

*Follow us:*



@esekarditsas



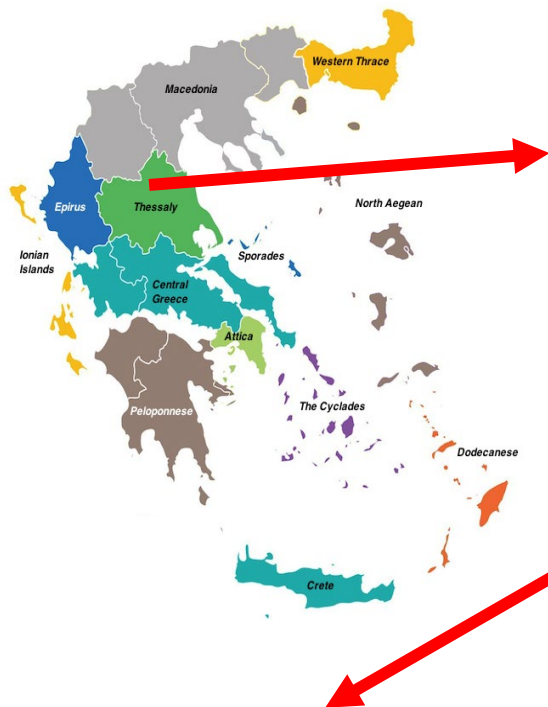
*www.esek.gr*

**RANIA MILONA**

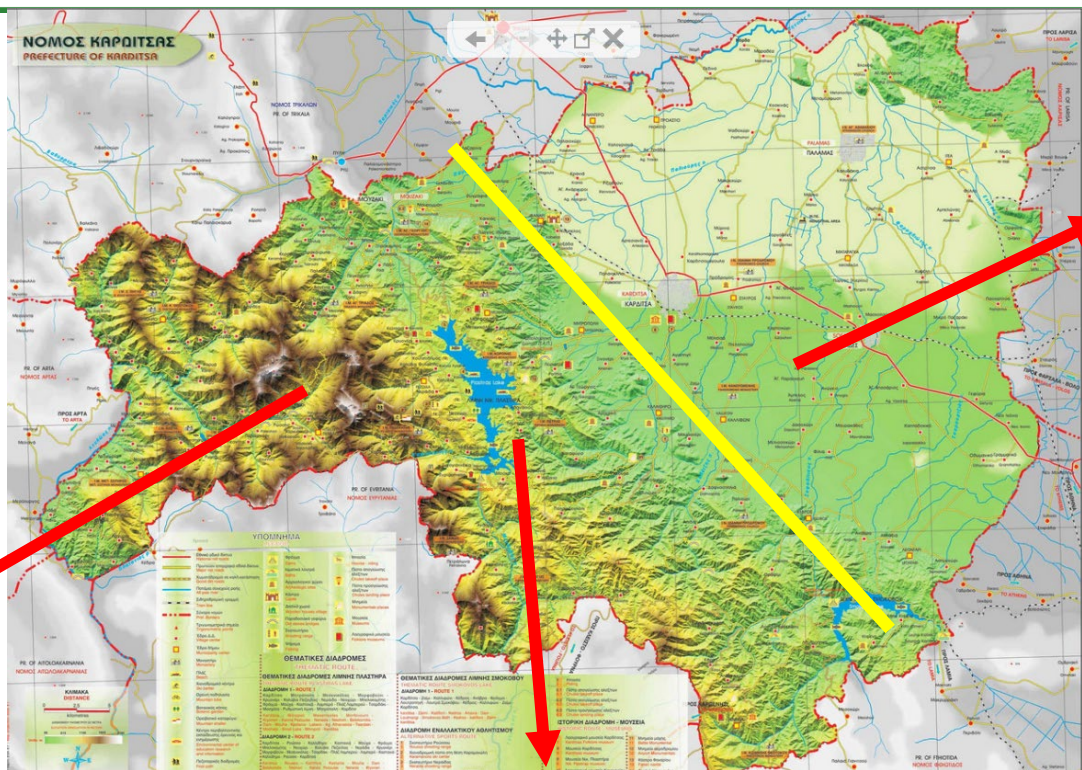
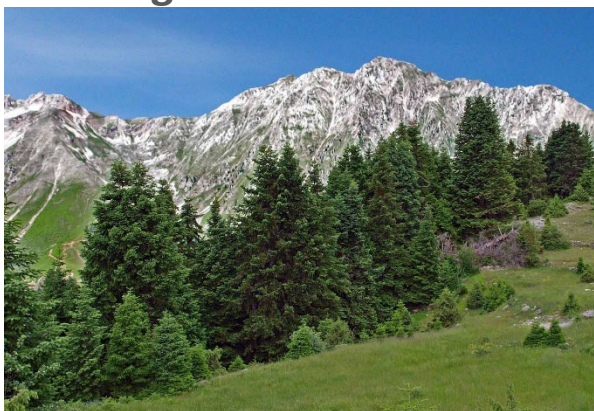
*Member of Energy community of Karditsa*



