



PACKALL

PackAlliance:
European alliance for innovation training
& collaboration towards future packaging

Linking **Academy** to **Industry**.

Training program: modules

- Eco-design & novel manufacturing processing
 - **New materials and biomaterials**
 - Citizen and Consumer Engagement
 - Residue management and valorisation



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of the European Union

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Practical works:

Analysis of the suitability of materials for various forms of post-consumer packaging waste management

Agenda:

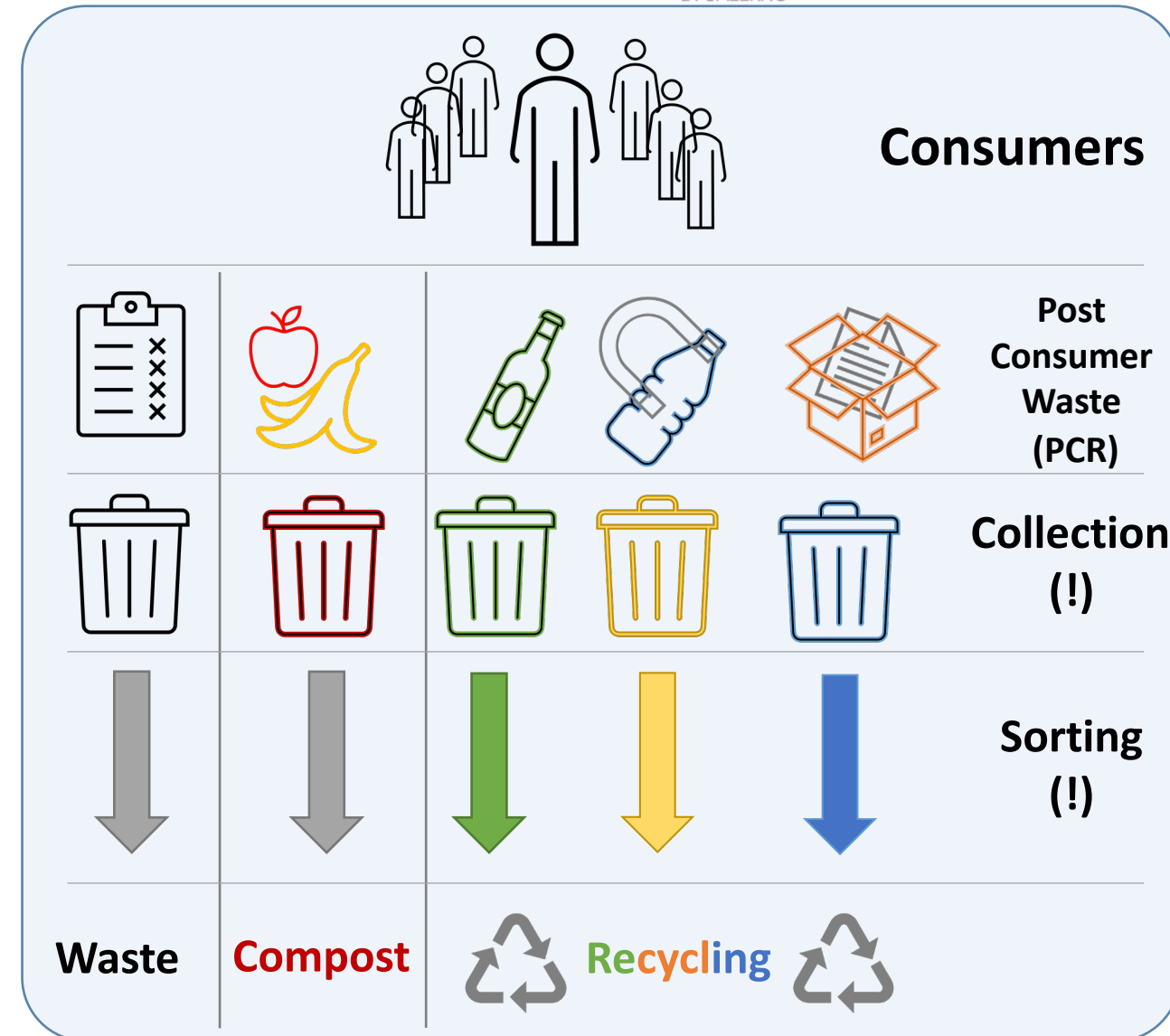
1. Introduction – 5 mins.
2. Explanation of the rules – 10mins
3. Game time! Groups' work – 45mins
4. Summary per group – 30mins

