



D4.7: Implementation of R10 Eco-Design Game

WP4

Serious Games Interactive

Type of document: Other

Dissemination level: PP

Reviewers: ARS, Softline, Seveso

Version	Date	Description of main changes	Author
1	28/11/2018		Susanne Husted (SGI)
2	14/12/2018	Added note about additional scenarios	Susanne Husted (SGI)

Table of contents:

Executive summary	2
Annex A: Facilitator document	4
Annex B: Scenario diaper	5
Comments from external reviewers 1	6
Comments from external reviewers 2	7
Comments from external reviewers 3	8

Executive summary

This delivery contains the following:

- A published version of the game Eco Designer, available as print-outs and a [companion app on Google Play](#).
- A Facilitator Guide explaining how the game is played and how it should be facilitated. See Annex A.
- A Scenario document containing all the print-outs and a Student Guide. See Annex B.

Short introduction to the game

Make product and service designs more eco friendly by exploring how they work, how they're used and what they're made of, in a blended game experience against your classmates! Create alternative concepts by exploring work packages with the right tools, the info and the power to steal, discuss and compare your way to the best concept.

Eco Designer aims to educate bachelor students on the ecodesign thinking and how to use tools such as the product life cycle and stakeholder network to create better and more eco-friendly products and services.

In the game, the players take on the role as an Eco Design Agency and take part in a big competition against other agencies to create a more eco-friendly version of an existing product. Through investing in different work packages, the players get the info they need and the right tools to create the best concept and win the game.

Features

- Print-and-play board game that only requires tape and a pair of scissors
- Currently 1 playable scenario, with the possibility of adding more in the future (not part of the scope of the Waste4Think project)
- 12 work packages with tools, info and agency cards
- Access to the Eco Designer companion app that gives the players the possibility to explore alternative materials and see their effects
- Currently available in English



APPENDIXES OF
D4.7: Implementation of R10 Eco-Design Game
WP4
Serious Games Interactive
 Type of document: Other
 Dissemination level: PP
 Reviewers: ARS, Softline, Seveso

Version	Date	Description of main changes	Author
1	28/11/2018		Susanne Husted (SGI)
2	14/12/2018	Added note about additional scenarios	Susanne Husted (SGI)



Annex A: Facilitator document



FACILITATOR GUIDE

ABOUT THE GAME

Welcome

Welcome to the eco-design game! If you're reading this, you're the lucky person who got to be facilitator.

The players will play most of the game by exploring the products lifecycle before actually making a new design concept, and therefore a lot of the game will be about gathering info and understanding it. In the last phase of the game you will use the info you gathered to create alternative concepts.

The game will teach players how to use eco-design thinking when designing and creating products, but also show how it can help them create better concepts.

For all the newest information, data and scenarios, go to <https://w4t.seriousgames.net/ecodesign/>.

What is your role in making this a successful experience?

This guide helps you, the facilitator, how to use the game, what to prepare, but most importantly: How to make the game work in the context you find important!

As facilitator, you will prepare what scenario players will play, facilitate the work packages & help out if groups get stuck.

SCENARIOS

What is a scenario?

Each scenario you can play is based around a pre-existing product that needs to be re-designed to be more eco-friendly.

For each scenario there are work packages that players gather by ordering them and spending “time”. Each work package offers either info, tools or nothing, and players need to be selective about where they will focus on getting the info they need for the concept phase.

It’s a good idea that you look through the different cases and find the scenario that suits your needs for the play-session. The scenario will also tell you how many components need to be cut out and how long it will take to prepare.

When you have found the scenario you want to play, simply print the sheets and cut them out using the guides.

HOW TO PREPARE

Using the right materials

Before you proceed with preparing the game it's important that you use the right materials to create the physical components.

For all the components we recommend that you use recycled paper to keep up with the eco-friendly theme of the game.

What do you need to play the game?

To play the game, players need an iPad or PC and access/download the Eco-modifier app. Have one for each of the groups that will be playing.

Before you can begin, you will need to download the scenario you will play on the <http://www.serious-games.net/> webpage.

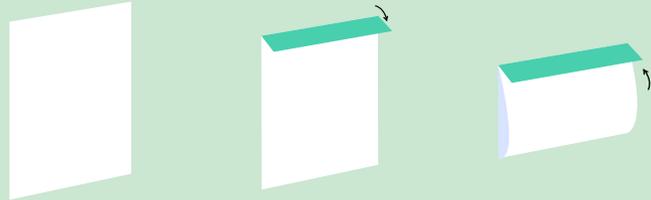
A single scenario has the components you need for one group of 4-5 players, so print as many copies as there are groups playing, cut the pieces out and put them into the work package envelopes. If in doubt, all elements that belong together are numbered with the same ID, and there is a guide on how to cut out and assemble the pieces you're going to use..

HOW TO PREPARE THE PIECES

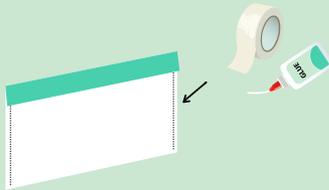
① Cut the pieces



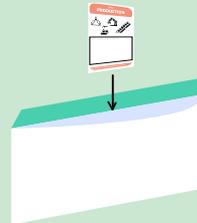
② Fold envelopes



③ Glue/tape the sides



④ Put content into the envelope



THE PHASES

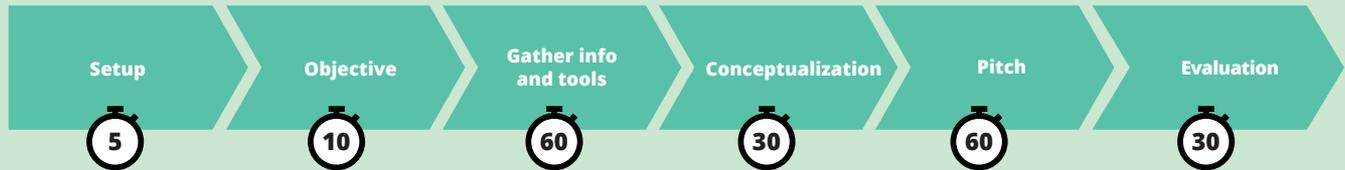
Phases

The eco-design game has emphasis on players gathering as much info about the product they're re-designing such as the product life-cycle and environmental impacts, tools to help them understand the info they gather and how to use it to design more eco-friendly products/services.

