

LCA FOOD 2018

Improving the airplane catering service.

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Currently

- **7.700 million** passengers in 2016 (ACI, 2017).
- **11 million** tones of Waste.
- **Double** passengers for 2031 (ACI, 2017).



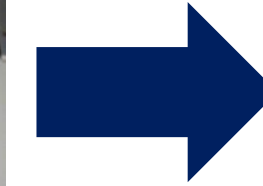
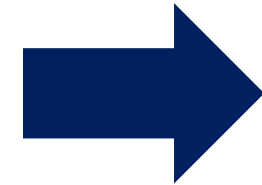
Zero Cabin Waste

Create a **sustainable** model to **reduce, reuse and recycle** waste from the cabins of aircraft and lay the groundwork for future **replication** by other airlines.



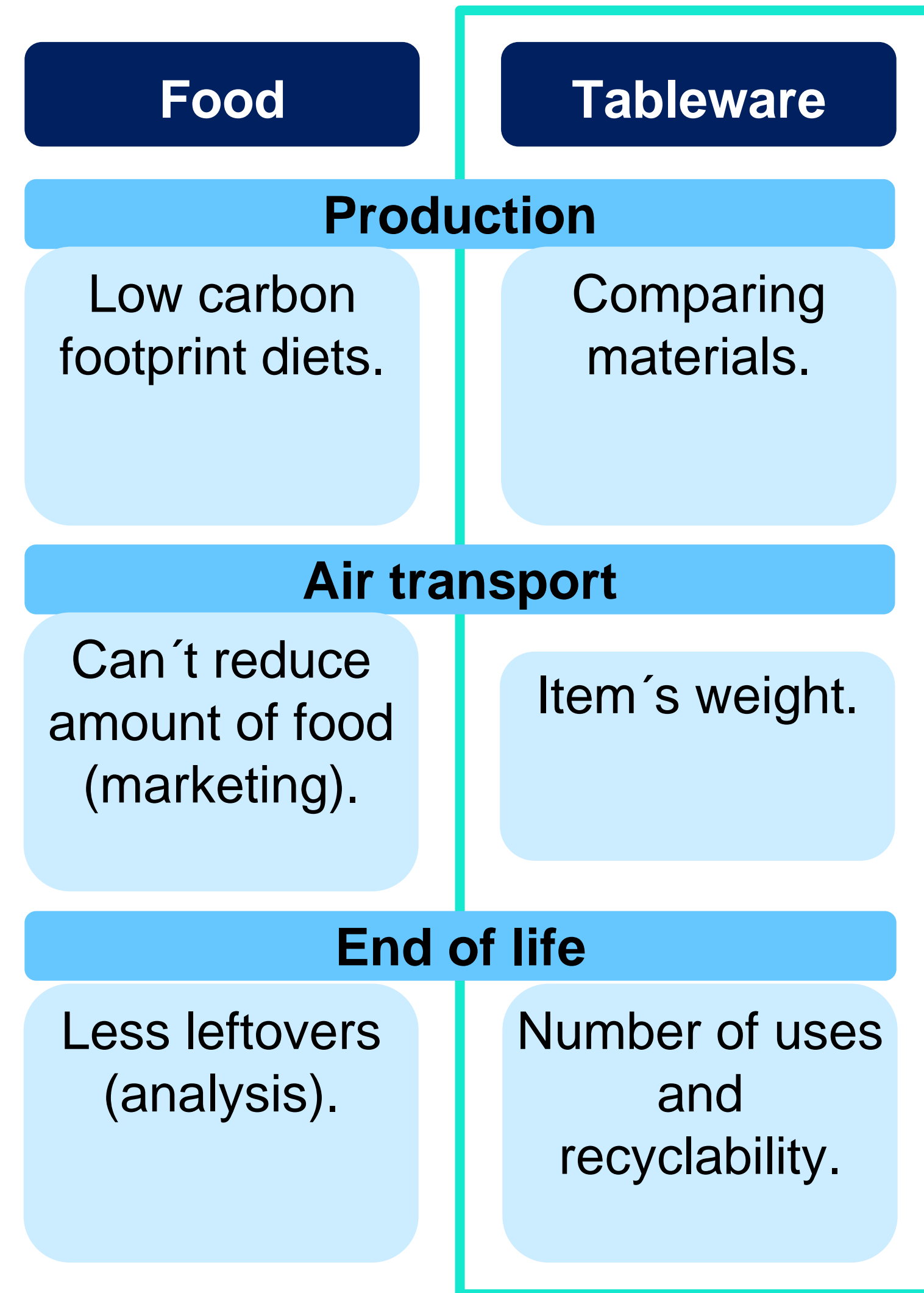
Takes place in Barajas airport, Madrid, Spain.

