

# Interreg



EUROPEAN UNION

## Balkan-Mediterranean

## BalkanRoad

### ROAD Tool

The web-based GIS application for the estimation of Carbon Footprint

by Maria K. Doula, Angelos Hliaoutakis, Nikos S. Papadopoulos

# Companies

Create or update agribusiness information

Dashboard

Agribusiness 1

Areas 9

Kir-Yanni

Since 1997

Draw agribusiness areas by using the tools on top of the map.



## Feature title

Update

Delete

Name Pilot field 42

Description Soil Type: Clay, pH: 7.5, Slope: 1%, Exposure: East, Year of latest planting: 2011, Vine density (vines/hectare): Lyra 2230 / Royat 3100, Row Orientation: East, Rootstock:

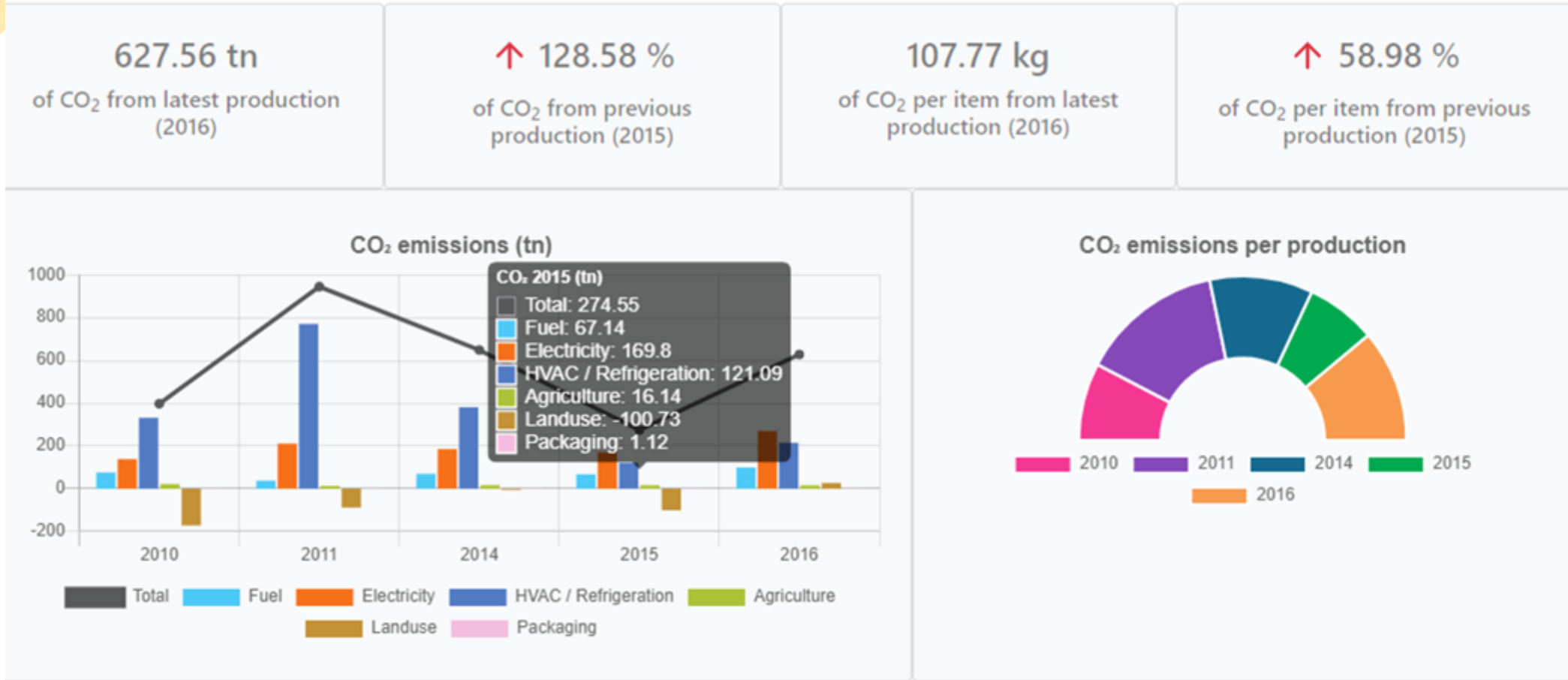
Area (m<sup>2</sup>) 7017.03711396

Save data

The ROAD tool was designed and developed to estimate the environmental footprint of enterprises but also of other entities.

The tool is a user-friendly application, the uniqueness of which is the conformation to Balkan regional particularities.