The game takes about 195 minutes with intro and evaluation pre and post game.

During gameplay the players are able to go from the gather info and tools phase to the conceptualization phase before the 60 minute mark, so player choice dictates how much time they will spend in each phase, and that's ok! It's a part of the experience.

Phase overview



THE FLOW OF THE GAME

Setting things in motion

Now that you have prepared for the game session and the groups are established, you're ready to begin.

Setup (5 minutes)

If you didn't prepare player groups, now's the time to do it! Create groups with 3-5 players in each, or let the players do it themselves. Whenever they're ready and have the things they need, give them the intro work package.

Objective (10 minutes)

In the intro work package the players will find an eco-design license and a letter introducing the players to the narrative. They also get their objective and what to do. As facilitator, you don't need to do anything, unless the players are unsure of what to do.

THE FLOW OF THE GAME PART 2

Gather info and tools (60 minutes)

In this phase the players will have to gather tools and info about the product they're re-designing. They will buy work packages from you most of the time and you will simply make sure that they fulfill the requirements for purchasing them.

Be aware, that even though they get 60 minutes for this phase, the groups can still proceed to the concept phase whenever they have fulfilled the requirements to get the concept work package.

Conceptualization (30 minutes)

Whenever the groups have reached the requirements to get the concept work package, this phase begins. If the players begin this phase before using 60 minutes on the previous phase: Gather info and tools, they get that time added to this phase.

THE FLOW OF THE GAME PART 3

Pitch (60 minutes)

After 90 minutes have passed, the pitching work package is given to the groups and all work on their concepts stops immediately and the pitching phase begins. A group is picked to pitch their concepts first and the others will act as chairmen, rating the pitch.

All they need for this is in the work package, but it's great if you can help by asking important questions that challenge the pitching group to explain why they have done what they did, in case the chairmen forget. The focus here is to help the groups, so try to keep everything constructive.

If you don't spend 60 minutes in this phase, it's fine to just proceed to the next phase.

Evaluation (30 minutes)

Collect the rating sheets whenever the pitch phase is over. Add the points together for each group and announce a winner!

Celebrate and take time to talk to the players about their concepts, what they have just been through & what they have learned, reflecting on what to do and not to do.

WRAPPING UP

Collect data, recycle components and re-use

Before you say goodbye and send players on their way, it's important to collect the data that was generated by the players throughout the session. If there's components not relevant to you decide what you can re-use for another play-session before throwing it out.

Remember to throw out the paper in the proper disposal ways so it can be recycled and keep the spirit of eco-friendliness going.

If you plan to play again

It's a good idea that you save all the data that players provided, and take pictures, notes or sketches that they created. You will use those to show the players their progress if you decide to play again some other time.

A good way to see how the players have changed and progressed is by playing again and comparing results.



Contains information for: The first step of your journey

Important for: Starting the game

Costs: **0**

Time to solve: **5 min.**

The first step of your journey

Congratulations! Your application for the eco-design agency license was approved. In the letter you will find your license, and all you need to do is sign with a name of your agency, then you'll be open for business! Feel free to add a logo too, it will help you stand out.

You remember it was merely a few years ago when you applied for the Design Academy and you played a game during your studies that showed you how to use eco-design thinking to make better concepts. It was then you decided that you wanted to dedicate your life to eco-designing, and create your own company one day. Now your application for a license got approved, and you and your friends can now start the company you always dreamed of!

And, you're in luck too! You just received a great project opportunity.



Competition

Dear Eco-Design agencies!

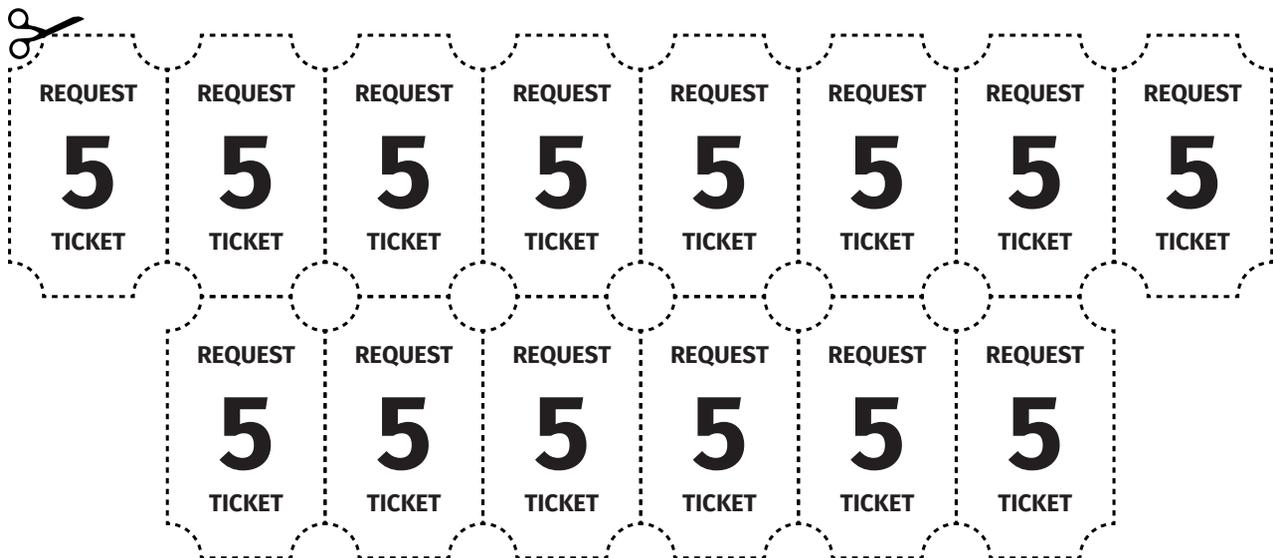
After the our huge success with the Reusable Nappie Diaper, we announced earlier this year that we are looking for eco-design experts to make our product more eco-friendly. Because of overwhelming amounts of applications, we have decided to turn it into a competition!