Integral approach to catering



Goal and scope

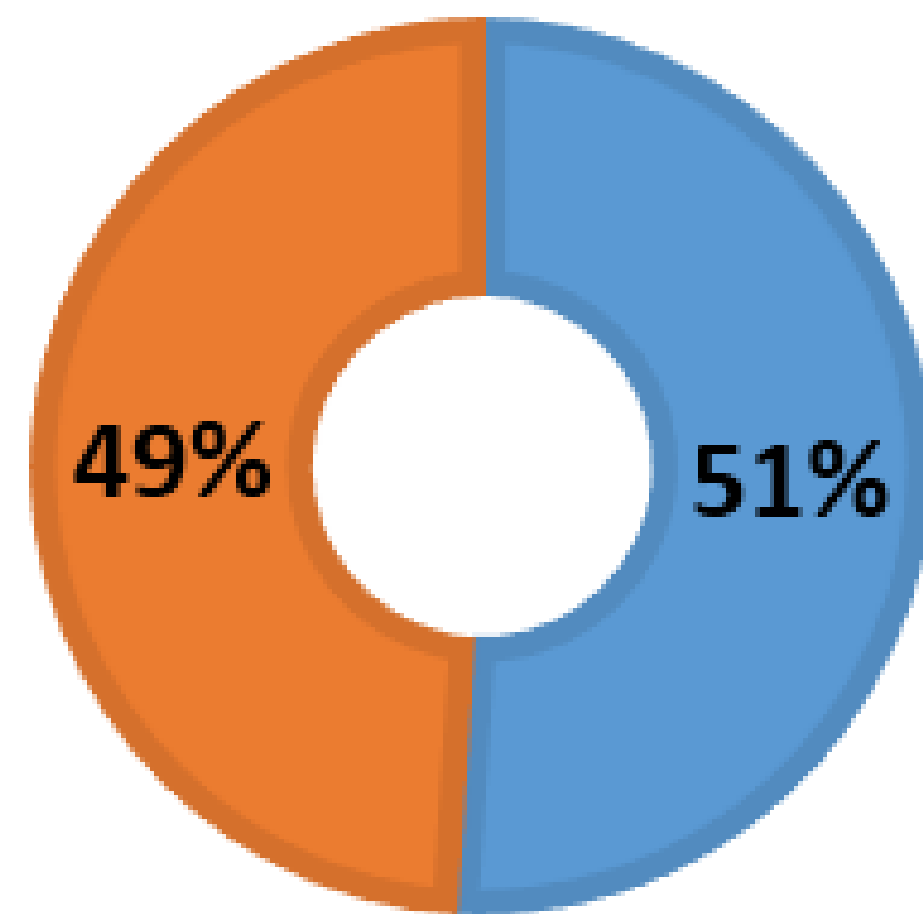
- ❖ Identify the **items and stages** of the airplane catering service life cycle where an **improvement** of the carbon footprint is possible.



Functional unit

- ❖ Serving of **1,000 tourist class menus** on Iberia flights that landed in Madrid in 2016.

■ Tableware ■ Food



1,522 tons transported (2016)

