



C2C CERTIFIED™ “HOW-TO” GUIDE

Further Resources

Business Case



BUSINESS CASE

1. INTRODUCTION

In general, a Cradle to Cradle (C2C) Certified TM garment has a cost structure similar to any comparable garment. There are some specific requirements, however, that involve either upfront investments or higher product costs. This chapter discusses both aspects in detail.

2. UPFRONT INVESTMENTS

Upfront investments relate to different groups of costs:

- **Preparing the assessment package** and submitting it to the C2C Products Innovation Institute. Those costs will occur for every new Bill of Materials (BoM).
- **The targeted level of C2C certification.** For example, meeting the criteria of PLATINUM level will require greater investment than meeting the criteria of SILVER level.
- **The status quo of the production process.** For example, if a factory currently applies no water-treatment procedures at all, the investment needed for achieving C2C Certified GOLD or PLATINUM level might well be quite significant. In contrast, if a factory already has a zero-discharge system in place, the additional investment required is zero.

A. General project & certification cost

Below are the estimated general project costs, covering the assessment and the certification:

- \$40,000 for the C2C assessor to prepare the assessment report and give optimisation recommendations
- \$5,000 for submission of the application to, and its processing by, the C2C Products Innovation Institute

A C2C certification project will require an internal champion and time from internal team members. These costs should also be considered.

B. Material Health

The investments for Material Health are related mainly to the optimisation of the Bill of Materials (BoM). No major investment is involved. However, if the aim is to secure C2C certification at GOLD or PLATINUM level, testing for volatile organic compounds (VOCs) is required, which involves a modest one-time layout.

- \$1,600 for VOC testing (required for GOLD and PLATINUM levels)

¹Cradle to Cradle CertifiedTM is a certification mark licensed by the Cradle to Cradle Products Innovation Institute

BUSINESS CASE

C. Material Reutilisation

Material Reutilisation implies no major upfront investments, unless composting is the preferred route for reutilisation. In this case, a composting test is necessary.

- \$5,000 for composting testing (required only if composting is the chosen method of reutilisation)

D. Renewable Energy and Carbon Management

For Renewable Energy and Carbon Management, the upfront investment should be minimal. The only likely investment would be to enable the measuring of energy consumption by installing energy meters in the factory. Such an investment should achieve prompt payback, because of the energy optimisation that would result. A longer-term investment would be to install on-site renewable energy. For further details, refer to the chapter on Renewable Energy and Carbon Management.

All other C2C Certified criteria can be met by purchasing the appropriate certificates (renewable energy and carbon offsetting certificates). Since these costs are variable in nature, they can be classified as product costs (see the section on Product Cost below).

E. Water Stewardship

To reach higher certification levels in Water Stewardship, additional investment may or may not be needed depending on the company's existing water-treatment infrastructure. If the factory already has a well-functioning zero-discharge system, no additional investments are required. At the opposite extreme, if it has no system of water treatment, the investment cost will be considerable. Given the wide range of scenarios, relevant cost estimates cannot be provided.

F. Social

Fairness

For Social Fairness, any investment costs will depend on the company's existing practices and on the targeted C2C certification level. If the target is PLATINUM level, a third-party Social Fairness audit and certification (e.g., SA8000) is required.

- \$5,000 for application for and acquisition of the SA8000 certificate

3. CHANGES IN PRODUCT COSTS

In addition to the investments outlined above, there will be changes in product costs (or variable costs), namely labour, product materials and process materials.

BUSINESS CASE

A. Material Health

To reach higher levels of Material Health certification, a number of raw materials may have to change. Common material changes are substituting better cotton to organic cotton and using C2C Certified dyes, as shown in the showcase example below.