We can provide you with all the information you need during the competition, but since it's confidential and sensitive information, you'll need to request them from us. It will take some time to provide it to keep confidentiality, so we hope you'll understand. We enclosed some request resources you can use when requesting information.

Your agency is going to compete against other agencies to win the project, so make sure to impress. We will of course look at how much eco-friendlier your concept is, the price difference it has and how competent you are at using eco-design thinking.

We hope to see some good concepts!

The Diaper Company





Contains information for: Conceptualization

Important for: Conceptualizing a new concept and setting a focus
for creating better concepts

Costs: **0**

Time to solve: **60**
min.

Conceptualization

Great job! You're ready to create your concept.

In this work package you will find a list of eco-design principles. Eco design principles are solution-proposals focusing on a single optimisation parameter that helps create better eco-design concepts.

Choose an eco-design principle to use in your concept before beginning and focus on optimizing the original product accordingly when creating your concept. You have until deadline to finish your concept!

When creating your concepts, remember to note what eco-design principle you chose. Be aware that when you're pitching your concept, the other groups are rating yours as chairmen, so it's important that you think about the following to support your arguments for why and how you have reached your concept:

- How eco-freindly is your concept compared to the original product?
- How much of the budget did you use?
- How well did you use the eco-design principle chosen?

Good luck!

Eco-design principles

Here's a list of eco-design principles! Eco-design principles are solution-proposals that focus on a single optimisation parameter that help you create ideal concepts. It basically helps you focus on optimizing one thing and do it well, resulting in better eco-design concepts!

For you concept, choose one from the list and try to focus on optimizing your concept using it.

- Reduce the material intensity of the product or service
- Reduce the energy intensity of the product or service
- Reduce the dispersion of harmful substances through the product
- Increase the amount of recycled and recyclable materials in the product
- Optimise the product's durability
- Incorporate environmental features into the product
- Signal the product's environmental features through the physical design
- Maximise the use of sustainable resources and supply chains
- Optimise the product's service intensity
- Design the life cycle first and then the product



Contains information for: Pitch _____

Important for: A guide to asking questions and challenging the
pitching group but also how you make a good pitch

Costs: 0

Time to solve: 60 min.

Pitch

The deadline has been reached and it's time to pitch.

If you're pitching

Support your pitch with any information you got from the work packages that you might find relevant.

If you're not pitching

Take a chairman card to support you in challenging the pitching group. As chairmen, try to do your best in asking questions and challenging the pitching group. Be critical, but constructive, so you're trying to get all the information you can to properly rate their concept.

When the pitching group is done, use the rate template to evaluate them on the following:

- How eco-friendly is your concept compared to the original product?
- How much of the budget did you use?
- How well did you use the eco-design principle chosen?

Pitch

Name of the pitching agency

Date

How eco-freindly is the concept compared to the original product?

Not at all **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

A lot!

How much of the budget was used?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

All of it

How well did they use the eco-design principle chosen?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

A great amount

Name of the pitching agency

Date

How eco-freindly is the concept compared to the original product?

Not at all **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

A lot!

How much of the budget was used?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

All of it

How well did they use the eco-design principle chosen?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

A great amount

Pitch

Name of the pitching agency

Date

How eco-freindly is the concept compared to the original product?

Not at all **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

A lot!

How much of the budget was used?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

All of it

How well did they use the eco-design principle chosen?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

A great amount

Name of the pitching agency

Date

How eco-freindly is the concept compared to the original product?

Not at all **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

A lot!

How much of the budget was used?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

All of it

How well did they use the eco-design principle chosen?

Nothing **1** **2** **3** **4** **5** **6** **7** **8** **9** **10**

A great amount



Contains information for: Stakeholders

Important for: Understanding how the various stakeholders are significant to the products environmental effects throughout its lifetime, that occur in the exchanges between them

Costs: 15

Time to solve:

20 min.