Lectures:

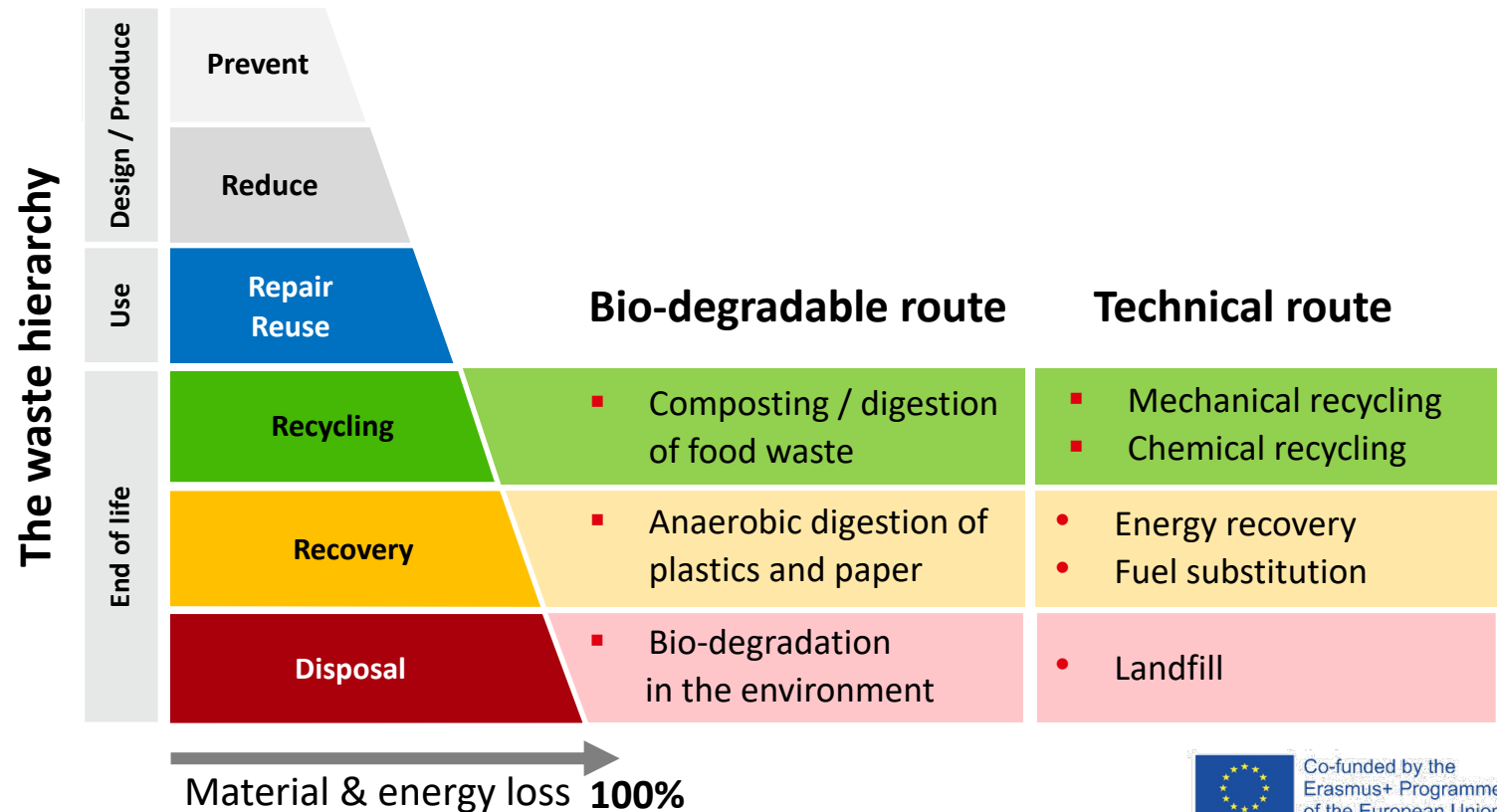
- a) Mapping of material flows in packaging management
- b) Practical aspects of packaging waste identification
- c) Processes that prepare post-consumer packaging waste for recycling processes
- d) Processes that prepare biodegradable materials for composting.....

