EUROPEAN PARLIAMENT

Workshop on AGRO-RESIDUES AT THE CROSSROAD TOWARDS 2030

Brussels, European Parliament, 17 May 2018

uPrunning

Take-off for sustainable supply of woody biomass from agrarian pruning and plantation removal

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This project has received funding from the European Union's Horizon 2020 research and innovation programme. Grant Agreement No 691748
EUROPEAN COMMISSION
Innovation and Networks Executive Agency
ENERGY RESEARCH

uP_running project

Take-off for Sustainable Supply of Woody Biomass from Agrarian Pruning and Plantation Removal

Horizon 2020

EU Research and Innovation Programme (2014-2020)

Societal challenge: "Secure, Clean and Efficient Energy"

Call LCE "Competitive Low-Carbon Energy"

LCE 14-2015: "Market uptake of existing and emerging sustainable bioenergy"

Action type: Cooperation and Support Action

Duration: from April 2016 to June 2019

the partners involved in uP_running


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GR


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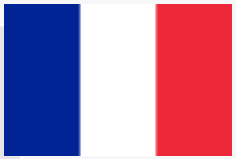
UA


PT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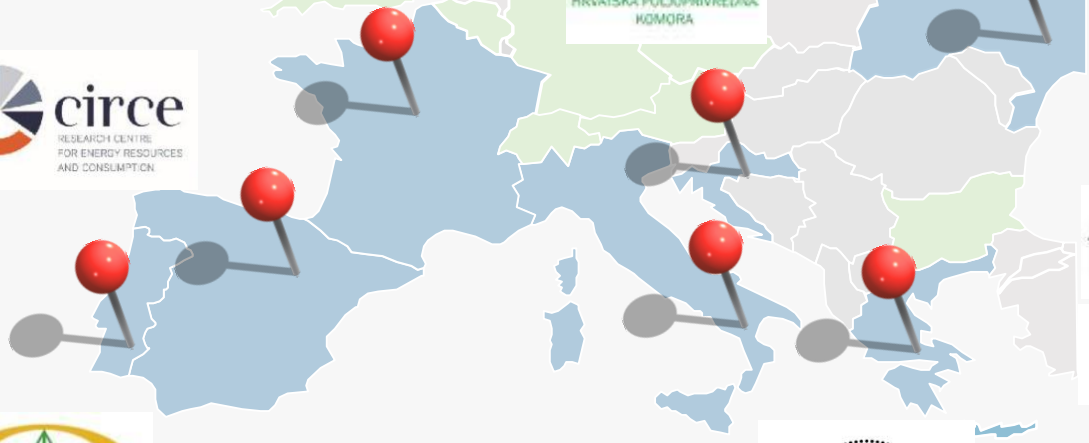

SEC Biomass

BIOMASS

UkrainianAgribusinessClub

ServicesCOOP DE FRANCE
Union de Coopératives Agricoles

HPK
HRVATSKA POLJOPRIVREDNA KOMORA

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CONFAGRI
Confederação Nacional das Cooperativas Agrícolas e do Crédito Agrícola de Portugal, CCRL