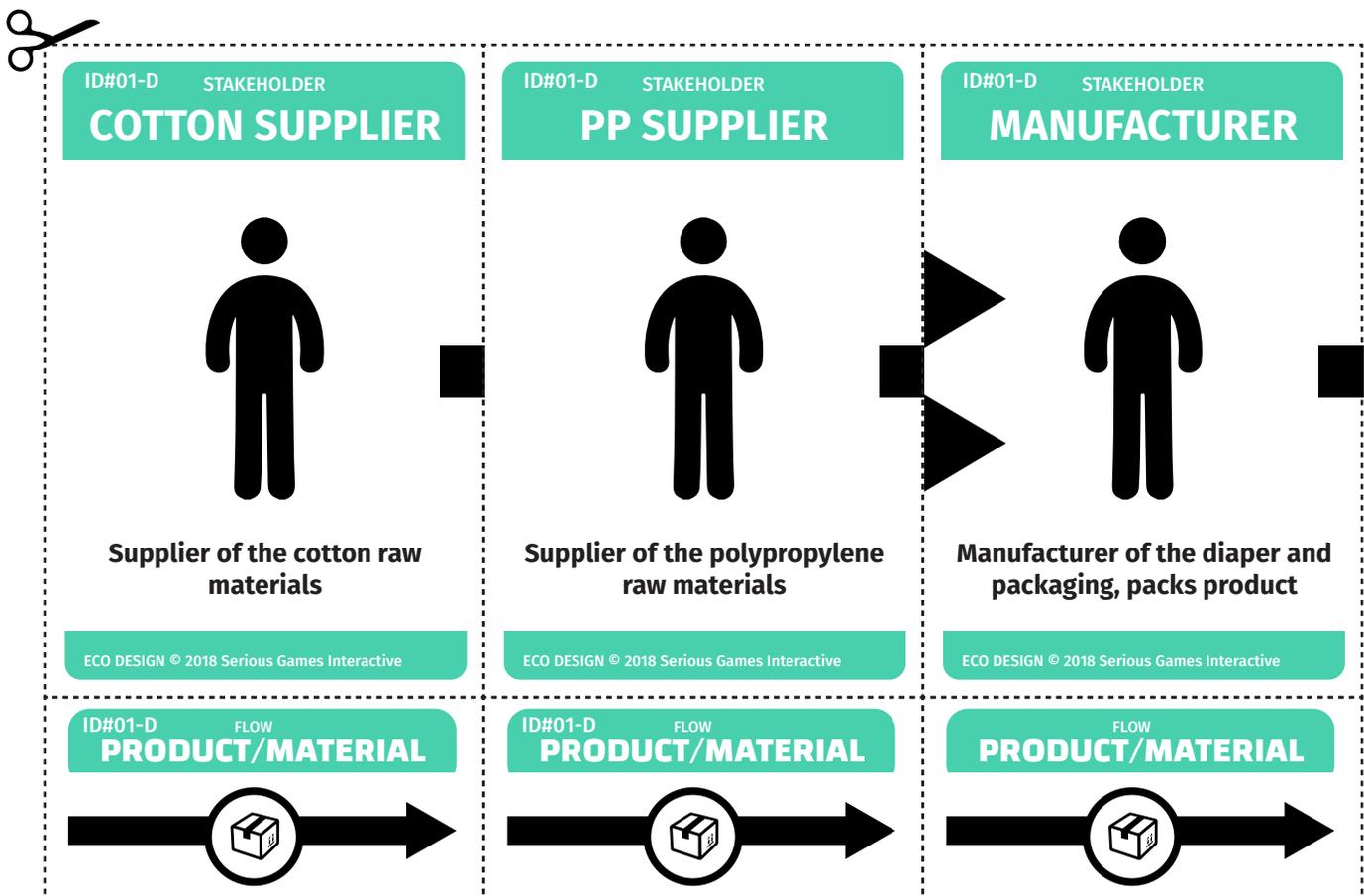
Stakeholders

Congratulations! You have obtained the stakeholder tool!

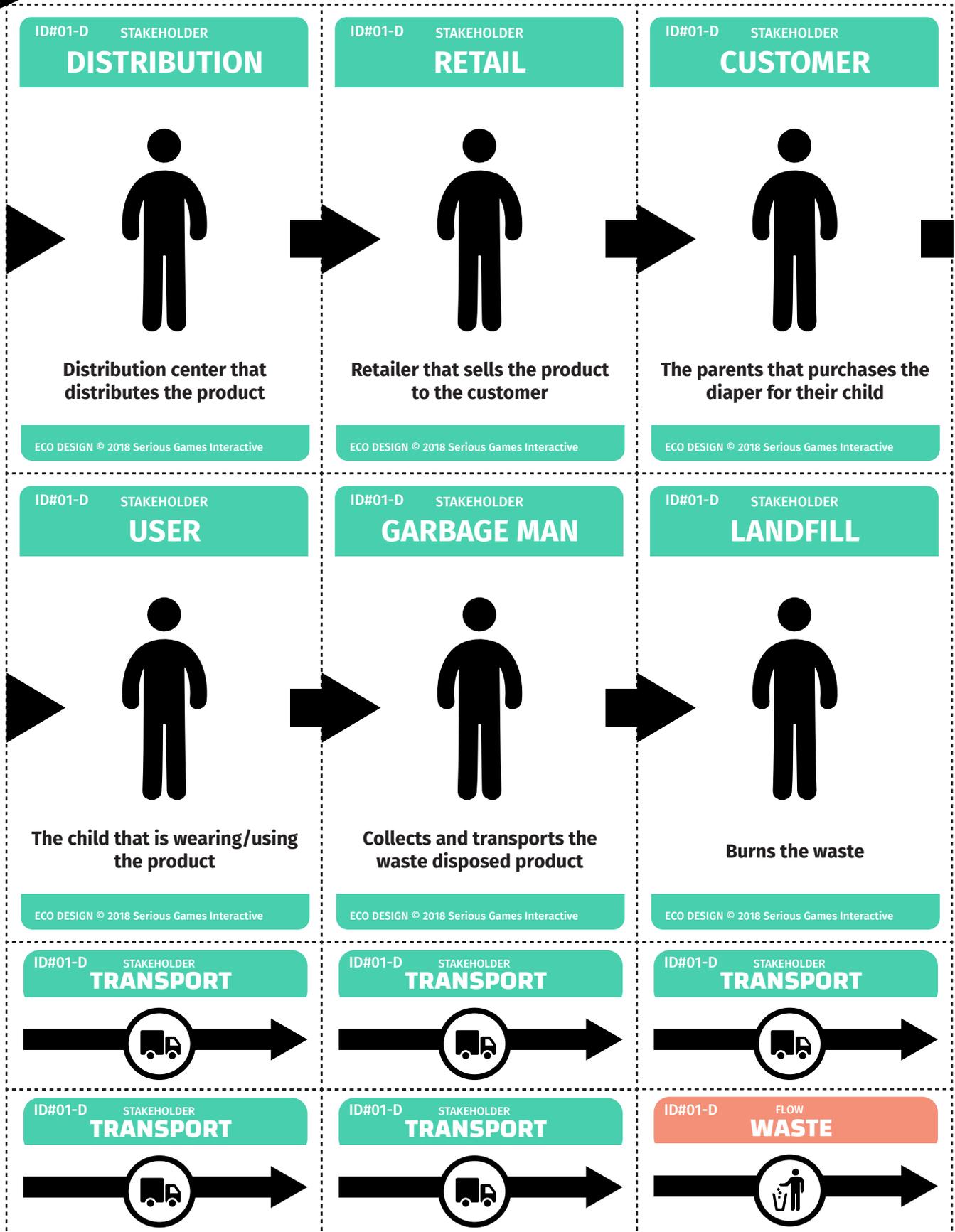
The stakeholder tool helps you not only identify which stakeholders come in contact with the product throughout its lifetime, but also the material flows and environmental impacts. The identification of the various stakeholders who are significant for the product's environmental effects throughout its lifetime is crucial to understand the impacts occurred in the exchanges between stakeholders. Information exchanges, material flows and resulting environmental impacts.