1. Introduction. Basic definitions: recycling vs waste:

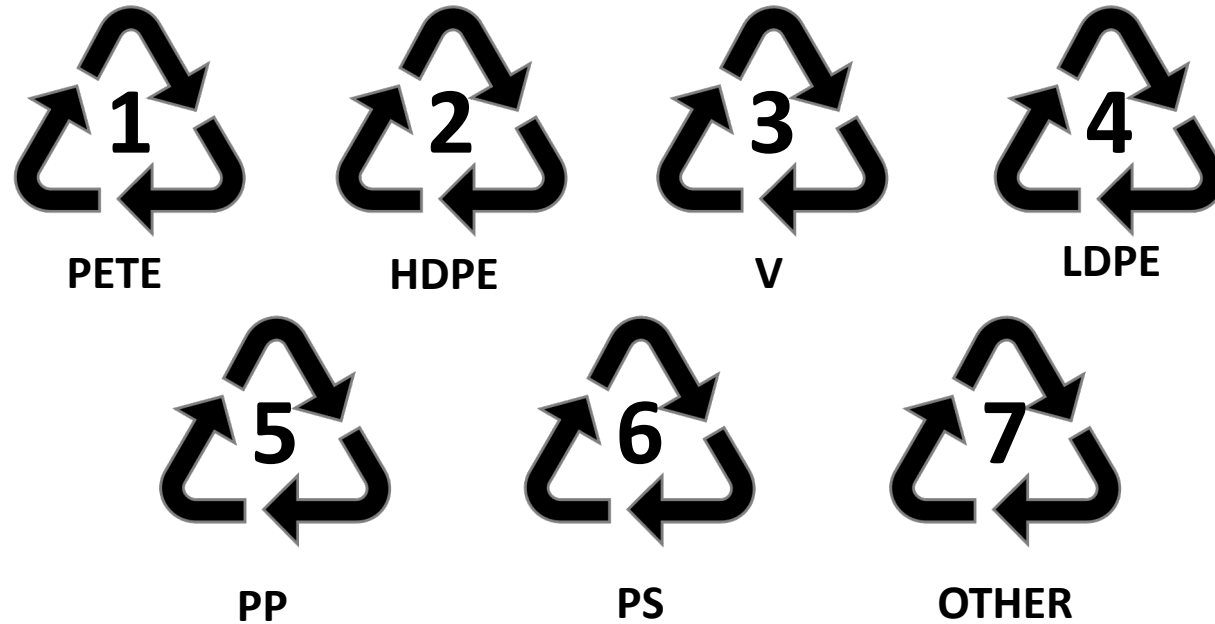
- **Recycling:** Reprocessing of a used material into a new product; **excluding** energy recovery and the use of the product as a fuel
- Every material for which we do not have a recycling process becomes **waste** eventually
- Practical steps **leading to recycling** are:
 - a/ **collection**
 - b/ **sorting.**