# The Regional Unit of Karditsa



**Agrafa Mountains**



**Plastira Lake**



**The Karditsa plain**



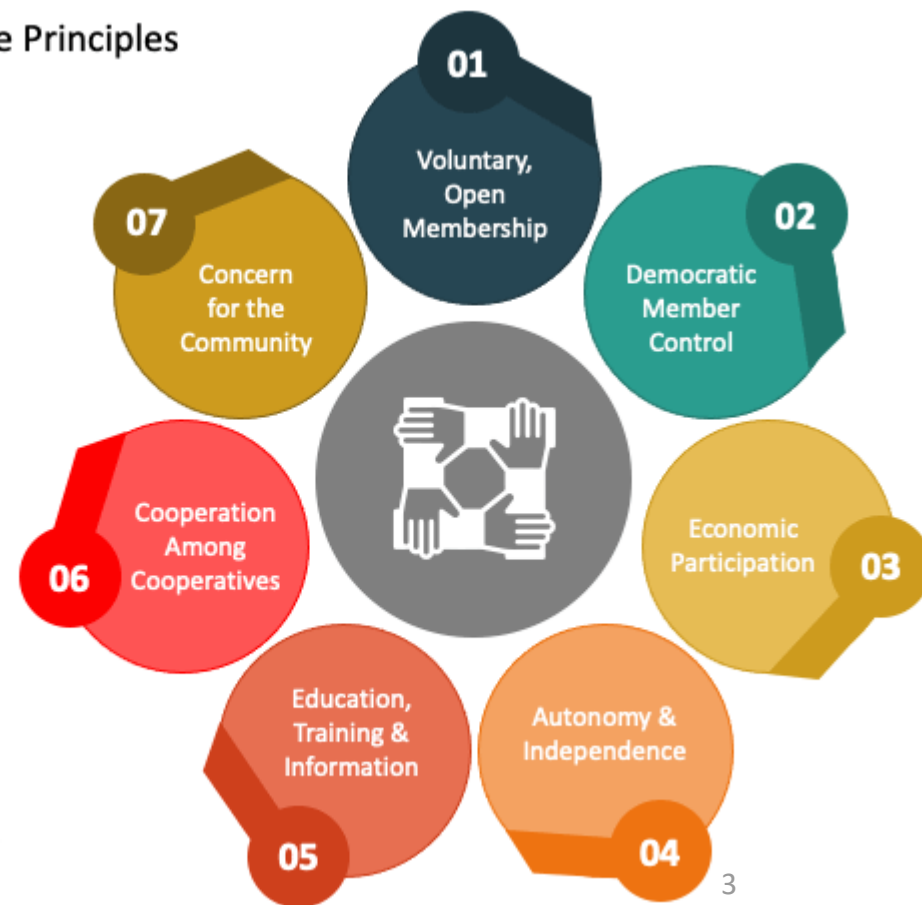
- **Population: 113,544 inh. (2011 census)**
  - 1 % of the Greek population
  - 34 % of the local population lives in the city of Karditsa
- **Area: 2.636 Km<sup>2</sup>**
  - Flat land: 47.7 %
  - Mountainous areas: 44 %
  - Semi-mountainous areas: 8.3 %
- **Eastern part: part of the Thessaly plain**
- **Western part: Agrafa mountains**