In this work package, you have cards that show each stakeholder involved in the current product's life-cycle and smaller cards that show the exchanges between them and the environmental impacts. The markings correspond to each end of the exchange cards (formed as an arrow) and all pieces are used.

To solve this work package you need to plot together the stakeholder network for the current product.



Stakeholders





Contains information for: Use context

Important for: Providing a benchmark for all subsequent decisions
& can also be used when, for example, alternative
concepts are being compared.

Costs: **5**

Time to solve: **10**
min.

Use context

You received information on: Use context!

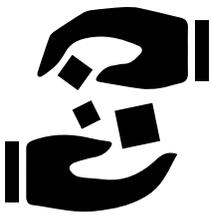
With the use context you describe the product's functionality to the user. The description provides the benchmark for all subsequent decisions and can also be used when, for example, alternative concepts are being compared.

In this work package you have a stage card with essential questions, and information pieces about the products use.

To solve this work package, you need to take the info from this letter and analyse it to find the hat you're looking for to answer the question:

“What do you think are the environmental impacts and root causes in this stage?”



<p>ID#01-E</p> <p>STAGE USE</p>	<p>INFORMATION</p> <p>By whom?</p> <p>Children under 2.5 years old</p> <p>ID#01-E</p>	<p>INFORMATION</p> <p>Wrap/pant</p> <p>18.1 for all the 2.5 years (assuming a 15 month life)</p>
	<p>INFORMATION</p> <p>How often?</p> <p>47,5 nappies are used during a period of 2.5 year</p> <p>ID#01-E</p>	
<p>What is the product/service used for? How often and for how long?</p>	<p>INFORMATION</p> <p>Nappy washing</p> <p>Washing of a reusable nappy occurs every two days</p> <p>ID#01-E</p>	<p>INFORMATION</p> <p>For how long?</p> <p>6.1/day for children still in nappies (aged 2.5 or less)</p>
<p>ECO DESIGN © 2018 Serious Games Interactive</p>		



Contains information for: Eco-design app _____

Important for: Assisting in the concepting phase _____

Costs: 15

Time to solve: 0 min.

Eco-Design app

Congratulations! You have obtained access to the Eco-Design app.

The eco-design app is a tool that helps you look up alternative materials and manufacturing ways. It will tell you how the recyclability, energy use, toxicity and price changes by choosing the alternatives. Open the app and find the scenario you're playing and you're ready to go! When you open the scenario, you'll see the materials for the original product that you can change in a new iteration.

Use the app to support your concept when creating alternative scenarios and life-cycle changes. It will help you by giving information about material attributes, how they're produced, what it means for recyclability, energy use and toxicity and how much it will cost.



Contains information for: Materials

Important for: Getting an overview of the product parts, the raw materials used & function

Costs: **5**

Time to solve: **5 min.**

Materials

You received information on: Materials!

With the materials stage card you describe the product's materials, attributes and helps understand the environmental impacts. It provides a benchmark for all subsequent decisions and can also be used when, for example, alternative concepts are being compared.

In this work package you have a stage card with essential questions, and information pieces about the product materials.

To solve this work package, you need to take the info pieces you have collected and analyse them to find the info you're looking for and answer the question:

“What do you think are the environmental impacts and root causes in this stage?”



