustainability through the reinvention of their products" (The Lego Group ranked as the world's most reputable company, 2020). Being rated number one for reputation provides you with confidence that the promises made on environmental sustainability will be carried out to the best possible standards.

The benefits and issues with ABS plastic

An important question to ask is why acrylonitrile butadiene styrene (ABS plastic) was used in the first place to produce Lego Bricks. The three monomers make up an amorphous polymer. Acrylonitrile provides chemical and thermal stability, butadiene adds toughness and strength, and styrene gives the plastic a glossy finish (Adreco plastics, 2018). This gives the plastic several key qualities that make it ideal for its purpose. It is relatively cheap at around 60 cents/kg allowing for a larger profit margin. Also, by having a low melting point it is easy to machine and injection mould into a variety of different shapes of brick (Creative Mechanisms, 2015). Finally, it is resistant to corrosive chemicals and general physical impact and is compatible with a large range of paint colours (Adreco plastics, 2018). Combined, these qualities make it an excellent material for creating the trademark Lego brick.

Additionally, because it is a thermoplastic it can be heated, cooled and then reheated several times with little effect (Creative Mechanisms, 2015). Crucially this means that it can be recycled and used again. In this way the Lego Group can use 99% of the plastic it purchases as most pieces that fail to pass tests are then reheated and remoulded. Out of 1 million pieces made roughly 18 fail to meet standards and cannot be reused and this plastic will then be sold on to other companies that do have a use for it (Wikipedia, last edited 2020). Therefore, no ABS plastic is put into waste during the production process which is sustainable as nothing is directly dumped into landfill that would cause pollution.

The real problem with ABS is its source, petroleum oil. It is not renewable and has a particularly harmful effect on the environment. Though none is wasted during the production process and a very small amount is thrown away, the dangerous oil-based source creates many problems. Petroleum oil causes huge amounts of pollution every year, contaminating water, air and soil. For this reason, it is necessary to research and develop an alternative to the current ABS plastic, as continued use will have an increasing effect on climate change worldwide. Even though it provides many benefits for the production of Lego bricks, making it seem the ideal material, it is not sustainable and has a lasting negative impact which needs to change.

Previous initiatives and future goals to become more environmentally sustainable

In the past few years, Lego has stepped up its attempts to be a more environmentally sustainable company and has set in place many new regulations as well as adapting how they work. To understand whether they are improving it is essential to analyse what has been done already and if it was successful or not. In doing this we can then see whether the plans for the future will firstly be a more sustainable option and secondly whether they are manageable. Their main aims are 100% sustainable packaging by 2025 and 100% sustainable materials by 2030. They also hope to have no waste to landfill by the end of 2020 and have introduced a scheme to recycle Lego bricks. They have not mentioned much about overall greenhouse gas emissions goals however they are adapting factories to include more renewable and green sources of energy.

In factories, some new schemes are being implemented. Small changes have been made throughout which in the future will make a long-lasting difference. In Mexico, all lighting is now LED saving 1,300 tonnes of carbon dioxide per year. Similarly, 3,500 new solar panels in the Czech Republic have saved 500 tonnes of carbon dioxide per year (Reducing our CO2 impact, 2020). The new campus in Billund is the most impressive in regard to its focus on sustainability. It utilises strong plasterboard in place of steel frames, has 4,000 solar panels being used to power 50% of the campus and sedum plant green roofs (The Lego Group opens new campus in Billund, Denmark, 2019). All these alternatives have a much smaller impact on the environment while keeping the facilities just as functional as before. While these all may be minor changes, if the Lego Group continues improving their facilities in this way, achieving the goals for environmental sustainability will become much easier.

Currently, 93% of all waste is recycled as it has been for the past four years (The Lego Group Sustainability Progress 2019, 2020, p. 14). Phasing out single-use plastics, e.g. cups, is one of the methods being used to make the 100% recycled waste by 2020 goal possible (Reducing our CO2 impact, 2020). This target feels realistic as there are some very clear strategies being put in place to reduce plastic and other non-recyclables. Another idea that is being trialled in America at the moment is Lego Replay. It offers the possibility of donating unwanted bricks, that may have been thrown away, back to Lego who then offer it up to NPOs who will distribute them to people in need of toys (Wharfe, C, 2019, p. 20). Not only does this mean Lego won't be wasted but it also benefits people who may not previously have been able to afford it to both enjoy and learn from this resource. For example, the set Dolphins Rescue Mission aimed at younger children acknowledges the idea of waste in the ocean and demonstrates its effect (Wharfe, C, 2019, p. 10). It's hard to evaluate how much of an effect this would have but it increases children's awareness of world issues and ideas of conservation which may be built on in the future.