DAREPUGLIA
Distretto Tecnologico Agroalimentare

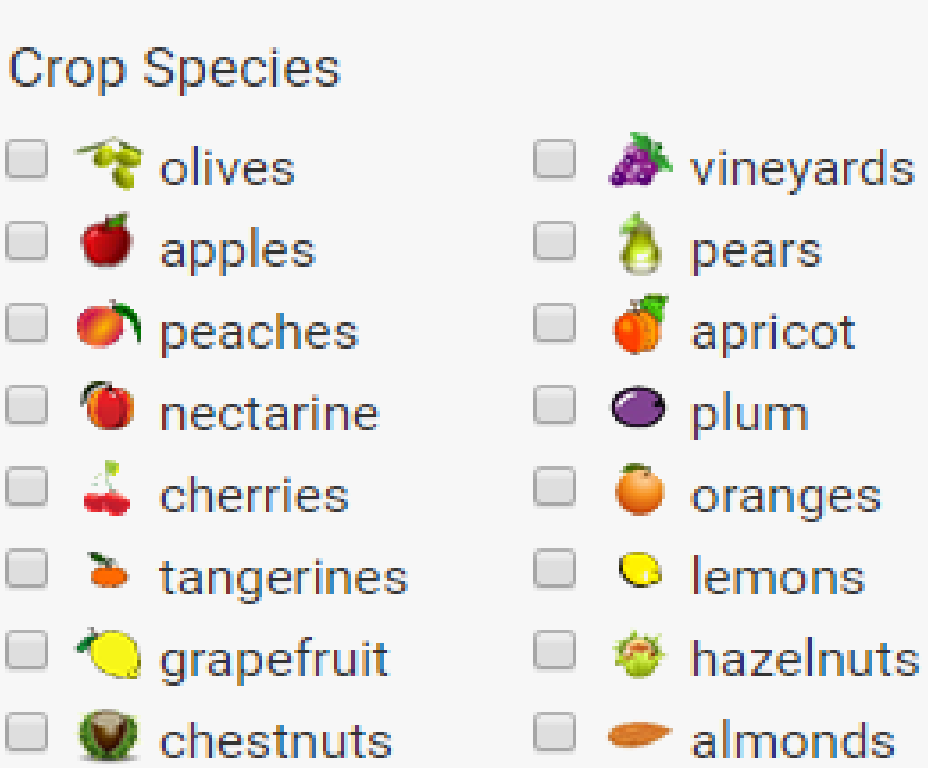
Università di Foggia

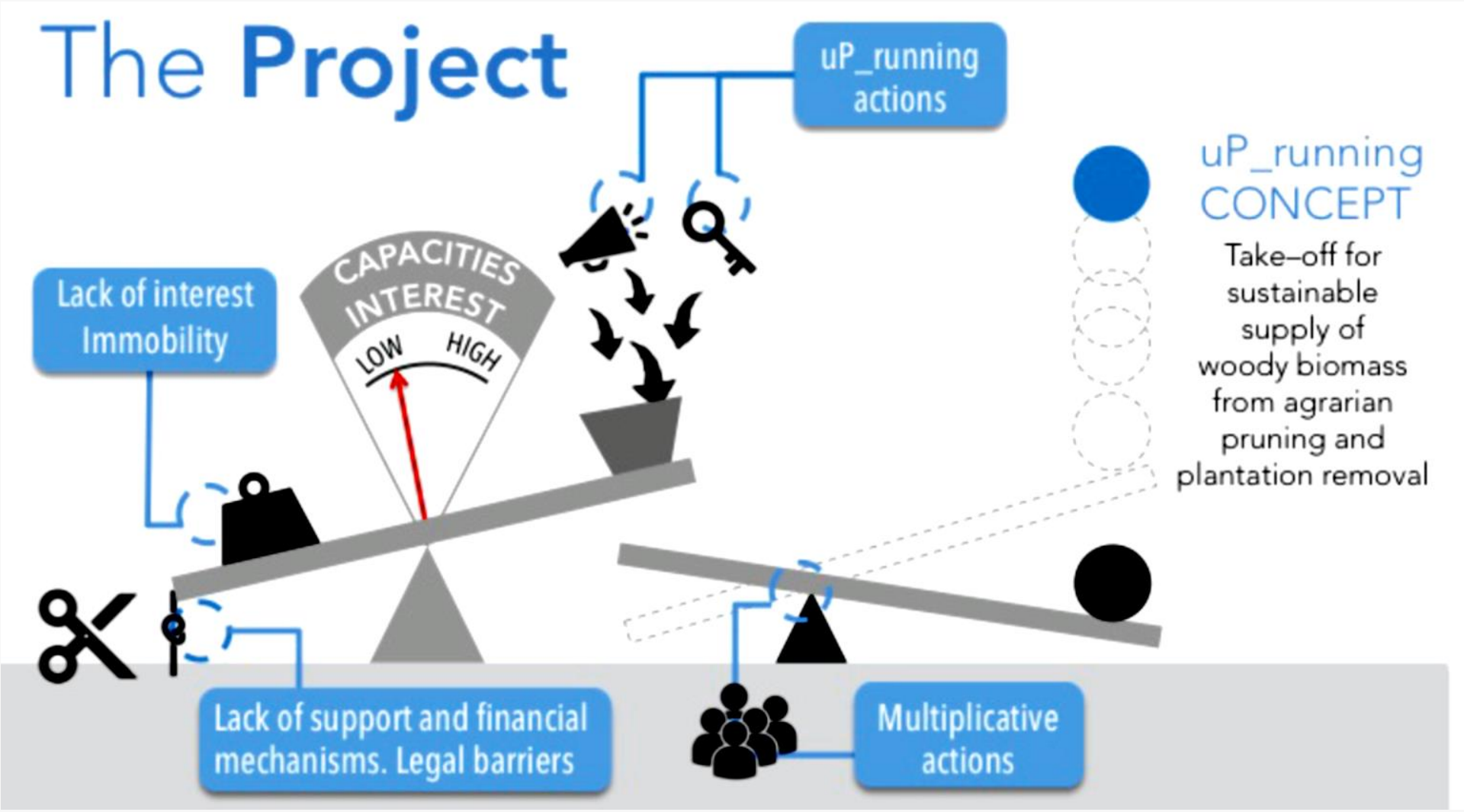
APPR = Agrarian Pruning and Plantation Removal