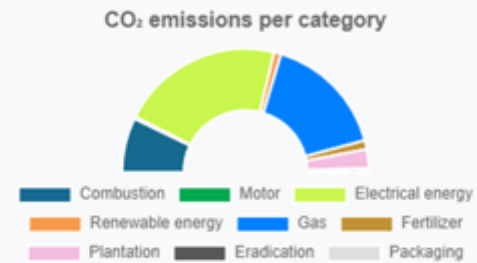
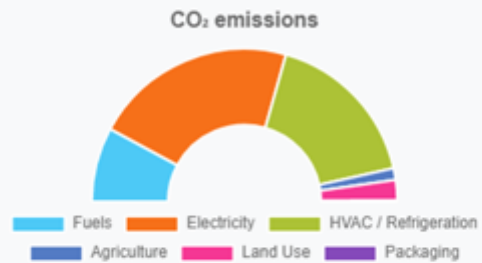
The ROAD Tool provides visual information on greenhouse gas emissions at each stage of the production, making it easy to identify those stages that can be further improved.



The user, by providing data for annual energy, materials and resources consumption, can estimate the carbon dioxide emissions as well as the waste and water footprint of the enterprise or of any other entity of interest.

627.56 tn  
total CO<sub>2</sub>

107.77 kg  
CO<sub>2</sub> per item



## Fuels

99  
tn CO<sub>2</sub>

CO<sub>2</sub> Motor 4.13 tn  
CO<sub>2</sub> Combustion 94.88 tn

## Electricity

269.8  
tn CO<sub>2</sub>

CO<sub>2</sub> Electrical 282.11 tn  
CO<sub>2</sub> Renewable 12.31 tn

## HVAC & Refrigeration

214.75  
tn CO<sub>2</sub>

CO<sub>2</sub> Gas 214.752 tn

## Agriculture

15.43  
tn CO<sub>2</sub>

CO<sub>2</sub> Fertilizer 15.43 tn

## Land Use

27.01  
tn CO<sub>2</sub>

CO<sub>2</sub> Plantation 32.59 tn  
CO<sub>2</sub> Eradication 5.58 tn

## Packaging

1.57  
tn CO<sub>2</sub>

CO<sub>2</sub> Packaging 1.568 tn

The ROAD tool was developed after studying three pilot agribusiness cases: a winery, an apple juice plant and a pepper paste plant, the processing line of which include all production stages, i.e. cultivation, harvesting, processing, bottling, packaging and distribution.

For the development of the algorithm, direct and indirect emissions were considered, as described in the IPCC guidelines.

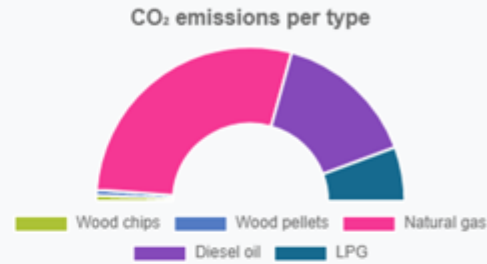
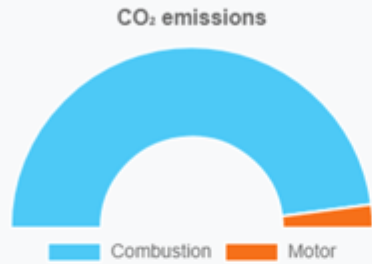
Tier 1, and for some processes Tier 2, approaches were adopted.

# Fuels

Fuels emissions for 2016

Production 2016

99 tn  
total CO<sub>2</sub>



The tool enables the producer to collect and further analyze data regarding all production phases of the marketable product (cultivation and processing stages).

By inserting the appropriate quantitative data, through a user-friendly and intuitive interface, the ROAD tool models the respective processes, identifying the most important aspects of the production system in order to discriminate the activities with the highest environmental impacts that vary from the industry norms.

Combustion Fuel 4

Motor fuels 6

+ New entry

Entry 0

0.48  
tn CO<sub>2</sub>

Fuel Type Natural gas

Fuel Ammount 243 tn (or lt)

Edit Delete

Entry 1

0.35  
tn CO<sub>2</sub>

Fuel Type Diesel oil

Fuel Ammount 129 tn (or lt)

Edit Delete

Entry 2

0.72  
tn CO<sub>2</sub>

Fuel Type Natural gas

Fuel Ammount 359 tn (or lt)

Edit Delete

Entry 3

0.92  
tn CO<sub>2</sub>

Fuel Type Diesel oil

Fuel Ammount 342 tn (or lt)

Edit Delete

Entry 4

1.18  
tn CO<sub>2</sub>

Fuel Type Natural gas

Fuel Ammount 589 tn (or lt)

Edit Delete

Entry 5

0.48  
tn CO<sub>2</sub>

Fuel Type LPG

Fuel Ammount 316 tn (or lt)

Edit Delete



**OpenEARTH: The Zero Carbon Footprint Conference**

## OpenEARTH

Conference on Climate Change  
Adaptation and Mitigation

12-14 February 2020

Holiday Inn, Thessaloniki Greece

**Interreg**   
Balkan-Mediterranean  
BalkanRoad

Project co-funded by the European Union and National Funds of the participating countries

**Discover ROAD Tool during Workshop I of the OpenEARTH Conference, on 12 February 2020**

Register yourself by sending an email to [openearth2020@bpi.gr](mailto:openearth2020@bpi.gr)