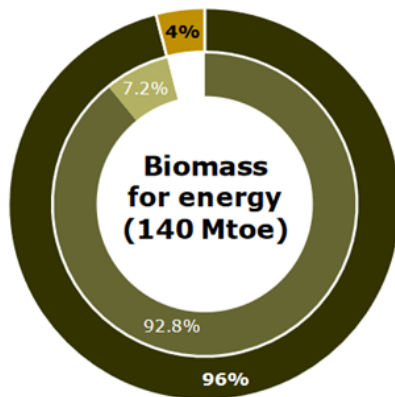
# The Energy Community of Karditsa – a short history



## 7 Cooperative Principles



# Why Biomass??



- Imported into EU
- Produced in the EU
- Transformed in source MS
- Transformed in different MS





# Potential biomass in the prefecture of Karditsa





# Residual biomass in the prefecture of Karditsa

Residual **agricultural** biomass: 150.000 – 200.000 ton/year

Residual **forest** biomass: 40.000 – 100.000 ton/year

Wood **industries** residues: 6.000 – 10.000 ton/year

Residual **Municipal** biomass : 2.000 – 4.000 ton/year





November 2016



November 2017

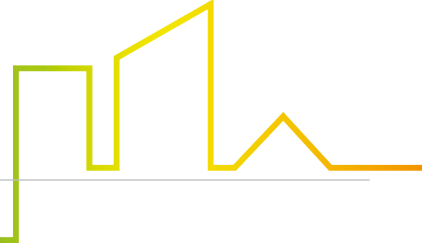




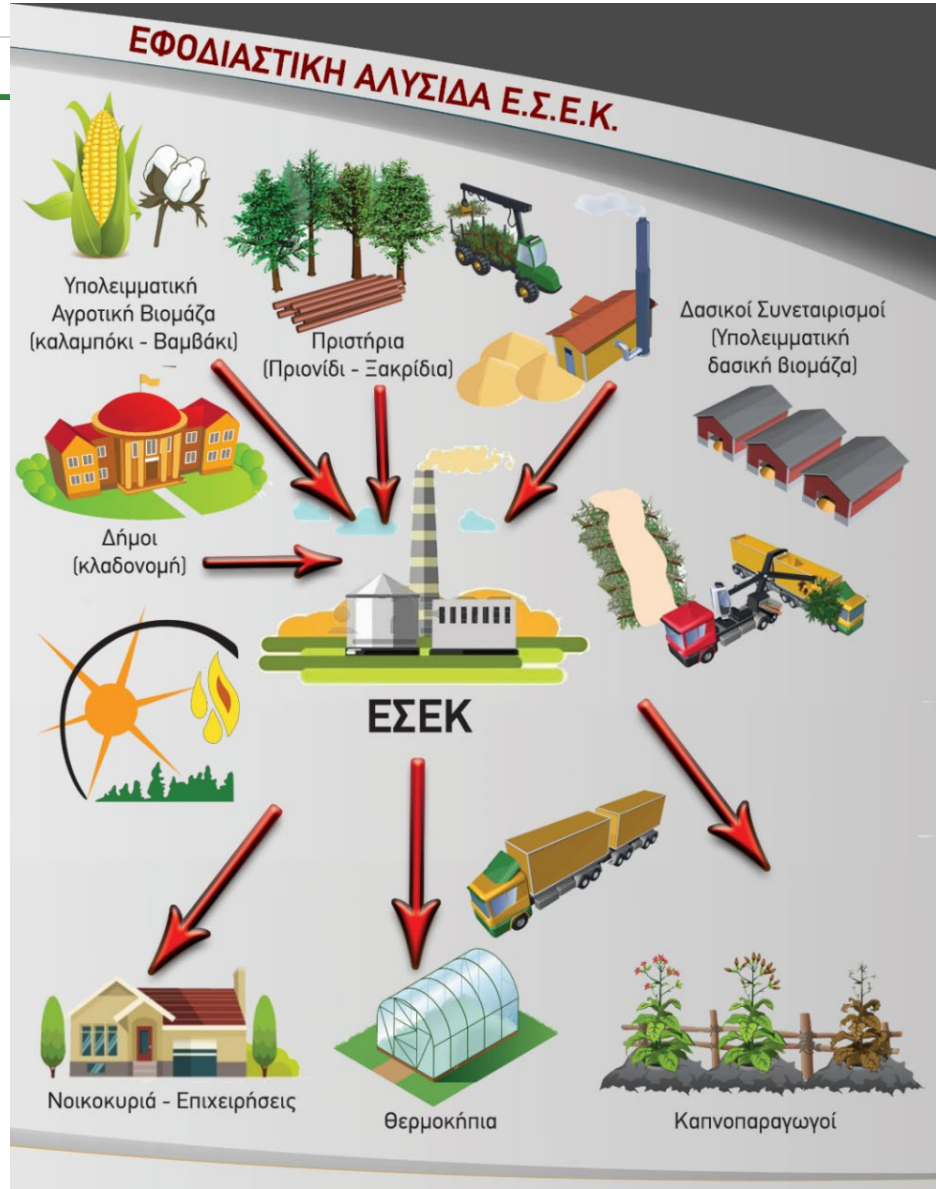
# Solid biofuel plant









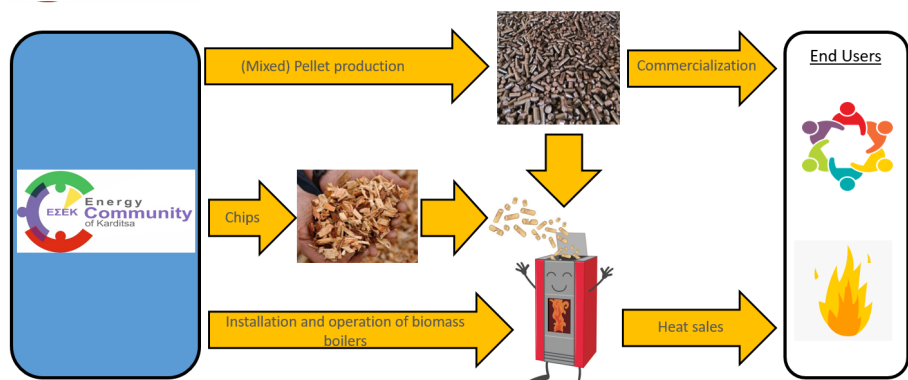
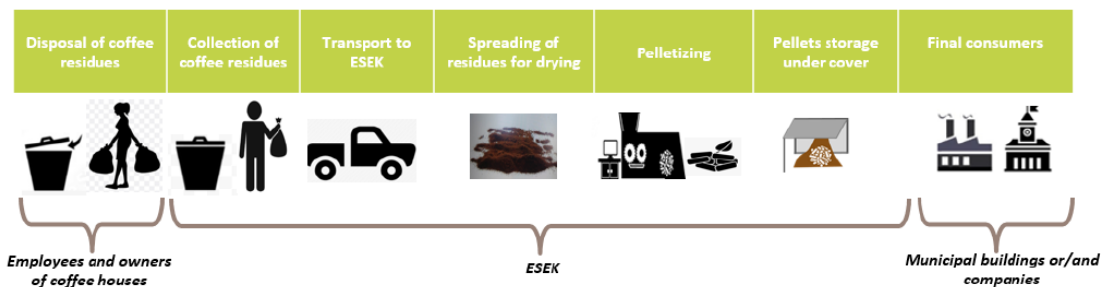
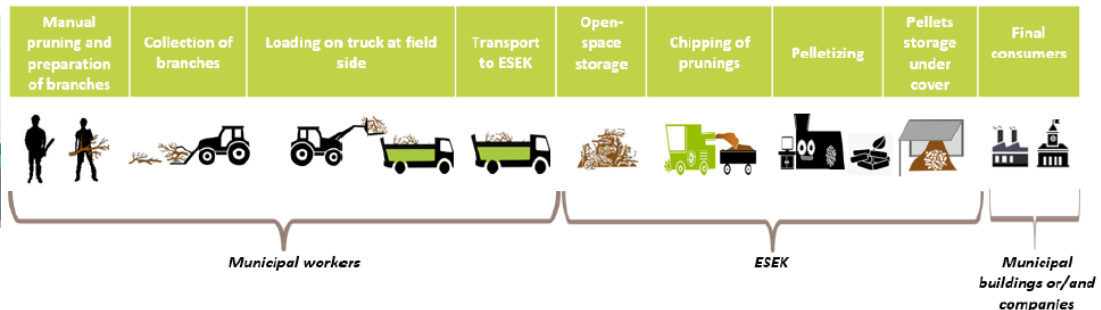
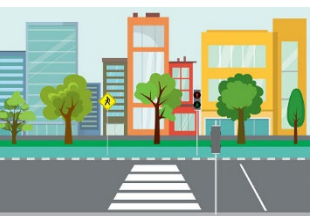
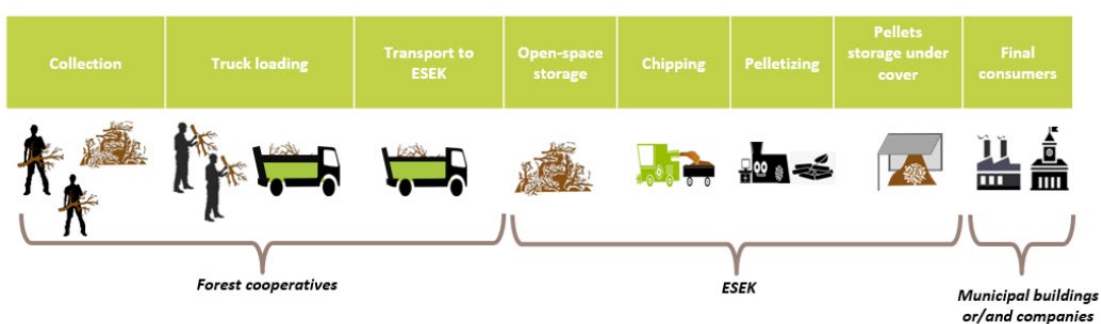