<p>ID#01-G</p> <p>STAGE</p> <h1>MATERIALS</h1>	<h3>INFORMATION</h3> <p>Which product version is chosen?</p>
	<p>The diaper is disposable reusable, and not recyclable.</p> <p>ID#01-G</p>
<p>How many different parts & materials does the product consist of?</p>	<h3>INFORMATION</h3> <p>Which parts does it consist of?</p>
	<ul style="list-style-type: none"> • Nappy • Absorbant pad • Diaper sheet • Elastic bands <p>ID#01-G</p>
<p>ECO DESIGN © 2018 Serious Games Interactive</p>	<h3>INFORMATION</h3> <p>Which types & weights of materials?</p>
	<p>1.7 g PE/ nappy for packaging 5.4 g PE/ 100 elastic bands for packaging</p> <p>ID#01-G</p>



Contains information for: Overview

Important for: Getting an overview of how a product is produced, distributed, & disposed of, and helps to identify environmental impacts later on

Costs: **10**

Time to solve: **15 min.**

Overview

You received information on: Overview!

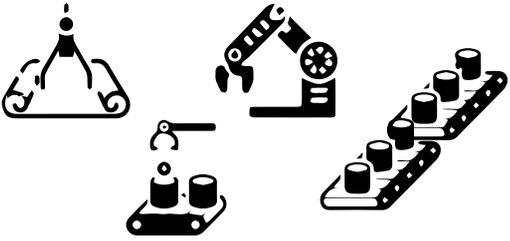
In this workpackage, you get the production, distribution and disposal stage cards. The cards help you describe how the product is manufactured, what distribution channels are used, how far distances it's transported and how the product is disposed of. It provides a benchmark for all subsequent decisions and can also be used when, for example, alternative concepts are being compared. The card slots are as follows:

In this work package you have a stage card with essential questions, and information pieces about the manufacturing, distribution and disposal of the product.

To solve this work package, you need to take the info pieces you have collected and analyse them to find the info you're looking for and answer the question:

“What do you think are the environmental impacts and root causes in the stages?”



<p>ID#01-H</p> <p>STAGE</p> <h3>PRODUCTION</h3>	<p>ID#01-H</p> <p>STAGE</p> <h3>DISTRIBUTION</h3>	<p>INFORMATION</p> <p>Manufacturing of Liner</p> <p>Liner (1.4g pr. liner) Polypropylene and paper (50:50) + 5.4 PE packaging per 100 liners</p> <p>ID#01-H</p>
		<p>INFORMATION</p> <p>Which are the most likely disposal way/s?</p> <p>Collecting garbage with a disposal truck that delivers it to a landfill.</p> <p>ID#01-H</p>
<p>Which processes are involved?</p>	<p>Which distances will be/are covered? With which means of transport?</p>	
<p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>ECO DESIGN © 2018 Serious Games Interactive</p>	

Overview



ID#01-H

STAGE

DISPOSAL

Which is/are the most likely disposal way(s)?

ECO DESIGN © 2018 Serious Games Interactive

INFORMATION

For 1 kg of ginned cotton

- Insecticides 0.001801kg
- Herbicides 0.002667kg
- Fungicides 0.000047 kg
- Defoliants 0.001017 kg
- Fertiliser, nitrogen 0.108 kg
- Fertilizer, phosphate 0.0373 kg
- Fertilizer – potash 0.0441 kg
- Diesel (farm) 0.234747litre
- Electric (farm) 0.210846 kWh
- Gas (farm) 0.058687 litre
- LPG (farm) 0.023475 litre
- Ginning electricity: 0.200580 kWh
- Seed: 0.019241 kg
- Water: 7103 litres

ID#01-H

INFORMATION

Manufacturing of packaging

12g of PE packaging per kg of nappies where each nappy is 115 g

ID#01-H

INFORMATION

Which are the most likely disposal way/s?

Collecting garbage with a disposal truck that delivers it to a landfill.

ID#01-H

INFORMATION

Manufacturing of wrap

0.308 kg wraps per child.

Ethylene vinyl acetate and PVC (50:50)

ID#01-H

INFORMATION

With which means of transport?

- Freight truck 75% utilisation rate
- Waste collection and transportation truck
- Car Parents buying the nappies

ID#01-H

INFORMATION

Which distances will be covered?

- From manufacturing to packaging 460 km
- From packaging to distribution centre 630 km
- From distribution centre to retailer 1100 km

ID#01-H

INFORMATION

Which distances will be covered?

- From the retailer to consumers 6 km
- End-of-life distance 100 km

ID#01-H



[Redacted]

[Redacted]



[Redacted]

[Redacted] information about the product

[Redacted]

[Redacted]

[Redacted]

Costs: 10

Time to solve:





