Cmartlife – C12.1

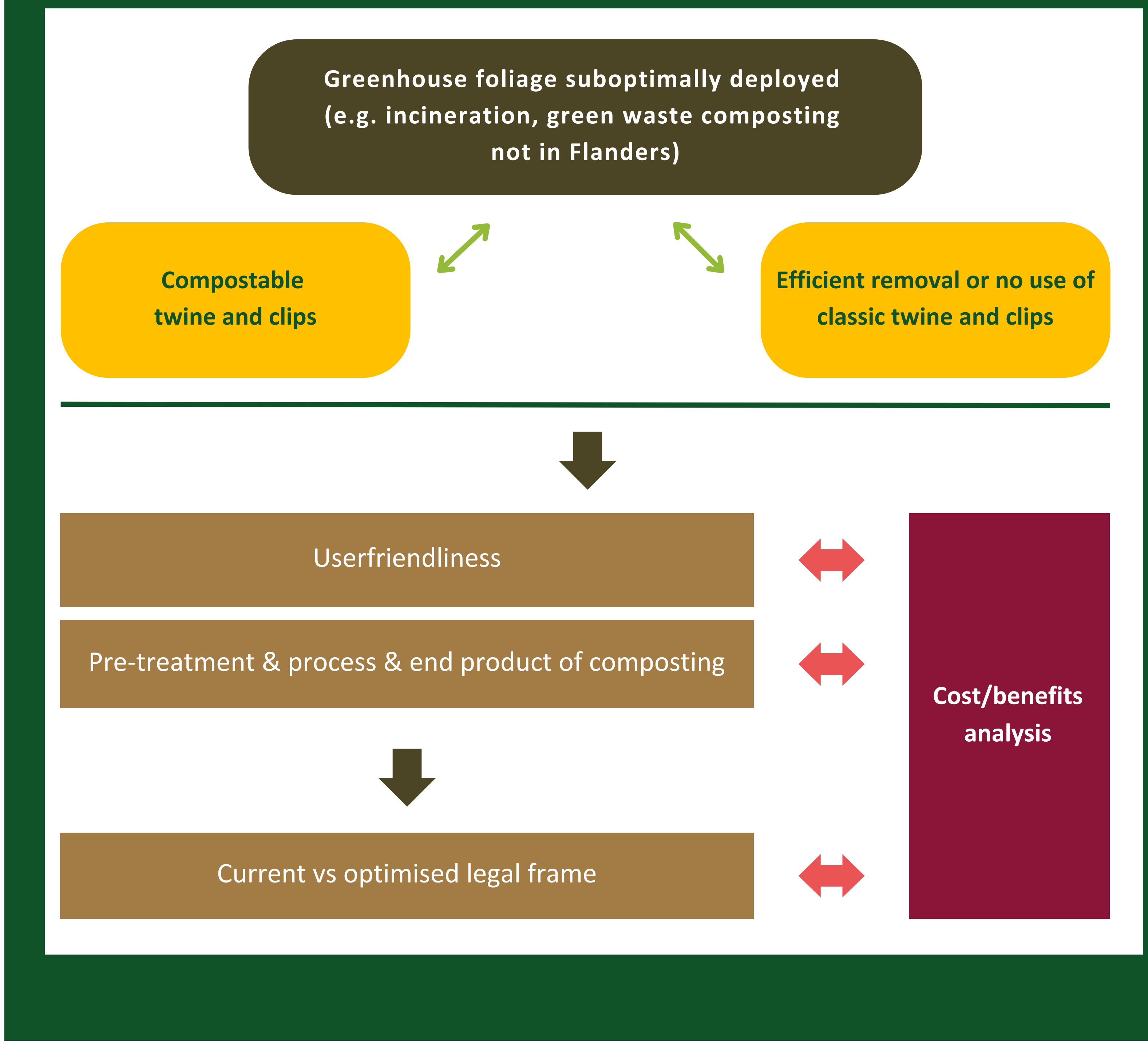
Reducing plastic contamination in biowaste from vegetable production

Goal

A more sustainable processing of greenhouse foliage from tomatoes, peppers, zucchinis, eggplants and cucumbers

Goal	Type of ropes	Type of disposal
From: **conventional scenario**	Foliage with PP/PA rope and plastic clips	Incineration green waste composting not in Flanders
To: **closing the cycle in a local, high-quality and economically responsible manner**	Foliage without rope and clips (removed by pre-treatment)	Green waste composting in Flanders
	Foliage with biodegradable rope (cotton-viscose, jute/PLA), biodegradable or metal clips	
	Foliage with biodegradable rope and no clips or with Qlipr-system	

Structure



Greenhouse foliage suboptimally deployed (e.g. incineration, green waste composting not in Flanders)

Compostable twine and clips

Efficient removal or no use of classic twine and clips

Userfriendliness

Pre-treatment & process & end product of composting

Current vs optimised legal frame

Cost/benefits analysis

WP 1: Matrix of materials and processing methods commonly used in greenhouse cultivation

WP 2: Verifying possibilities of pre-treatment and/or composting of greenhouse waste, with growers and composters

WP 3: Optimisation of legal framework + manual with recommendations for stakeholders + cost-benefit analysis

WP 4: Dissemination

Results

- **Matrix: gathering information about the greenhouse cultivation of tomatoes, peppers, zucchinis, eggplants and cucumbers:**

✓ cultivation period,
✓ stalk and surface data,
✓ total area cultivated,
✓ total vegetable production,
✓ amount of derived foliage,
✓ usual processing and disposal routes (incl. prices)
✓ versus alternative processing and disposal routes (incl. prices)

	total area cultivated in Flanders (ha)	amount of foliage in Flanders (ton)
tomatoes	540	16.200
peppers	100	2.500
zucchinis	90	3.150
eggplants	23	644
cucumbers	50	1.500
TOTAL		**23.994**

- **Cultivation (user friendly, performance):**

✓ growing tomatoes and peppers with biodegradable rope and without plastic clips or with metal clips is possible

- **Processing**

✓ nylon ropes and plastic clips
  - separation of foliage from ropes and clips is not possible

✓ composting in open air (on a green waste composting site)
  - 10 and 30 % of greenhouse foliage mixed with green waste is successful
  - 100 % of greenhouse foliage is not successful
  - jute twine and cotton-viscose twine: sieving after composting is necessary

- **Draft of legal optimisation: foliage can be composted at a green composting site**

- **Cost-benefit**

✓ biodegradable rope & clips need a small to relatively high GMO support to be less costly
✓ the metal clips and QLIPR-scenario's prove to be immediately more profitable
✓ online simulation tool (vlaco.be/c12-1)

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