Welcome to the Eco Designer game!

Introduction

Waste and pollution are largely the result of how we design things. We need to change the way we think to be able to create a new system that can meet our needs within the limits of the planet. Knowledge about eco-design has become a valuable and necessary asset to support change towards a sustainable future.

Eco Designer is an engaging game experience merging elements of digital (app) and physical (print out) games. It is a tool not just to learn about eco-design, but also to create an experience of the numerous factors influencing product design decisions.

The game is designed to create a group learning experience both for university students, who will create our planet's future, and for companies struggling to change their way of thinking or operating.

Through the game, the participants playfully gain knowledge about the principles of eco-design from a company perspective, where every decision counts.

Target group	University students and companies
Learning objectives	Create awareness about eco-friendly product design Learn about eco-design principles and methods Experience the complexity of product design decisions from a company perspective
Players	+2 groups (2-6 players/group)
Duration	2 -2.5 hour

THE GAME

Eco Designer can be played by 2-6 groups (2-6 persons per group) and a facilitator is needed to guide the players. The facilitator's role is to prepare the game elements, explain the rules, inspire the innovation group work and ensure the timeline is followed.

Facilitator prepares the game (30 minutes)	Introduction and preparation (15 minutes)	Gameplay (90 minutes)	Pitch (10 minutes per group)	Reflection (20 minutes)
Reading and understanding the game Prepare elements: Download, print, cut	Introduction to eco-design Game elements and preparations Game rules	The game lasts six rounds. Each round: Companies earn resources based on market share. Spend resources on R&D, materials or action cards. Describe their company's storyline. Results change the market shares.	All groups present their storyline Groups evaluate each other based on given criteria. The winner is announced, based on how eco-friendly their product became and the results of their presentation.	The groups are dissolved and everybody reflects on what they have learned through the game.

Game elements
- The game sheets and cards have to be printed before the game.
- The Eco Designer Companion app is connected to the game and helps the players review alternative solutions. Every group should have access to the app.
- The slides to be used by the facilitator, guiding the players through the game step by step. These slides are also available in the app (in a "censored" version that doesn't spoil Year Events), so the players can refer to them at any time.

PREPARE THE GAME
(30 minutes)

The elements of the game have to be downloaded, printed and cut. You will also need some equipment in order to play the game. The facilitator has to prepare the game.

1. **Go to** https://w4t.seriousgames.net/ecodesign
   - Download:
     - Game elements for players and for the facilitator
     - Eco Designer Game Guide (this document)
     - Eco Designer Companion app
     - Facilitator slides

2. Prepare the physical elements.
   - Print the game elements for players and for the facilitator
     - Life Cycle Overview (1 page per group) *(player)*
     - Company Scoreboard (1 page per group) *(player)*
     - Pitch Storyline (2 pages per group) *(player)*
     - Quick Reference Card (½ page per group) *(player)*
     - Pitch Evaluation Card (½ page per group) *(player)*
     - Cards *(facilitator)*
   - Needed equipment:
     - Tablet, computer or phone with internet connection (1 per group)
     - 4 dice per group, or participants can use a dice app (for example: Dice from the App Store)
     - Pencil and eraser (1 per group)
     - Small objects to be used as tokens on the Company Scoreboard (3 per group)
     - A projector or screen to show the facilitator slides during the game

3. Prepare yourself as a facilitator
   - Understand the game before you present it to the players
   - Read through the slides and the game elements
   - Check out the Eco Designer Companion app
   - You can make the game more relevant and interesting by
     - Preparing good examples of eco-friendly products or processes.
     - Challenging players with interesting questions.
     - Inspiring players to be creative and think outside the box.

PLAY THE GAME

The slides guide you and the players through the whole game process step by step. We made sure that you get all the needed information at the right time. This is a short description of the game process:

1. Introduction and preparation for the game.
   The facilitator introduces the players to eco-design and the main goal of the game. The players form groups and get all necessary print-outs. Each group is a company with their own product, resources and development levels, competing with the other groups.

   Game narrative
   Imagine that your company has the task to reduce the environmental impact of its product while being in hard competition with other companies. Your task is to make your product as eco-friendly as possible while considering changes in legislation, market variables and customer preferences.

   You have to minimize the environmental impact of your product, make decisions, optimize, compete with other companies and satisfy your board of directors by giving a plausible explanation about the events of the game.

2. The companies get to know their product's CO_2 footprint based on the Life Cycle Overview that lists the environmental impacts in the life cycle stages. Each year, the companies can take actions to improve their products' environmental impacts by investing in research & development or changing the materials used for manufacturing. The Eco Designer Companion app helps them to see the properties and prices of the alternative materials.

3. The companies are operating in a context, therefore it is crucial that they are considering other factors besides environmental issues. They are in competition with other companies and different cards allow them get a certain advantage or to hinder other groups. Furthermore, there is an unexpected event at the end of each year which triggers changes on the market and forces companies to act on them.

4. After 6 years (6 rounds) of hard work, it is time for evaluation. The board of directors, played by the other groups, are ready to hear the companies' story. Each group has to create a plausible explanation of how and why things happened in a certain way, convincing the board of directors that they did their

best under the specific circumstances. The company that managed to reduce their product's CO_2 footprint the most, ended up with the most resources, and made the best presentation wins the game.

5. Finally the players all reflect on what they have learned through the game, which reinforces their learning experience.

ECO DESIGNER is part of the European Union's WASTE4Think project.

Waste4Think project's main objective is to lay the foundations of the circular economy through a series of different initiatives, which include tools for waste management as well as empowering and engaging citizens by creating awareness, motivating and educating them.

Serious Games Interactive's contribution is a unique package of engaging educational games that are taylormade for different groups in order to support behavioral change and social awareness.

Eco Designer is a significant element of this game package addressing university students and companies' need to better understand the complexity of eco-friendly product design.

Why games?
The answer is easy, because they are effective, engaging and entertaining not only for kids, but for adults as well. Serious Games Interactive has many years experience in creating digital learning experiences in order to make the learning process effortless and fun.