SHOWCASE: COST IMPACT FOR GARMENTS AT PRATIBHA SYNTAX

Pratibha Syntax

For Pratibha Syntax, the main additional product costs in Material Health came from a switch from Better Cotton Initiative (BCI) cotton to C2C approved organic cotton, from standard dyes to C2C approved dyes, and from conventional cotton thread to C2C Certified Tencel thread:

Impact on cost ...	due to change from ...	to ...
+\$0.04 per garment	Better Cotton Initiative (BCI) cotton	Certified organic cotton
+\$0.15 per garment	Standard dyes	C2C Certified dyes
+\$0.07 per garment	Conventional cotton thread	C2C Certified Tencel thread
+\$0.26 per garment	Total	

B. Material Reutilisation

For Material Reutilisation, there are no expected additional product costs for the manufacturer. The only product costs that might arise are related to take-back systems for the garments. These costs would be borne by the retailer of the C2C Certified garments.

C. Renewable Energy and Carbon Management

In regards to Renewable Energy and Carbon Management, the cost impact will depend on three variables:

- the amount of energy already being derived from renewable sources
- the level of on-site emissions
- the desired certification level

BUSINESS CASE

For instance, for a PLATINUM level of C2C certification, 100% of the direct on-site energy must come from renewable sources and 100% of the direct on-site emissions must be renewable or offset. In addition, 5% of the “embodied” emissions – those related to earlier stages in the supply chain – are calculated and must be offset. For C2C Certified GOLD level, the requirement is 50% in each case.

These additional costs will most likely be reflected in the garment’s cost breakdown, and would be passed on to the retailer and hence the end customer. The examples below illustrate the cost impact when our two showcase manufacturers, in pursuit of C2C Certified at the GOLD level, purchase additional RECs and carbon offsets.

SHOWCASE: COST IMPACT OF ENERGY REQUIREMENTS FOR GARMENTS FROM COTTON BLOSSOM AND PRATIBHA SYNTAX

For both manufacturers, the aim was to achieve GOLD level in Renewable Energy. That meant ensuring at least 50% renewable energy and offsetting at least 50% of the emissions. Note that the numbers here depend on the actual energy consumption per garment, and thus differ from factory to factory (and from garment to garment):

Cotton Blossom

+ \$0.0195 per garment	Purchase of additional RECs
+ \$0.0013 per garment	Purchase of additional carbon-offsetting certificates
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+ \$0.0208 per garment	Total

Pratibha Syntex

+ \$0.0035 per garment	Purchase of additional RECs
+ \$0.0001 per garment	Purchase of additional carbon-offsetting certificates
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+ \$0.0036 per garment	Total

D. Water Stewardship

As mentioned above, Water Stewardship depends on the factory’s existing water-treatment infrastructure. If a manufacturer has already established a zero-discharge water system, there are no further adjustments or improvements required.

BUSINESS CASE

E. Social Fairness

For Social Fairness, the main impact would come from a change to the wages structure to meet living wage. However, assuming that the current wage rate is satisfactory, there would be no impact on the direct labour aspect of the garment's product cost.

SHOWCASE: BUSINESS CASE FOR A TYPICAL APPAREL MANUFACTURER UPGRADING TO C2C CERTIFIED GOLD

Set-up of the business case

This business case is written from the perspective of a hypothetical garment manufacturer that is approached by a brand to produce C2C Certified T-shirts. Specifically, the brand wants to know if the garment manufacturer is able to produce C2C Certified GOLD T-shirts. The hypothetical garment manufacturer has not produced any C2C Certified garments before and thus needs to evaluate if producing C2C Certified GOLD T-shirts would be profitable or not.

Starting to produce C2C Certified GOLD T-shirts requires certain upfront investments – depending on the specific situation of the apparel manufacturer – and leads to increased product costs compared to producing conventional T-shirts. For the increased product costs, we assume that they can be passed on to the brand by increasing the “Free on Board” (FOB) price accordingly.

Upfront investments (one-time costs, independent of production quantity):

A. General project & certification cost

- \$40,000 for C2C assessor
- \$5,000 for C2C certification

\$45,000 Total

B. Material Health

- \$1,600 for VOC testing

\$1,600 Total

In this case, we assume no upfront investments are required for Material Reutilisation, Renewable Energy, Water Stewardship, or Social Fairness. Therefore:

Total upfront investment:

\$46,600 Total

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Product costs (costs per unit of production)

The product costs are composed of material costs, labor and overhead costs, as well as additional costs that arise to fulfill the C2C Certified GOLD requirements (e.g., purchasing RECs and carbon offsets).