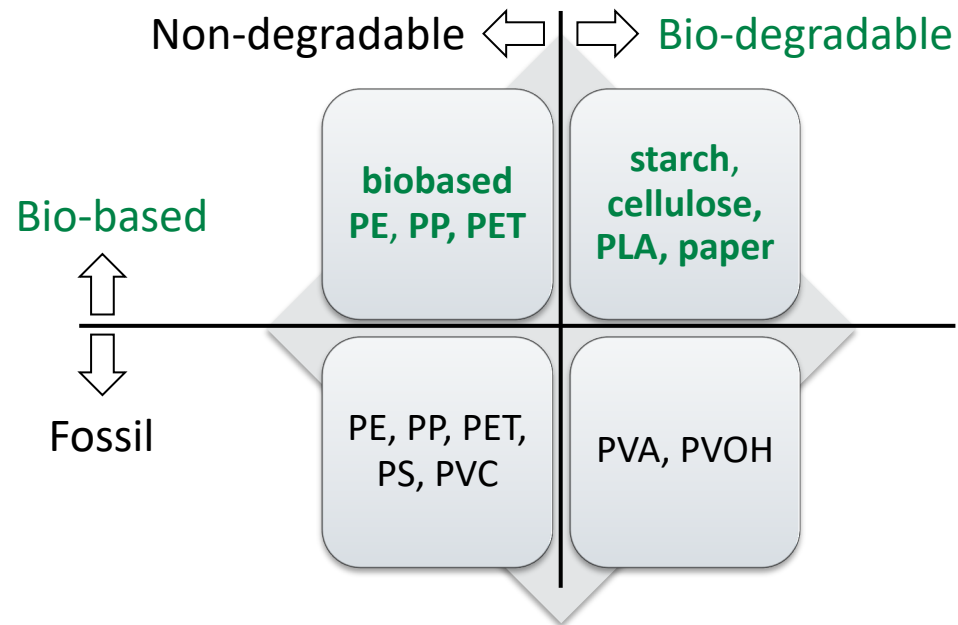
1. **Waste hierarchy** pyramid ranks waste management options according to what is best for the environment.
2. **Prevention and waste reduction** is what we all try to accomplish.
3. **Anything top to bottom starting from reduction takes into consideration waste being created as unavoidable.**
4. **Worst of all scenarios** takes into consideration **entire value and energy being lost via landfill.**