# Supply chain







Municipality	Forest (Ha)	%
Karditsa	15,063	22%
Limni Plastira	7,282	11%
Sofades	11,934	17%
Mouzaki	11,283	17%
Argithea	22,776	33%
Total	68,337	100%

cost		unit	value
Price set by cooperatives regarding the harvesting of residues		€/t	25
Fuel for the transportation of residues		€/t	8
Sum		€/t	33

Cost	unit	value
Salary* attributed to transportation of residues	€/t	18.2
Fuel for the transportation of residues	€/t	10.88
Sum	€/t	29.08

Parameter	Unit	Value
Moisture	% a.r.	61.7
Volatile	% d.b.	81
Ash	% d.b.	1.6
C	% d.b.	53.34
H	% d.b.	6.79
N	% d.b.	1.53
S	% d.b.	0.13
Cl	% d.b.	0.06
HHV	MJ/kg d.b	22.83
LHV	MJ/kg a.r.	6.68

Cost of natural gas (€)		Number of schools	Thermal energy cost (€/kWh) <sup>37</sup>	Energy consumption (kWh)
Primary education	70,526	19	0.16	440,790
Secondary education	55,540	12	0.16	347,123
Cost of oil (€)				
Primary education	12,000	4	0.13	92,308
Secondary education	7,000	1	0.13	53,846
Sum	1,45066	36		934,067



