

SIBLEY GROVE

Design Standards: A strategy for
meeting the design challenges of
the future.

Contents

3

What We Do & Why

3

Understanding Systems: Linear,
Recycling & Circular

5

Understanding Materials

7

Understanding Environmental Labels

9

Trends

10

Responsibilities Of The Designer

What We Do & Why

In its current form the design industry is inherently throwaway and wasteful. We strongly believe that designers need to rethink their role and be a vehicle for positive change, rather than perpetuating existing problems such as waste, exploited labour markets and pollution.

Society has a systemic problem – products and materials are consumed with limited knowledge of where they come from, who is making them and where they will end up when we've finished with them.

Over the past ten years, Sibley Grove has been working with suppliers, manufacturers, think tanks and forward-thinking clients to establish a strategy for meeting the design challenges of the future. Our design approach aims to achieve five key objectives:

- Reduce demand on our natural resources
- Reduce material going to landfill and incinerators
- Support positive labour markets
- Promote cleaner products and production
- Encourage and support the transition to a circular economy

These design guidelines set out practical measures that enable us to tackle some of the environmental, social and economic challenges that exist within the design industry.

Understanding Systems: Linear, Recycling & Circular

Our approach encourages systemic change within the design industry, moving away from an economy based on high volumes of waste. The current system of aggressive consumption relies upon a 'use & dispose' model, which is having a profound impact (environmentally & socially). This model of consumption inevitably leads to deforestation, loss of habitats, resource scarcity and pollution. Interior design is a significant contributor to this problem, as it relies on 'churn' i.e. replacing the old

with new. To help combat this, designers need to broaden their knowledge and understand the full extent of the industry's impact – both positive and negative. One solution is to support businesses in their transition from a linear system to a circular system.

Linear System

A linear system is our typical model of production and consumption, where materials are manufactured into goods, which are used/consumed and eventually discarded as waste in landfill or incinerators. This system produces high levels of waste, but it is also a significant contributor to resource depletion.

It is also worth noting that global production, based on a linear system, often relies on exploited labour markets and poorly regulated production to keep costs low. This can lead to human rights abuses, as well as reduced air quality and water pollution.

Recycling System

A recycling system is where materials are reused to make new materials or objects. While this is better than a linear system, it is not a viable long-term strategy for the following reasons:

- In many cases, materials are recycled in a way that prevents them from being reused a third time. Effectively, recycling is an elongated form of the linear system.
- Materials tend to degrade when they are recycled, reducing quality.
- Recycled material can have higher levels of toxicity than virgin material due to previous industrial processes.

The traditional approach to sustainability is to reduce consumption and to re-use (recycle). While this is helpful in the short term, it is not a credible long-term plan. In a linear system or a recycling system, we are continually creating large volumes of waste and the objective should be to reduce and eventually eliminate waste.

Circular System

In a circular system, we consider the entire lifecycle of a product, ensuring materials are used again and again or integrated back into the natural world through decomposition. Designing in a circular way reduces demand on resources, reduces landfill, and incentivises the production of clean, reusable materials. We no longer think of used products as waste or a burden on the environment, but material with many positive future uses.

While a linear system, and a recycling system both have a beginning and an end – converting material to waste. A circular system – or closed loop system – is intended

to mimic the cycles of nature so that material is processed, used and returned to the beginning of the system – eliminating waste.

Working with a circular approach brings the following benefits:

- **Less demand on our natural resources**
- **Reducing material in landfill and incinerators**
- **Supporting positive labour markets**
- **Cleaner products and production**

A circular approach requires collaboration along the supply chain; therefore, we aim to work with other companies who work in a similar way, including suppliers, manufacturers, contractors or consultants.

Understanding Materials

To design for a circular system, we need to categorise materials into four key groups: raw/virgin materials, technical materials, biological materials and hybrid materials.

Raw/virgin Material

These are new materials that are extracted, mined or harvested and used in their raw state or following minor processing. These can be non-renewables, such as crude oil, metals, minerals and stones, or renewables such as timber and natural fibres.

If virgin materials are overused or poorly managed, it can lead to resource depletion and a negative environmental impact. Virgin materials must be used sensibly and considerately, with a long-term perspective.

Virgin materials typically require significantly more energy to process than recycled material. For example, recycled aluminium uses approximately 5% of the energy needed to process raw aluminium (Bauxite).

Technical Material

Technical materials can be virgin materials or from recycled sources. They are usually complex materials, designed to have enhanced properties (e.g. plastics, metals, glass etc.) but they aren't necessarily compatible with the natural world. In a linear system, these materials end up in landfill and incinerators, or worse, the natural environment and oceans.

The perfect technical materials are those that can be re-used again and again in a

circular system. We work with companies who actively embrace the circular economy and work to keep technical materials in use.

Biological Material

Biological materials are usually raw materials that are grown, harvested, used and disposed of in a natural cycle. These materials are typically raw, or they have undergone minimal processing, e.g. timber, straw, natural fibres.

If managed and processed correctly they can become an abundant, renewable source of material. Biological materials should work in harmony with the natural environment (after use) and degrade into the soil, providing nutrition for new growth.

