



# Quick Win Guide for electronics products (v14)

Reducing energy is important because energy is going to get more expensive, every year for the next 50 years and beyond. If your competitors are way ahead of you on the value they deliver compared to the energy they use, your business may struggle to remain competitive.

Reducing the whole-life energy impacts of a product almost always aligns with reducing the depletion of scarce resources and toxicity impacts.

This section assumes the reader wants to:

- Find a quick win for an electronics product that increases profitability, improves the customer experience and also reduces energy / carbon footprint.
- Use the outcome of a 'quick win' to start the ball rolling for wider adoption of Designing Our Tomorrow within the business.

For convenience, the contents of the Quick Win Guide are shown below as a series of images. Clicking on any of these images will download the corresponding PDF file.

### Further reading

If you are looking to start a concept design process from scratch, please see the introduction to concept design described within [DOT in a nut shell](#). Before completing this Quick Win Guide, it is recommended that you try the [Energy quiz](#) to learn 'what matters' for energy impacts. If you would like to find out about Quick Win Guides for other product categories, please contact [edc-toolkit@eng.cam.ac.uk](mailto:edc-toolkit@eng.cam.ac.uk)



# 1. Understand the user journey

## Consider set-up ...



**Note:** Understanding the actions that a user performs with the product is critical to spotting an opportunity to reduce the energy/carbon footprint, as well as improving the customer experience and increasing profitability.



**Question 1.1:** What causes consumer product returns?

**Prompts:** Unsuccessful installation, no-fault found returns, technical performance, user doesn't like it.

## Consider end-of-life ...



**Note:** Throwing waste electricals into the household waste bin is the most convenient and lowest cost option for the user, and that person is unlikely to experience the subsequent toxicity problems.



**Question 1.2:** What key factors cause the product to reach the end of its life?

**Prompts:** Obsolete technology, looks 'dated', poor battery life, insufficient performance, fault or damage, function no longer required.



## 2. Stimulate ideas

### Consider delivery ...



**Note:** The energy required to move a car a few miles is more than the energy required to send a 1kg product around the world in ships and lorries, because the energy-efficiency of freight transport is so much higher.



**Question 2.2:** How can vehicle trips to deliver or collect consumer products be reduced?

### Consider set-up ...



**Note:** Many consumer electronics products have returns rates around 10%, most of which are 'No Fault Found'.



**Question 2.1:** How can the number of consumer product returns be reduced?

**Prompts:** See Question 1.1



## 2. Stimulate ideas

### Consider in-use ...



**Note:** Printed Circuit Boards are energy intensive to produce, and problematic to dispose of. Extending the useful life of the product makes better use of this energy, and reduces waste impacts.



**Question 2.2:** How can the useful lifetime of the product be extended?

**Prompts:** Product into service, modular upgrade, more robust product, also see Question 1.2



**Question 2.3:** How can extending the useful-life be used to gain additional revenue?

**Prompts:** Sale of services, consumables, batteries, upgrades



### 3. Develop concepts



**Action:** Consider the end-to-end implications of implementing the different ideas. Identify those that are within your ability to influence, with low technical risk, and obvious benefit for users, the business and the planet.




**Describe and sketch a concept proposal that embodies the most promising idea(s)**

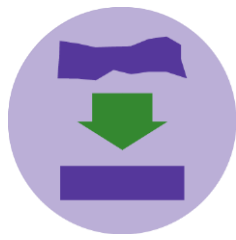


## 4. Evaluate your concept



**Action:** Consider the whole life of the product, which includes development, manufacture, distribution, sale, use, and disposal/recycling. Write down your 'best guess' evaluations from each of the following perspectives.

 <p><b>User Benefit</b> <b>(Chief Marketing Officer)</b></p>	<p>The most significant advantages are:</p> <p>The most significant problems are:</p> <p>The most significant unknowns are:</p>
 <p><b>Business Benefit</b> <b>(Chief Financial Officer)</b></p>	<p>The most significant advantages are:</p> <p>The most significant problems are:</p> <p>The most significant unknowns are:</p>
 <p><b>Planet Benefit</b> <b>(Chief Sustainability Officer)</b></p>	<p>The most significant advantages are:</p> <p>The most significant problems are:</p> <p>The most significant unknowns are:</p>



## 5. Refine



**Action:** Having thought through the issues, use your evaluation to improve your initial concept or generate another one.



## 6. Present evidence



**Action:** Prepare an outline 'case' for your concept that highlights:

- Why it is better for customers AND better for profitability AND reduces energy / carbon footprint?
- Who needs to be convinced in order to make it happen, and how are their priorities addressed?
- What specific actions need doing by when to make it happen?
- How can the 'gist' of the concept be captured within the design specification, or Product Requirements Document?
- What are the main areas of uncertainty?
- What are the barriers to implementing any of the above changes, and how can a quick win be achieved in the context of these barriers?

### Next steps ...

The quick win guide focuses on rapidly finding a new idea that is beneficial in terms of improving profitability and customer experience, whilst reducing energy/carbon. The focus is on identifying relatively low-risk, quick-win opportunities, which means that the benefits are likely to be worthwhile, but probably not game-changing. Having used this guide to gain some momentum and demonstrate a beneficial outcome, the next step is to use the rest of the DOT website to plan a more substantial set of activities that will make a really big difference.