Contains information for: Stakeholders expansion _____

Important for: Using stakeholder network as a tool when
concepting _____

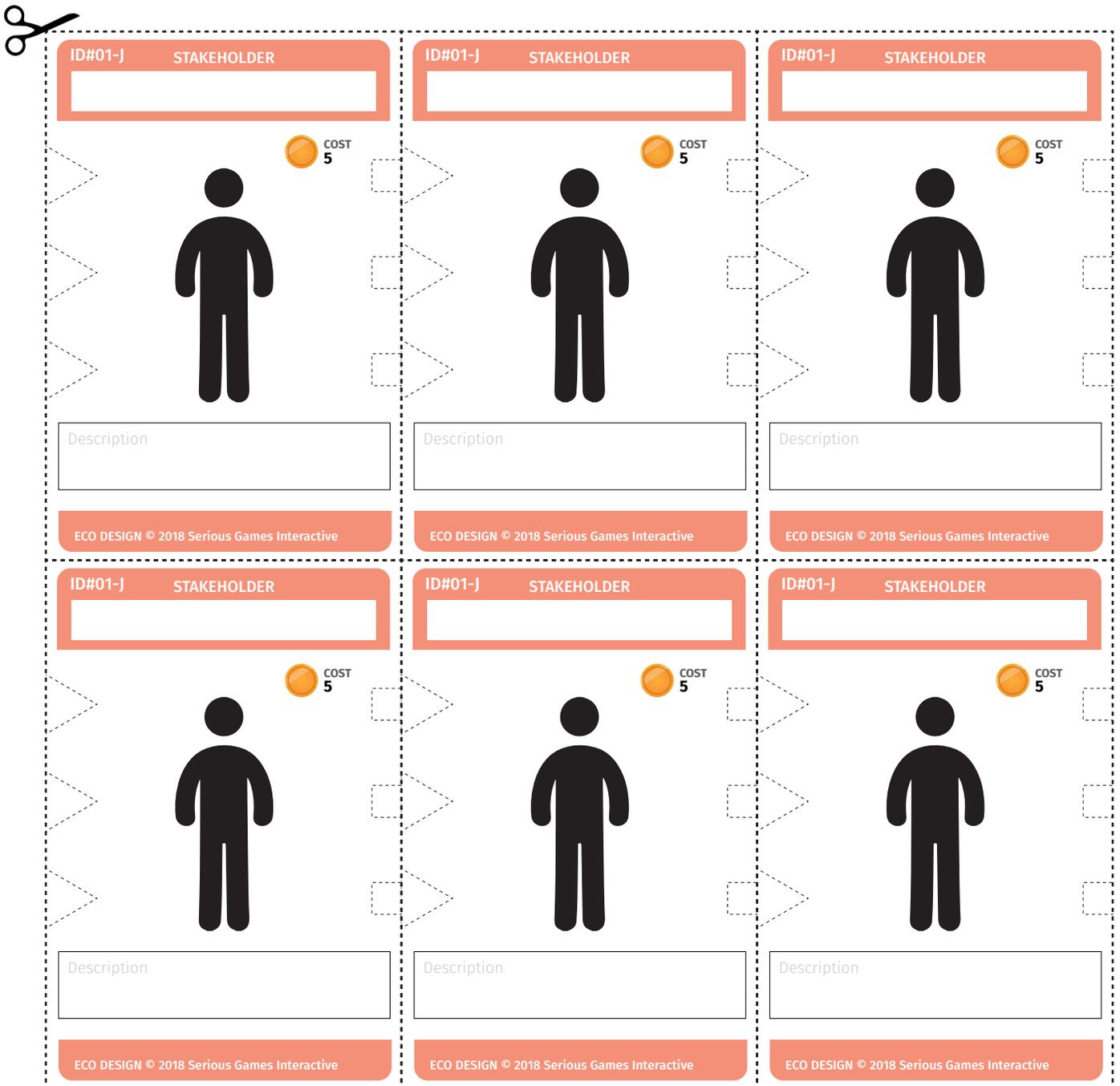
Costs: 5

Time to solve: 0 min.

Stakeholders expansion

Congratulations! You have access to the stakeholders expansion.

Use this expansion with the current stakeholder-network work package to get more pieces to work with, but remember, for every piece you add to the stakeholder network, the cost of the product goes up.



Stakeholders expansion



<p>ID#01-J STAKEHOLDER</p> <p>Cost 5</p> <p>Description</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>ID#01-J STAKEHOLDER</p> <p>Cost 5</p> <p>Description</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>ID#01-J STAKEHOLDER</p> <p>Cost 5</p> <p>Description</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>
<p>ID#01-J STAKEHOLDER TRANSPORT</p> <p>Cost 5</p>	<p>ID#01-J STAKEHOLDER TRANSPORT</p> <p>Cost 5</p>	<p>ID#01-J STAKEHOLDER TRANSPORT</p> <p>Cost 5</p>
<p>ID#01-J STAKEHOLDER TRANSPORT</p> <p>Cost 5</p>	<p>ID#01-J STAKEHOLDER TRANSPORT</p> <p>Cost 5</p>	<p>ID#01-J STAKEHOLDER TRANSPORT</p> <p>Cost 5</p>
<p>ID#01-J FLOW WASTE</p>	<p>ID#01-J FLOW WASTE</p>	<p>ID#01-J FLOW WASTE</p>
<p>ID#01-J FLOW PRODUCT/MATERIAL</p>	<p>ID#01-J FLOW PRODUCT/MATERIAL</p>	<p>ID#01-J FLOW PRODUCT/MATERIAL</p>
<p>ID#01-J FLOW PRODUCT/MATERIAL</p>	<p>ID#01-J FLOW PRODUCT/MATERIAL</p>	<p>ID#01-J FLOW PRODUCT/MATERIAL</p>



Contains information for: Eco-design principles _____

Important for: More info on the different eco-design principles and
how to use them

Costs: **10**

Time to solve: **0**
min.



Contains information for: Eco-profile _____

Important for: Getting more info about the environmental impacts
of the entire product life-cycle.

Costs: **10**

Time to solve: **10**
min.

Eco-profile

Congratulations! You have acquired the MECO-matrix tool.

The MECO-matrix tool will help you get an overview of the eco-profile of the current product with the information you have collected through the stage cards. The MECO-matrix is a template you use to categorize the environmental impacts of the different stages on 3 variables:

Materials

Resource and disposal aspects (scarce resource, easily recycled etc.). Also ancillary materials should be considered (e.g. plastic wrap, cardboard boxes)

Energy use

Also component suppliers energy consumption should be taken into account.

Chemicals

Chemical consumption and chemical-related emissions of each stage.

If an environmental impact covers two or more MECO-fields, then it should be included to all of them.

To solve this work package you need to take the info you have on your stage cards and your answers to the environmental impacts and root causes question, and move it to your MECO-matrix tool to complete it.