However, if they are poorly managed, they can have a catastrophic environmental impact. There are some key things to consider:

- **Not all natural/renewable materials have the same value.**
There is a difference between timber from a well-managed woodland and deforestation of ancient tropical forest. One has a higher ecological value than the other.
- **If grown intensively, plants can become monocultures that are disease-prone and lack resilience.**
- **Some crops are grown using large amounts of pesticides and herbicides to ensure high yielding crops. This can have a profound impact on neighbouring ecosystems.**

Hybrid Materials

These make up the vast majority of the materials that are used. Typically, they involve a combination of technical and biological materials to make products that are cheaper, more durable or more fashionable. They generally perform their function well, but ultimately, they can never be broken down and will end up in landfill or incinerators.

The challenge for designers is to try and avoid hybrid materials as they can't be used in a circular economy.

Understanding Environmental Labels

In recent years, products and services that promote a positive environmental and social message have grown significantly. However, in some cases, the labelling is unsubstantiated and misleading, and it is difficult for customers to validate whether claims are genuine or not.

From our point of view, products that claim to be sustainable, eco, green or environmentally friendly need further investigation to ensure claims can be measured and verified.

When specifying materials or products, there are some common pitfalls to avoid, for example:

- **A product that uses recycled content will often become a hybrid material, e.g. eco-decking made from recycled plastic and timber. This material can not be reused and will end up in landfill at the end of its useable life. When selecting a product or material, we must consider its entire life cycle, including disposal.**
- **Products or businesses that claim to be 100% sustainable are commonplace but incredibly misleading. Sustainability is not measurable, and so percentages cannot be applied in this way. Every action has a positive and negative impact. Our job as designers is to assess the social and environmental impacts which are measurable.**
- **A product that is marketed as sustainable or environmentally friendly is not necessarily good, only less bad. For example, a product may contain a toxic chemical, and an eco friendly version may contain a reduced amount. While this is an improvement, a better approach could be to use a completely different material. Where possible, we must use good quality materials that have a positive impact, not a 'less bad' one.**

To know if a product or service is suitable or appropriate, we need to look beyond the labels and consider the following:

Where is it made? Who makes it? How is it made? Can it be reused/upcycled? Is it a necessary product? What are the alternatives? Also, if a toxic chemical is removed from production, what replaces it?

This may seem like an arduous task, but effective solutions require a greater understanding of fewer suppliers, rather than a little understanding of many. This is fundamental to achieving positive and considered design outcomes.

We work with suppliers who have a holistic approach to manufacturing across everything they do. Businesses that value cost, quality, performance and aesthetics as well as the environmental and social impact.

Cradle to Cradle

We actively seek Cradle to Cradle products for our projects as they fit the model of a circular economy, promoting the use of clean biological materials and technical materials – fit for reuse.

The Cradle to Cradle Products Innovation Institute – a non-profit organisation – educates and empowers manufacturers of consumer products to become a positive force for society and the environment, helping to bring about a new industrial revolution.

The institute assesses products and materials through an independent organisation scoring them on material health, material reutilisation, renewable energy & carbon management, water stewardship, and social fairness. If the product can meet the standards of the institute, then it will be certified as one of five levels – basic, bronze, silver, gold or platinum.

Working towards a circular economy

In design terms, the most effective way to make a positive environmental and social impact is to adopt a two-pronged approach.

The long-term approach is to transition to a circular economy, working with systems such as Cradle to Cradle and businesses with a commitment to closed-loop design.

However, while a significant amount of development has happened in this area, we are not yet in a position to only use biological and technical materials, nor can we entirely avoid the linear system that underpins our current economic system.

In this instance, we must adopt a pragmatic short-term view in conjunction with long term thinking. In other words, where circular approaches are unavailable, work with the ‘least bad’ option available. For example, sheet materials such as plywood and OSB contain formaldehyde, but low formaldehyde versions are readily available.

Trends

Historically, interior spaces were defined by the ‘form follows function’ mantra. However, increasingly, the design industry has become trend led. We don’t follow trends. Instead, we take guidance and inspiration for interiors spaces from the architecture, the history of the building and it’s cultural setting – both past and present. By using this approach, as well as using materials from environmental and ethical sources, we can create spaces that remain relevant for years to come.

Whilst following trends can lead to brief financial gains and popularity for a business, they are by their very nature short term. We don’t follow trends for the following reasons:

- **Aesthetic obsolescence. While many are familiar with the concept of built-in obsolescence – in terms of product failure – few consider the fact that trends fade, rendering perfectly useable products and materials obsolete.**
- **We throw away far too much material every time we re-invent spaces. Designers need to create spaces of lasting quality and relevance.**

Responsibilities Of The Designer

We consider it our professional responsibility to create spaces that leave a positive environmental and social footprint. Below is a ten-point action plan to help achieve this.

1

Strive to work in a way that supports a circular economy by working with suppliers and manufacturers who share this approach. By promoting positive business practices, we can accelerate the transition to a circular economy.

2

Create designs that set out to reduce/eliminate landfill.

3

Use cleaner materials in our homes and public spaces.

4

Aim to work with materials that don't deplete our resource base.

5

Work with suppliers and manufacturers that don't rely on exploited labour markets.

6

Ensure our supply chains are traceable and credible.

7

Try to avoid hybrid materials and work with biological and technical materials.

8

Design with disassembly in mind, ensuring our work does not prohibit materials from having future uses.

9

Remain open and adaptable to new methods and ideas.

10

Always seek to improve on what we've previously delivered.