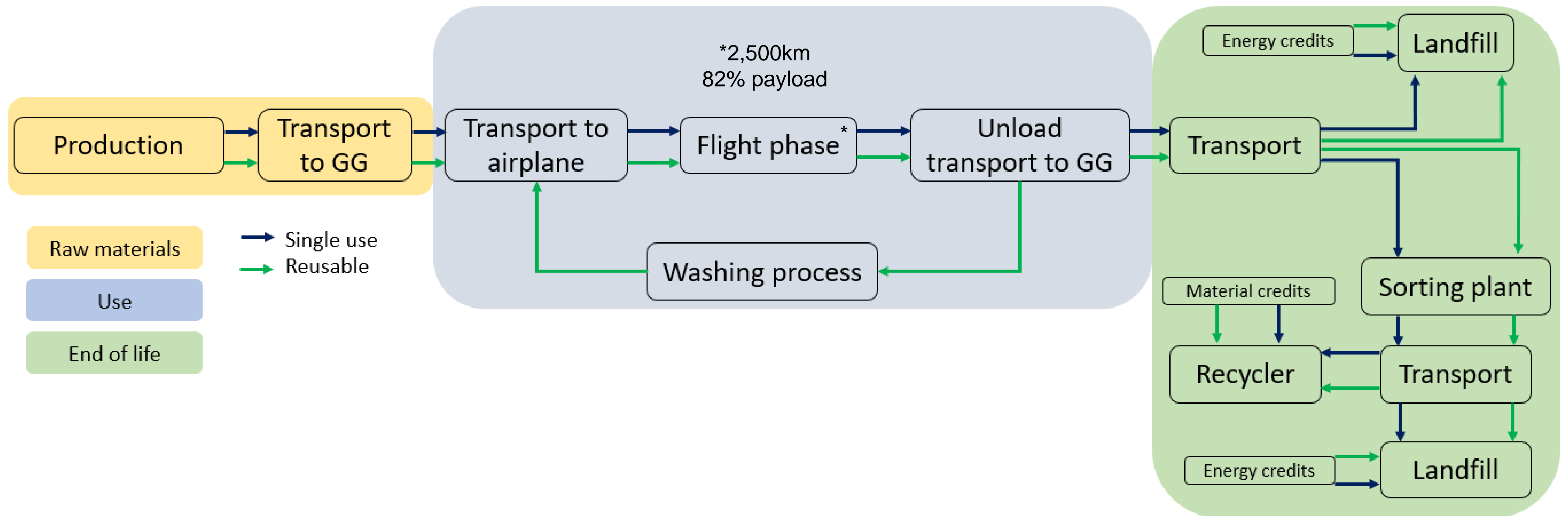


Example of Iberia tourist class menú.