Eco-profile



<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>
<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>
<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>	<p>MECO-ANALYSIS</p> <p> Materials & Recyclability</p> <p>Impacts and root causes</p> <p> Energy use</p> <p>Impacts and root causes</p> <p> Toxicity & Chemicals</p> <p>Impacts and root causes</p> <p>ECO DESIGN © 2018 Serious Games Interactive</p>



Contains information for: Consultancy

Important for: If you're stuck or out of ideas

Costs: **10**

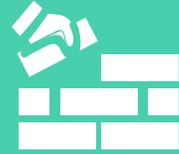
Time to solve: **10 min.**

Consultancy

Your consultancy report is ready! You tear it open and see to your surprise that it's only one sentence. "Try to discuss your ideas with others. You might get some good ideas for a different approach!"

To solve the work package you need to use the agency card on at least 2 other groups!

Build Agency card



You can now build the product using any tools you have at hand! If you show it at your pitch, receive **5** points!

ECO DESIGN © 2018 Serious Games Interactive

Networker Agency card



Go and network with another group, share ideas and brainstorm together. You can only network if you have this card.

If you can bring an idea that you end up using in your final concept, gain **5** points!

ECO DESIGN © 2018 Serious Games Interactive

Compare Agency card



You're now allowed to compare your product to another group's product. The group you're comparing with cannot refuse.

Gain **2** points when done!

ECO DESIGN © 2018 Serious Games Interactive

SPY Agency card



You're allowed to spy on another group for 5 min. max. to look for info or ideas. If called out, you have to admit to being a spy, leave and forfeit the points of this card.

If you did it without being caught, you receive **5** points!

ECO DESIGN © 2018 Serious Games Interactive

Draw Agency card



Draw the concept you're making. If you have it to support your concept, receive **2** points!

ECO DESIGN © 2018 Serious Games Interactive





Trade Agency card



You're now allowed to trade any resource freely with the other groups.

For every trade, you put a mark on the card and get **2** points for filling it out!



ECO DESIGN © 2018 Serious Games Interactive

Puppet master Agency card



You're allowed to try and plant new ideas in the heads of another group. See if you can get them on board with one. **5** points on success!

ECO DESIGN © 2018 Serious Games Interactive

Cheerleader Agency card



If you go to a group and tell them how much you love their product (or them), receive **2** points!

ECO DESIGN © 2018 Serious Games Interactive

The chairman Agency card

Challenge the pitching group with the following:

- How eco-friendly is their product?
- How did they use the eco-design principle?
- How do they justify the budget?

If the pitching group cannot answer, you get **2** points!

ECO DESIGN © 2018 Serious Games Interactive

The critique Agency card



You can give a group constructive critique to improve their product.

Giving critique to two other groups give you **2** points!

ECO DESIGN © 2018 Serious Games Interactive



Annex B: Scenario diaper

Comments from external reviewers 1

1.1. External reviewer 1

DATE: 04/12/2018

Issue	Score		Comments
	Yes	No	
Is the format of the document correct?	X		4
Does the format of the document meet the objectives of the work done?	X		4
Does the index of the document Collect precisely the tasks and issues that need to be reported?	X		4
Is the content of the document clear and well described?	X		4
Does the content of each section describe the advance done during the task development?			? Not evaluable: this document is only for describing a game and not the project and its steps.
Does the content have sufficient Technical description to make clear the research and development performed?			? Not evaluable: this document is only for describing a game and not the project and its steps.
Are all the figures and tables numerated and described?	X		5 For Annexes: The figures used have no number and description but It isn't necessary in this kind of document; anyway there's a clear connection between text and figures.
Are the indexes correct?	X		5
Is the written English correct?	X		3 There are some mistakes, especially in the facilitator booklet.
Main technical terms are correctly referenced?	X		4
Glossary present in the document?		X	? A glossary is not necessary here.

Name: Massimiliano Fratter

Email: Massimiliano.Fratter@comune.seveso.mb.it

Partner: SEVESO

Comments from external reviewers 2

1.2. External reviewer 2

DATE: 07/12/2018

Issue	Score		Comments
	Yes	No	
Is the format of the document correct?	X		4
Does the format of the document meet the objectives of the work done?	X		3 Does not explain if it will updated with other scenarios
Does the index of the document Collect precisely the tasks and issues that need to be reported?	X		4
Is the content of the document clear and well described?	X		4
Does the content of each section describe the advance done during the task development?		X	
Does the content have sufficient Technical description to make clear the research and development performed?		X	
Are all the figures and tables numerated and described?		X	Not needed
Are the indexes correct?	X		5
Is the written English correct?	X		5
Main technical terms are correctly referenced?	X		4
Glossary present in the document?		X	3 May be needed. E.g. MECO

Name: Michele Giavini

Email: giavini@arsambiente.it

Partner: ARS

Comments from external reviewers 3

2.3. External reviewer 3

DATE: 14/12/2018

Issue	Yes	No	Score (1=low to 5=high)	Comments
Is the format of the document correct?	x		4	
Does the format of the document meet the objectives of the work done?	x		4	
Does the index of the document Collect precisely the tasks and issues that need to be reported?	x		4	
Is the content of the document clear and well described?	x		4	
Does the content of each section describe the advance done during the task development?		x		
Does the content have sufficient Technical description to make clear the research and development performed?		x		
Are all the figures and tables numerated and described?		x		
Are the indexes correct?	x		5	
Is the written English correct?	x		5	
Main technical terms are correctly referenced?	x		4	
Glossary present in the document?		x		May be needed

Name: Jennifer Avakian

Email: jennifer.avakian@wintarif.it

Partner: SOFTLINE