These product costs are likely higher than they are for a conventional T-shirt. This can be illustrated with the changes in material costs and the additional costs for purchasing RECs and carbon offsets for a C2C Certified GOLD T-shirt compared to a “conventional” T-shirt:

Material Health (based on Pratibha Syntex’s switch to C2C GOLD garment)

• \$0.04 per garment	from BCI* cotton to C2C Certified organic cotton
• \$0.15 per garment	from standard dyes to C2C Certified dyes
• \$0.07 per garment	from conventional cotton thread to C2C Certified Tencel
\$0.26 per garment	Total

Renewable Energy (based on Pratibha Syntex’s purchase of RECs and carbon-offsets)

• \$0.0035 per garment	for purchase of additional RECs
• \$0.0001 per garment	for purchase of additional carbon-offsetting certificates
\$0.0036 per garment	Total

It is important to note the ultimate product costs of a C2C Certified GOLD T-shirt depend entirely on the specific situation of the garment manufacturer.

For the remainder of the business case, we assume the following figures for the C2C Certified GOLD T-shirt:

- product costs of \$4.09 per garment
- a FOB of \$4.50 per garment (based on a margin of 10 percent (or \$0.41) on the product costs)

Based on these figures, one can calculate how many C2C Certified GOLD T-shirts the manufacturer must sell to amortise the upfront investment of \$46,600 and break-even with a margin of \$0.41 per T-shirt:

Required T-shirts to be sold to break even = $\$46,600 / \$0.41 = 113,700$ T-shirts

* BCI: Better Cotton Initiative

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BUSINESS CASE

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This is not an unlikely scenario: 1) As outlined in the previous chapters, more brands want to offer products with credible sustainability certifications, such as that provided by the C2C Certified Products Program; and 2) Few apparel manufacturers are currently offering C2C Certified products. Therefore, those that do so are likely to face higher demand for their products.

Moreover, brands interested in C2C Certified products are likely to share in the upfront investments, at least in the early stages. One way this could work is through amortisation up-charges on the FOB. This would help the manufacturer break-even more quickly as shown in below matrix.

The matrix outlines the profits for producing different volumes of the C2C Certified GOLD T-shirt at different levels of amortisation up-charge (in % on the initial \$4.50 FOB):

$$\text{Revenue} = \text{Number of C2C Certified T-shirts sold} \times (\text{FOB} \times (1 + \text{Amortisation up-charge (in \%)}))$$

$$\text{Cost} = (\text{Number of C2C Certified T-shirts sold} \times \text{Product costs}) + \text{Upfront investment}$$

$$\text{Profit} = \text{Revenue} - \text{Costs}$$

Profit by number of C2C Certified T-shirts sold and amortisation up-charge

		Amortisation up-charge on FOB (in %)				
		0%	1%	2%	3%	4%
Number of C2C Certified T-shirts sold	20,000	\$-38,400	\$-37,500	\$-36,600	\$-35,700	\$-34,800
	40,000	\$-30,200	\$-28,400	\$-26,000	\$-24,800	\$-23,000
	60,000	\$-22,000	\$-19,300	\$-16,600	\$-13,900	\$-11,200
	80,000	\$-13,800	\$-10,200	\$-6,600	\$-3,000	\$600
	100,000	\$-5,600	\$-1,100	\$3,400	\$7,900	\$12,400
	120,000	\$2,600	\$8,000	\$13,400	\$18,800	\$24,200
	140,000	\$10,800	\$17,100	\$23,400	\$29,700	\$36,000

Example: Assume that the brand agrees to an amortisation up-charge of two percent to support the initial investment cost, resulting in an FOB of \$4.59 instead of \$4.50. In that case, the garment manufacturer would make a profit of \$3,400 by selling 100,000 units of C2C GOLD Certified T-shirts.