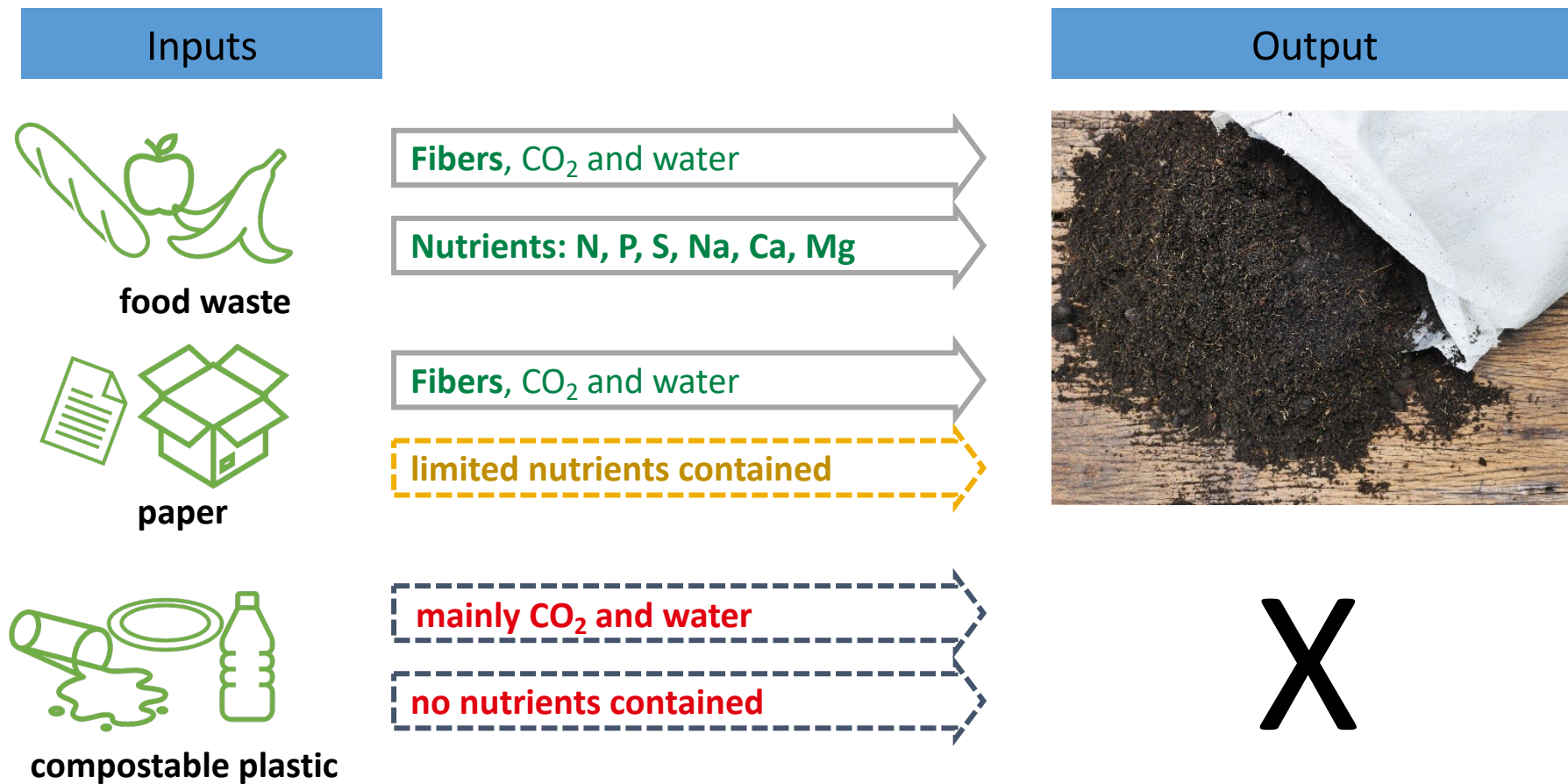
1. Many plastics are being used in packaging.
2. Not all of them can be recycled together.



