

Sustainable Logistics

An investigation for a CO₂-free transport of olive oil

Initial Situation

Our client, Lebensmittelkampagne, transports products to German-speaking countries four times a year. One campaign consist of approximately 13 pallets of food. Mainly olive oil and other seasonal Greek products are transported. The difficulty is that the logistics sector is more concerned with solutions that are economical and efficient than ecological.

Project goals

The project goal is to evaluate different transportation options based on various criteria such as sustainability, costs, transport duration, etc. In addition to the actual energy consumption of the transportation method, grey energy is also analysed and presented to the client in a comparative way. Possible scenarios are presented for Lebensmittelkampagne's future international logistics up to 2030.

Results

Six options have been investigated and all of them have the same starting point and destination. A mix of transportation methods will lead to an improvement of the CO₂ footprint. The current situation does not offer a sustainable transportation of small amounts. Therefore, a guide was developed to assess future offers. Indicators which make it possible to reach their 2030 goals are listed.

Option F

Pylos, Athens, Tesseloniki, Munich, Weil am Rhein

109g CO₂

17 days



Option E

Pylos, Athens, Tesseloniki, Munich, Weil am Rhein

380g CO₂

14 days

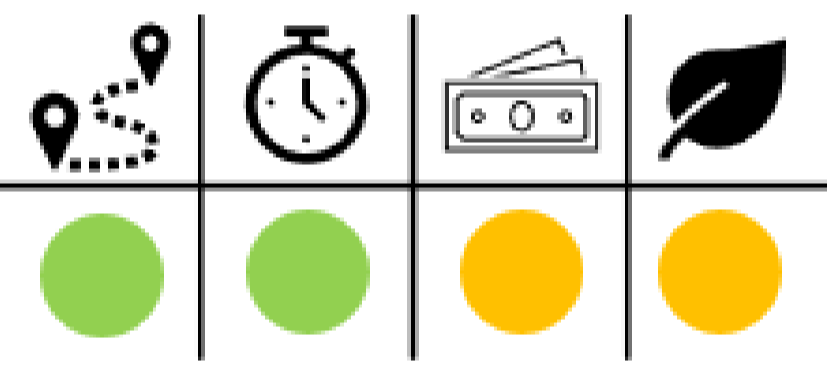


Option A

Pylos, Patras, Trieste, Munich, Weil am Rhein

56g CO₂

10 days

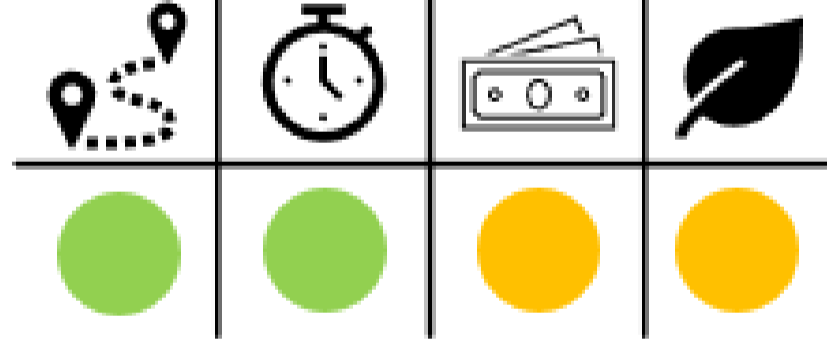


Option B

Pylos, Patras, Bari, Milan, Weil am Rhein

60g CO₂

10 days



Option C

Pylos, Bari, Milan, Weil am Rhein

33g CO₂

14 days

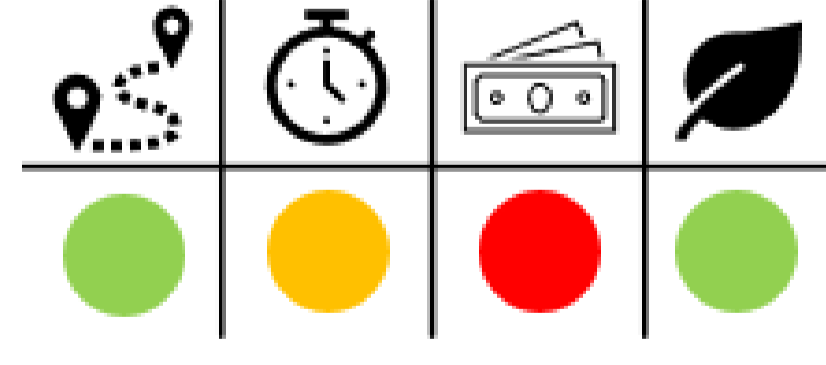


Option D

Pylos, Genoa, Milan, Weil am Rhein

12g CO₂





17 days



Means of transport

-  Railway
-  Lorry
-  Lorry with Biodiesel
-  Containership
-  Sailing ship

Legend

-  Locations along the route
-  Equivalent per bottle with 1kg weight
-  Transport duration
-  Cost of delivery

Project number: EUT-P3bb-20HS-02

Project coach: Prof. Dr. Michael Bösch

Project leader: Karen Hartmann

Project members: Josias Schmid & Claudio Müller