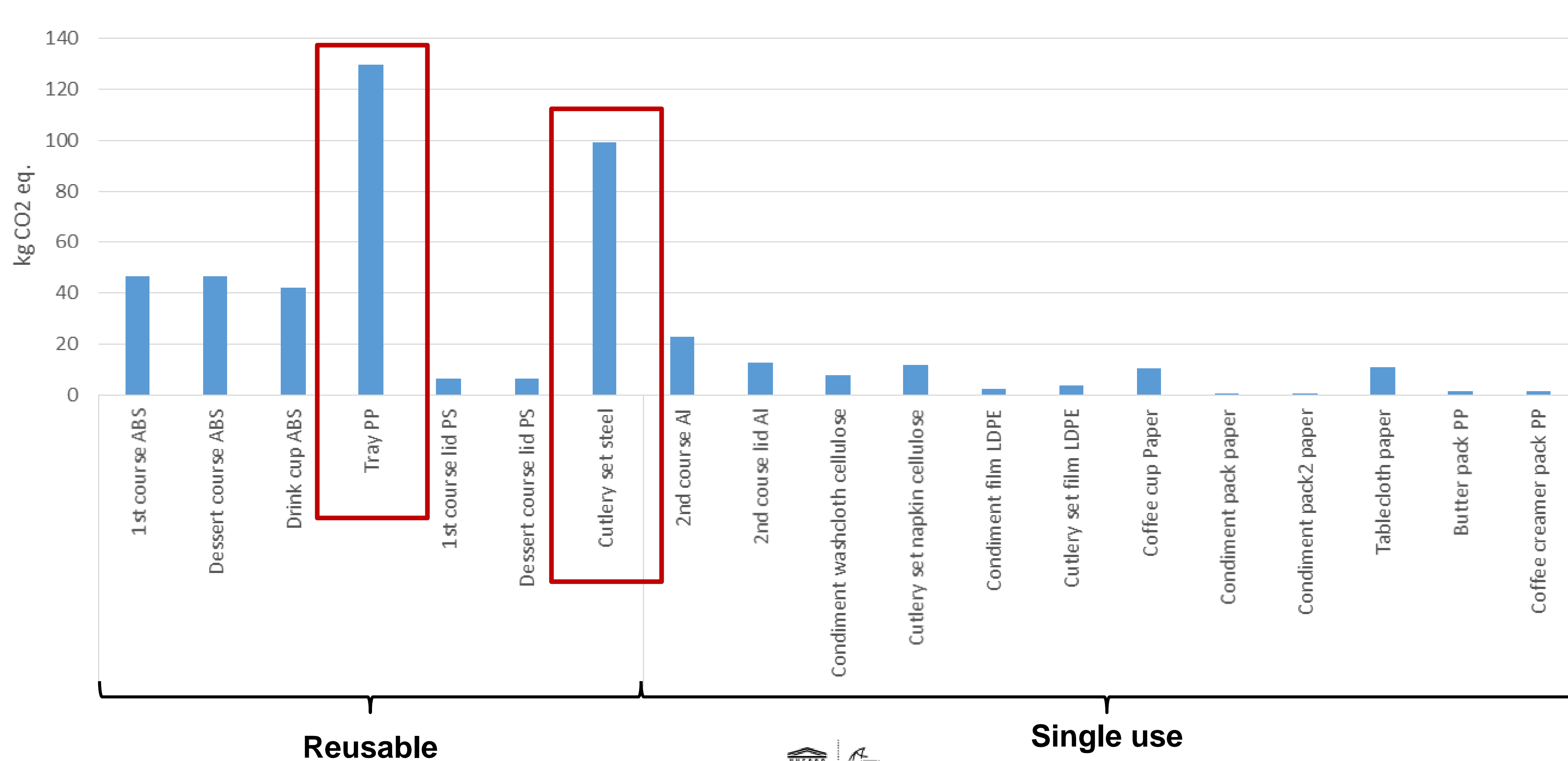
Inventory

Item	Material	Weight	Reusable	Number of uses	Weight per functional unit (kg)
1st course	ABS	0,0280	YES	10	2,8
1st course lid	PS	0,0042	YES	10	0,42
2nd course	Aluminum	0,0079	NO	1	7,9
2nd course lid	Aluminum	0,0043	NO	1	4,3
Butter packaging	PP	0,0007	NO	1	0,7
Coffee creamer packaging	PP	0,0007	NO	1	0,7
Coffee cup	Paper	0,0200	YES	10	2
Condiments film	LDPE	0,0005	NO	1	0,5
Condiments packaging	Paper	0,0003	NO	1	0,3
Condiments washcloth	Cellulose	0,0020	NO	1	2
Condiments packaging 2	Paper	0,0002	NO	1	0,2
Cutlery set film	LDPE	0,0008	NO	1	0,8
Cutlery set napkin	Cellulose	0,0031	NO	1	3,1
Cutlery set	Steel	0,0713	YES	10	7,13
Dessert course	ABS	0,0280	YES	10	2,8
Dessert lid	PS	0,0042	NO	1	4,2
Drink cup	ABS	0,0254	YES	10	2,54
Tablecloth	Paper	0,0050	NO	1	5
Tray	PP	0,2000	YES	10	20