# New ESEK activities: biomass sourcing

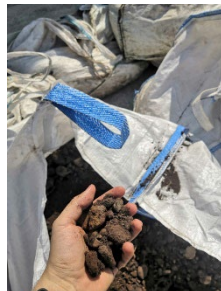


Municipality of Karditsa

City tree pruning

Chipping

Loading of the woodchips and transportation



Local cafeterias

Collection of the residual coffee

Transportation of the residual coffee



Municipality of Lake Plastira in collaboration with local forest cooperative

Removal of forest residues from local forests

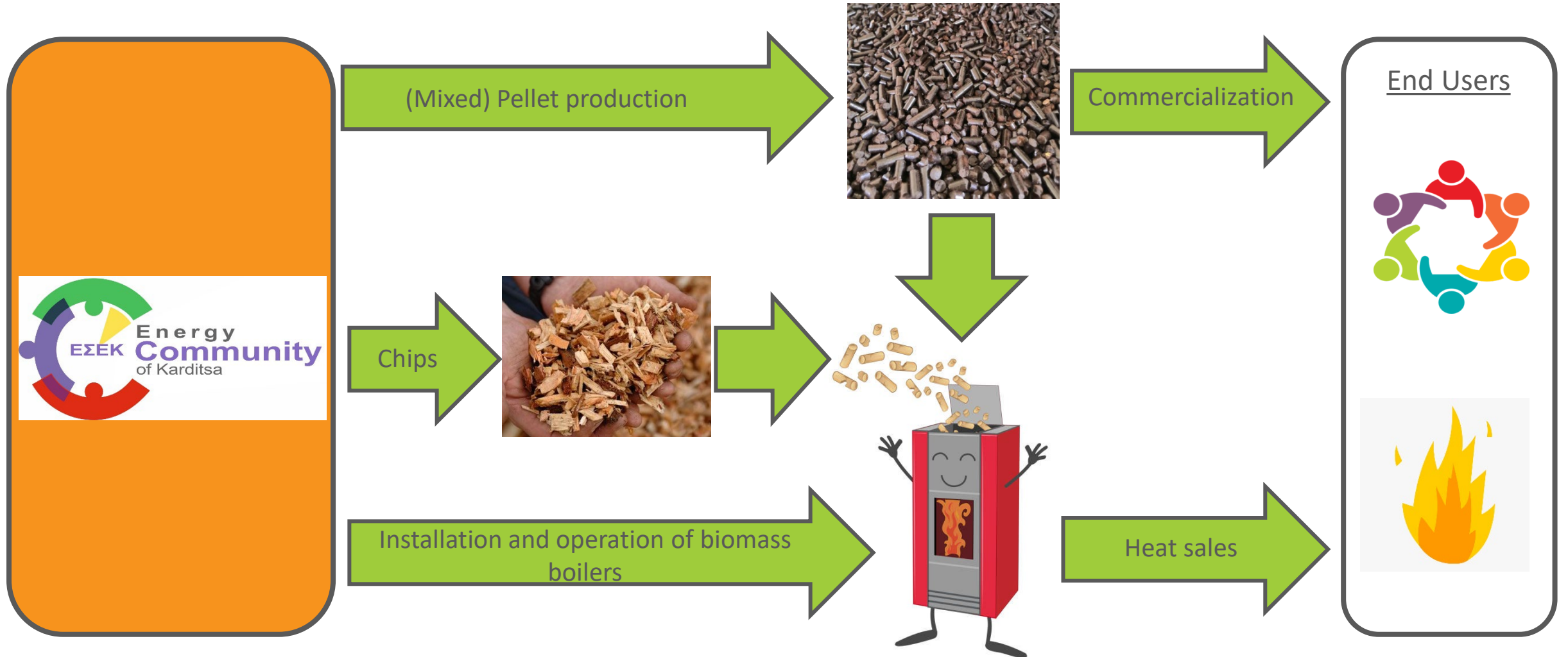
Chipping

Loading of the woodchips and transportation





# New ESEK activities: fuels & heat sales





# Raising awareness campaigns

**Coffee collection activities**  
**Raising awareness campaigns**

**Available quantities**

600 Tn / year (wet)