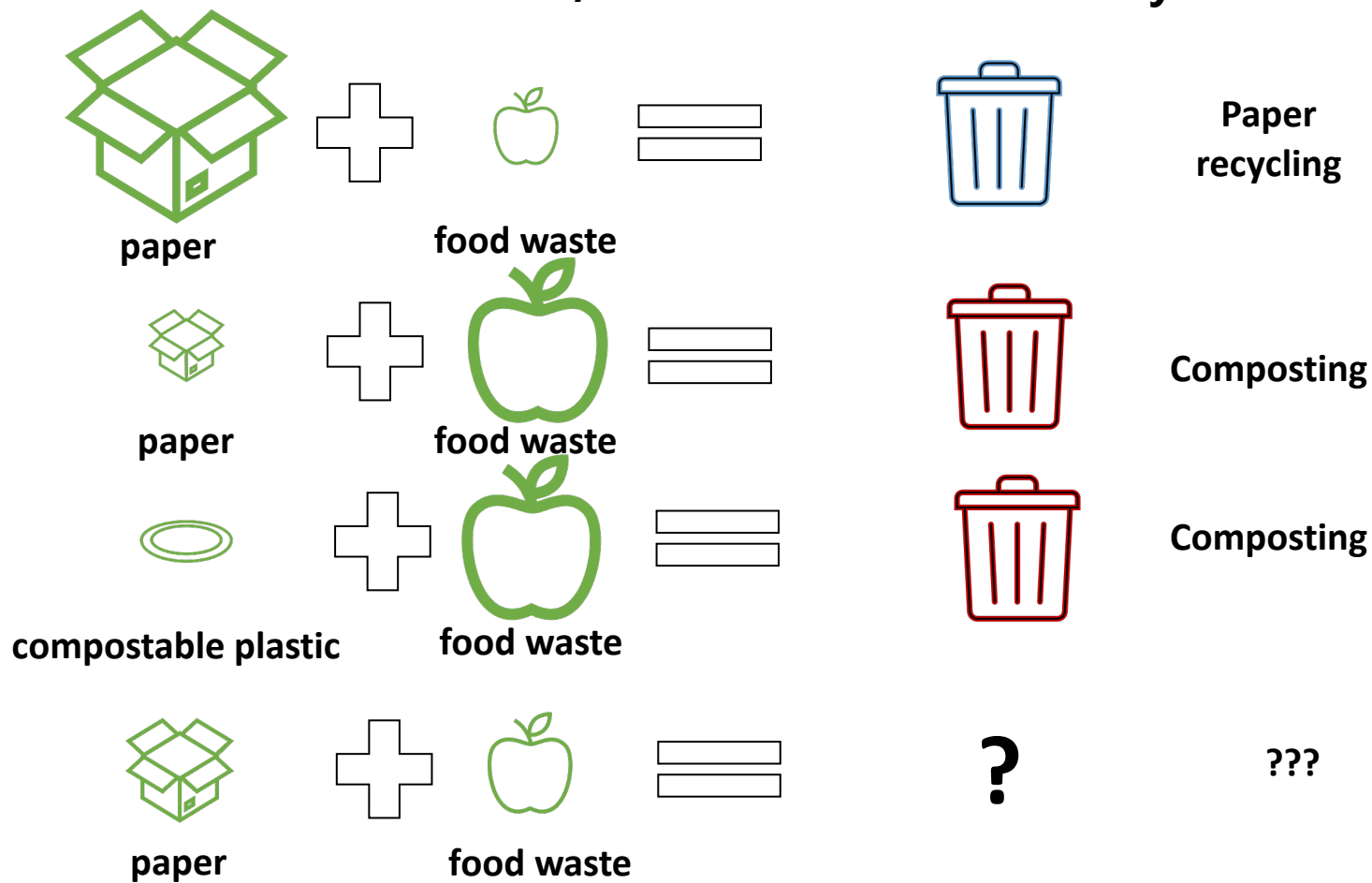
1. **Origin of the material doesn't define its end-of-life scenario.**
2. **Biodegradation is possible with fossil-based substrates as well as there are non-biodegrading which are biobased.**



1. Food waste creates rich humus. Paper contribute fibers (carbon).
2. Plastics do not turn to compost; they are lost in the composting process.




1. Different scenarios for different contamination ratios and base material.
2. Dominant waste should dedicate end-of-life scenario.
3. In case of balanced contamination, no real solution exist today.



1. EU single-use-plastic (SUP) directive is going to change approach to our daily habits.

2. EU guidance on SUP directive highlights:

- No more expanded polystyrene containers (EPS), plates, cutlery, stirrers & straws
- Cups, lids for them as well as wrappers' consumption need to be gone down in numbers
- Additionally, cups, lids, tobacco filters with bottles will be subjects of EPR scheme.

Plastic item	Ban	Consumption reduction	Marking requirement 	EPR system	Awareness campaign
EPS containers	X				
Plates, Cutlery, Stirrers	X				
Straws	X				
Cups		X	X	X	X
Cup lids		X		X	X
Food service containers, wrappers		X		X	X
Pads, Tampons			X		X
Tobacco filters			X	X	X
Bottles				X	X
Packaging					X

GROUP WORK!