System boundaries

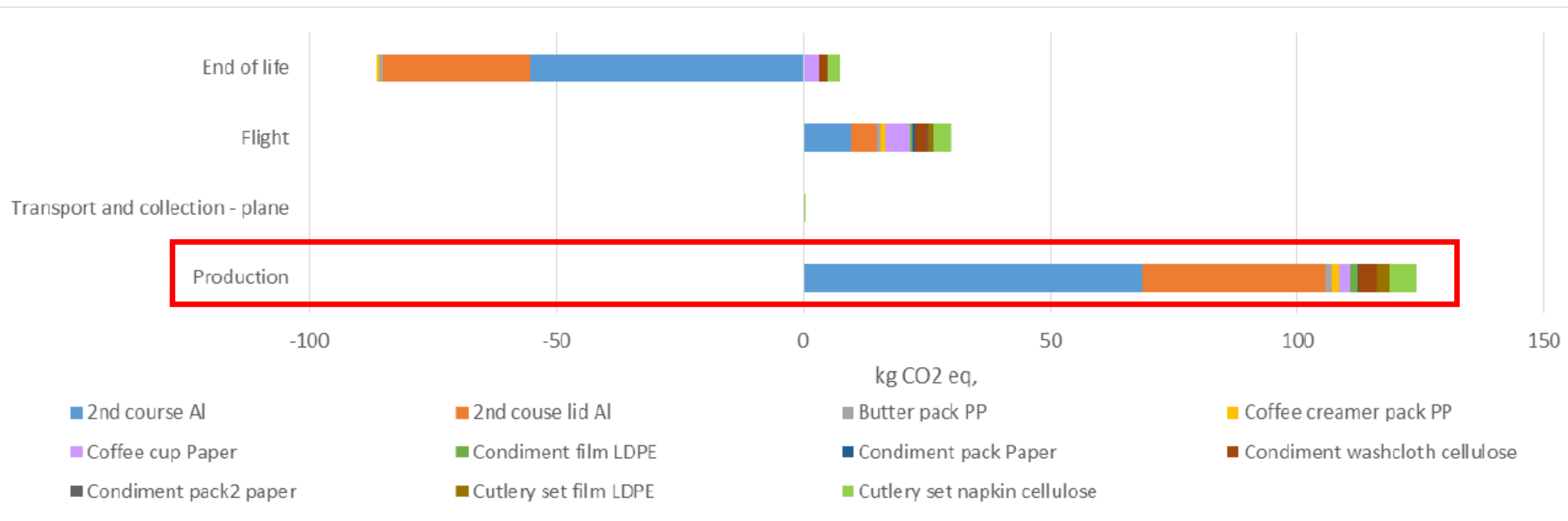
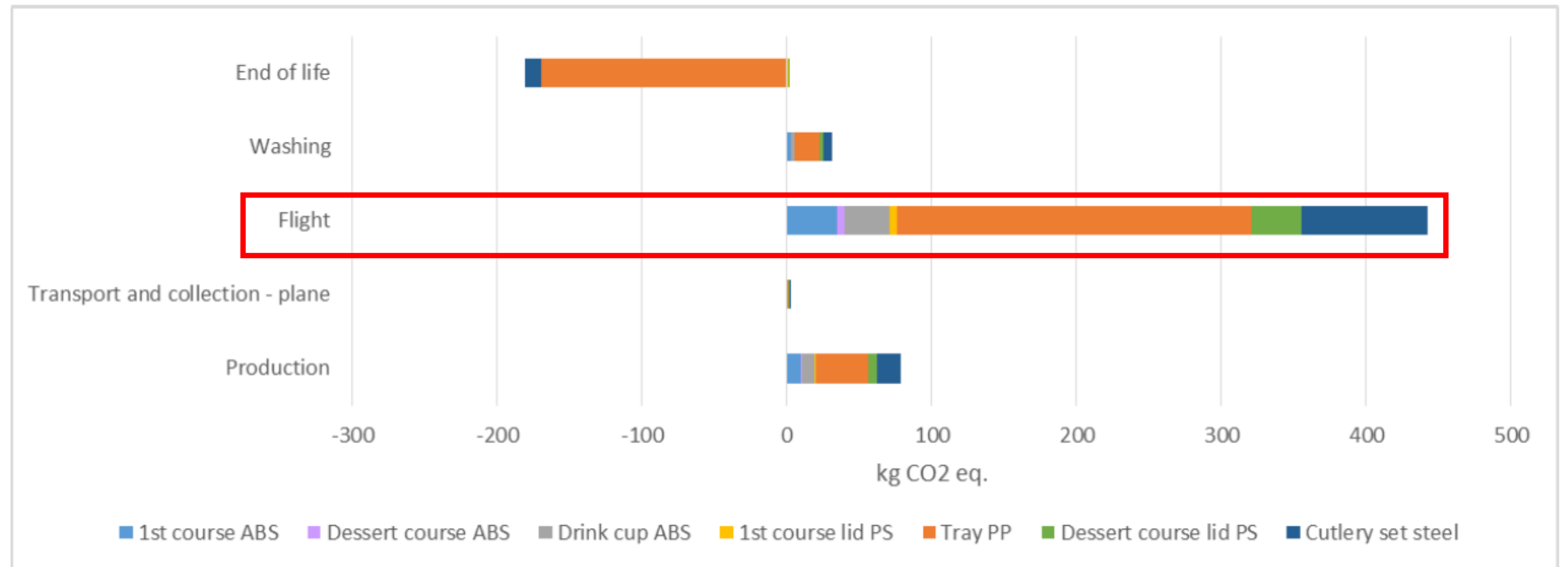


Results



Results

Reusable



Single use

Next steps

❖ Sensibility analysis of:

- Distance of flight.
- Payload.
- Number of uses.
- ...

❖ Find the best solution for each item:



#PlasticsStrategy



شكرا

감사합니다.

OBRIGADO

DANKE

GRACIAS

TAK

ขอบคุณ

GRAZIE

THANK YOU

ありがとう

谢谢

TEŞEKKÜRLER

БЛАГОДАРЮ
ВАС

MERCI