**Municipal cost reduction**

45.000 € / year

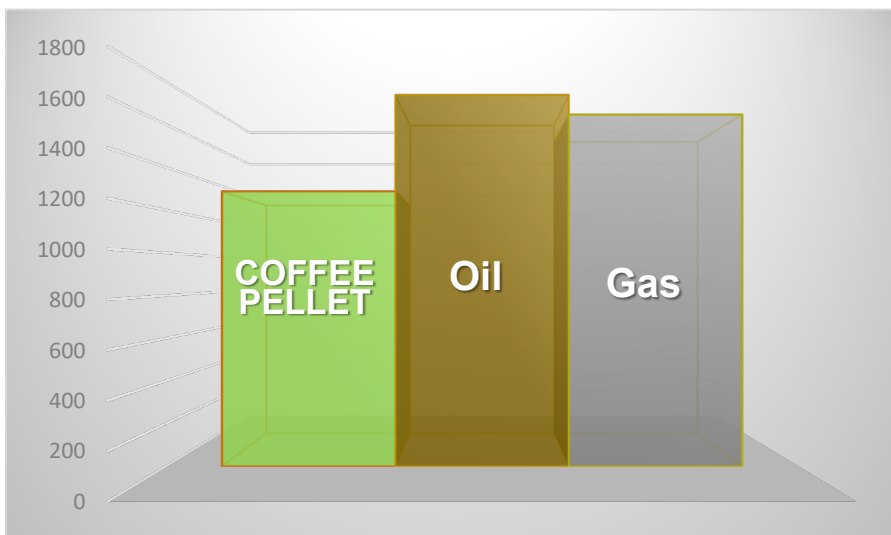


**καφόςμo**<sup>®</sup>  
από υπολείμματα καφέ

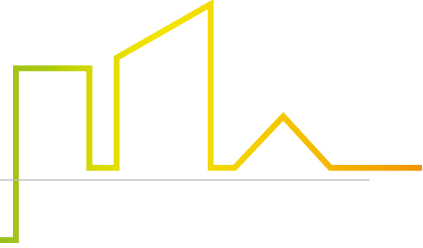




# Kindergarten Fossil fuel replacement







## FREE SOLOR GREENPEACE

✓ Photovoltaic construction for net metering (rooftops)





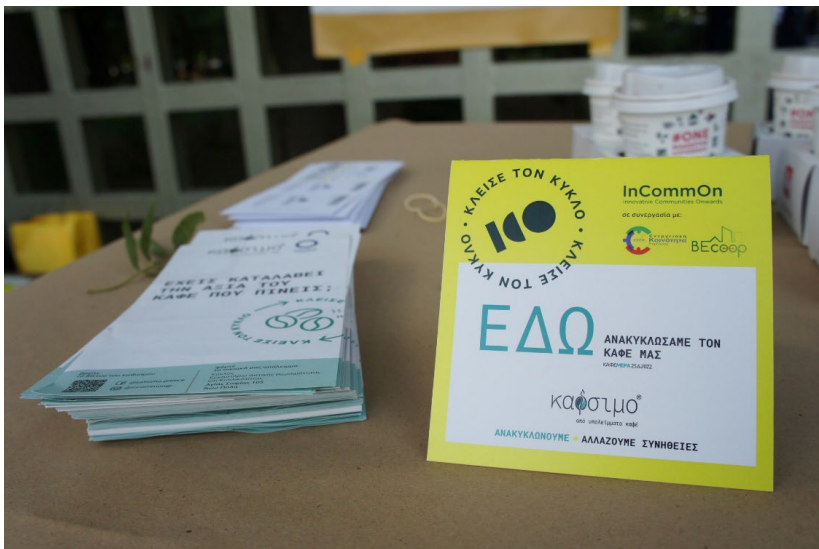
✓ Photovoltaic construction for virtual ~~net metering~~- BILLING

✓ 1 MW (Land)

✓ 100 KW (Roof)









Ενεργειακή Κοινότητα Καρδίτσας



# η δική μας ενέργεια



## 25.06.2022

ώρα 16:00-22:00 **Παυσίλυπο**

