Another area in need of sustainable development is the packaging. Most people don't keep the boxes and bags that their sets come in and so large amounts of this will end up in landfill. One way in which Lego is combatting this is removing all plastic bags from their stores in favour of paper ones. From the beginning of 2020, all new bags shipped to stores will be paper and any remaining plastic ones are being phased out (Single-use plastic retail bags to be phased out of Lego Stores in 2020, 2019). All of this is part of the attempt to have 100% sustainable packaging by 2025. They believe this is manageable as they have cut five years from this target, from 2030 to 2025. This goal means that all packing must be renewable, recyclable and still made to the same high standards expected by the customer. So far 75% of cardboard used is renewable and 90% of overall packaging is recyclable (Sustainable Packaging, 2020). Additionally, boxes have been made 14% smaller on

average allowing for more to be transported at one time. All these changes show that Lego is on its way to its goal. However, some things still haven't been addressed. Despite much searching, there is no mention of how they are planning to tackle the issues of plastic bags within Lego boxes. An alternative to this may be difficult to find as currently there are very few alternatives for keeping bricks safe and separated while within the box. This is concerning as it appears to be the only challenging area left that is not meeting the standards of the packaging milestone. However, with all the things that have been done so far, it would be fair to say that the Lego Group is likely to achieve 100% sustainable packaging by 2025.

Back in 2017, the Lego Group announced that they have reached their milestone of 100% renewable energy three years early (Wharfe, C, 2018, p. 10). Since 2012, they have been investing in several different sources of renewable energy across the world (The Lego group reaches 100% renewable energy target three years ahead of schedule, 2017) to offset the energy used in their factories. This does not mean they are 100% renewable at all as they still use large amounts of fossil fuels in their factories. Words have been slightly twisted here. This renewable energy isn't being used by the Lego Group itself but is simply funded by them. It does not affect the emissions being pumped out of Lego's factories. It seems as if a somewhat good deed investment has been twisted into a much bigger deal than it is, leading you to question whether some of these bold statements presented by Lego are reliable.

Finally, the biggest sustainability goal of the Lego Group is to have all materials sustainable by 2030. This means they must be from a renewable/recycled source but still be of the same quality that they were before and have a smaller impact on the environment (Sustainable materials, 2020). However, does having a more sustainable material really matter given the fact that only about 3% of pieces are thrown away (Replay, 2020). While this fact is important, making a sustainable brick isn't just about making it recyclable it also needs to come from a more responsible source and have less of an overall impact on the planet than ABS. There are many factors in making a more sustainable brick and for this reason, it must happen.

In 2018 Lego launched the 'plants from plants' project where they used sugar cane to produce the parts made of polyethene. This is only 2% of all the pieces produced overall. Sugarcane was chosen because it grows at the same rate as it is used by the Lego Group and does not compromise food security in the areas it is being taken from. This last point has been disputed by some people, suggesting that land that could have been used for agriculture in poorer nations but instead has been bought up by Lego to produce their bricks. Also, sugarcane is still being used to make polyethene so it will inevitably have the same effect on the environment. This is less of a problem however because as little as 3% of bricks are currently thrown away with the Replay scheme possibly reducing this (replay, 2020). Overall this is a small step towards better sustainability and is leading the way towards a more environmentally friendly brick. For the other 98% of bricks, the future is quite uncertain. The Lego Group have a research centre dedicated to finding an alternative to ABS. Currently, it looks unlikely they will find an alternative soon, but a scientific breakthrough could happen at any time or a better source could be discovered. However, with the number of resources being invested into achieving this the likelihood will become greater.

Conclusion

Whether they achieve these goals or not, the Lego Group is making a concerted effort to reduce their negative impacts on the planet. Through the removal of waste both in the factory and in

products, focusing the minds of the future generations, and switching to more renewable sources of energy, Lego is slowly ensuring a more sustainable future for the next generation. While there may be faster ways to fix these big environmental issues, this would not be financially viable, and it is right that time is put into the next steps and that a sustainable future is well planned. Without a doubt continuing these ambitious commitments will keep the support of consumers searching for a toy that meets their needs while also not compromising the safety of the natural environment. Marian Wright Edelman said that “if you don’t like the way the world is, you change it…one step at a time” which seems to speak exactly for the Lego Group’s approach to a more environmentally sustainable future.

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