- 1. Now you are all entrepreneurs!**
- 2. Knowing biodegradability and compostability mechanisms you will be responsible for organizing enterprises / gigs / festivals.**
- 3. Your task will be to provide most sustainable way to operate your business / event.**
- 4. Principles:**
 - customers' safety related to materials used is your priority!
 - environmental aspects are equally important as the guests' safety
 - make life of your guests as easy as possible by providing info /signs / instructions
 - avoid waste where possible
 - there is no right / wrong solution
 - when waste is created make the best use out of it!

RULES & COMPLETION

- 1. You will be split into SIX random groups residing in rooms.**
- 2. Each group to work on one case i.e., Room1 – case #1, Room 2 – case #2 etc.**
- 3. You will be a part of different groups, than usual groups known from Campus (random assignment).**
- 4. Once you are in the rooms nominate a leader to make all the notes for the groups in a shared screen mode, so all could participate => PowerPoint is preferred.**
- 5. Final work format & reporting:**
 - Page 1 – please put name of the group with a corresponding number on top + note all the group members names
 - Page 2 & further – expand the core topics. Be descriptive, consider all the details.
- 6. The leaders will be reporting the findings in 5 minutes sessions each while sharing the screen.**
- 7. Each participant to upload presented slides to Moodle after the session. Deadline: Nov 7th.**

ADVICE & GUIDING QUESTIONS

1. Pay attention to details!
2. Identify risk related to materials present at the places.
3. Markings! Any? Where?
4. Materials selection! Polystyrene, wood, plastic, glass? Biodegradable? Compostable? Recyclable? Cups, plates, cutlery – made of what?
5. What happens from the entry to the exit? How is the entry? How are the exits?
6. Bins? What kind? Where?
7. Self service or being served?
8. Does it make sense to sort the waste? Or maybe to focus on returnable items? Or all should go to one bin to save the time?

**Can you say the event came out as
the least affecting environment possible?**



Group work - orientation sheet #1

	#1	#2	#3	#4	#5	#6
Groups' nickname	<i>Party Animals</i>	<i>Football Lovers</i>	<i>Food Truckers</i>	<i>21st Century Woodstockers</i>	<i>Zero Waste</i>	<i>Movie Snatchers</i>
Venue	Night club	Stadium	Fenced open space	Large field outside of the city	Art gallery	Cinema i.e. multiplex
Participants' character	Zero discipline. Dance drink dance. Repeat.	Mix of characters, but mostly disciplined	No littering. Good folks	Mostly wreckless and not caring	No paper scrap is left on the ground	Well mannered
Collection infrastructure available	All in place	Lots of well marked waste bins	Some random bins	None. To be organised	None. To be organised	All available and in place
Alcohol	Strong alcohols & beer	Beer. A lot	Beer	All available. People may bring their own	Wine. Soft drinks	Soft drinks only
Activity level	Very high; havoc	Medium	Low	High	Low	None
Children	No way	Some, but never alone	Some	No	Some	Some

	#1	#2	#3	#4	#5	#6
Groups' nickname	<i>Party Animals</i>	<i>Football Lovers</i>	<i>Food Truckers</i>	<i>21st Century Woodstockers</i>	<i>Zero Waste</i>	<i>Movie Snatchers</i>
Venue	Night club	Stadium	Fenced open space	Large field outside of the city	Gig for a sustainability leader	Cinema. A multiplex
Food served	Mostly finger foods	Hot dogs and sausages	All kind of food. Hot soups, fried, ice cream...	Ready to eat snacks like hot dogs, burgers	Vegeterian food only	Popcorn, confectionery, salty snacks
Drinks available	Beer! A lot!	Beer, soda and water	Beer, wine, soda, water	Beer	Water	Water, soda
Discipline of the group	Excuse me? 😊	Medium	High	Low	Great care of environment	High
Cutlery	Better not	Sticks	Knives and forks	Knives and forks	Knives and forks	Fingers only
Straws	In use	No	Sure	Nope	No way!	Yes
Smokers	Not allowed	Only in selected places	Designated places	Whenever wherever	No way	Nope



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