Pruning can be considered a suitable feedstock for renewable energy production, both thermal and/or power, to be addressed to farming operations, agro-industrial processes or to be sold to single or collective consumers

pruning as energy carrier

- Feedstock similar to forest wood, but generally of lower quality
- Not exactly chipped but rather shredded, therefore wood pieces are more irregular in dimensions
- Higher ash content and lower heating value (i.e. energy)




The Project
uP_running actions
uP_running CONCEPT
Take–off for sustainable supply of woody biomass from agrarian pruning and plantation removal
CAPACITIES
INTEREST
LOW
HIGH
Lack of interest Immobility
Lack of support and financial mechanisms. Legal barriers
Multiplicative actions

uP_running concept and strategy

uP_running

POTENTIAL DRIVING FORCES

- Greening the economy
- Circular economy
- Large potentials available
- Diversifying rural economies
- Improve air quality and reduce CO2 emissions
- Public initiatives exemplifying

EXISTING BARRIERS

- APPR largely spatially dispersed
- Low economic value of pruning
- Energy Policy unstable
- Lack of market driven incentives
- General scepticism of market actors
- Matter of secondary interest for society and policy makers

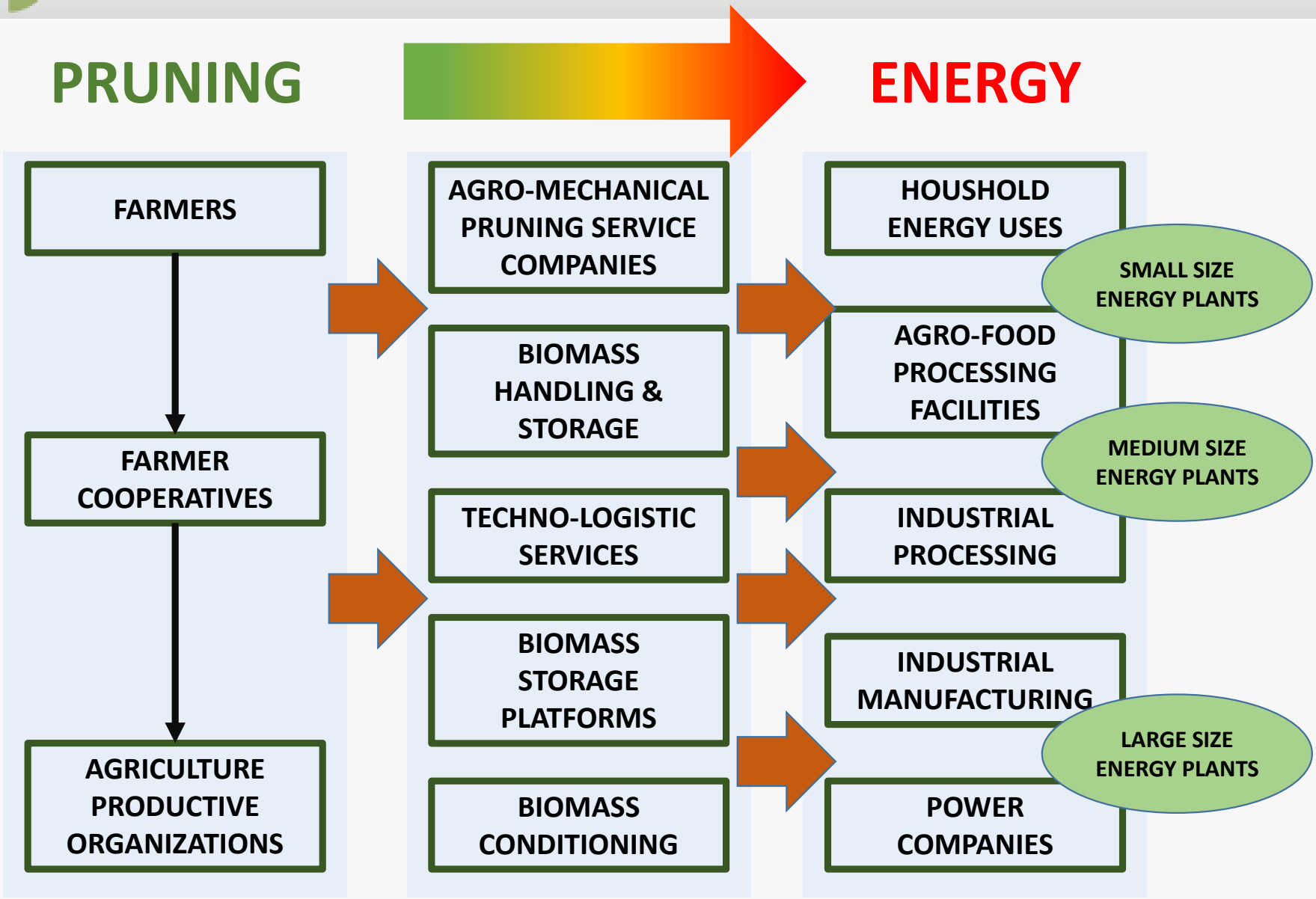
uP_running objectives and activities

- Performing actions to foster the development of the bioenergy sector
- Increasing the share of bioenergy in the final energy consumption
- Promoting the setting up and strengthening of local bioenergy supply chains
- Ensuring that the highest environmental criteria and quality standards are met
- Farmers should be encouraged to produce also non-food bioenergy carriers, alongside food, feed, and many other products

pruning can be shredded

pruning can be baled

the energy value chain based on pruning



Energy use of pruning is possible, feasible and affordable

VINYES XCALOR

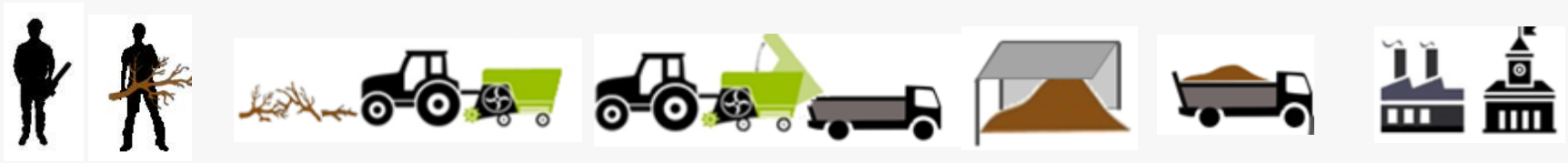
AJUNTAMENT VILAFRANCA DEL PENEDÈS

Vineyards Virtuous Cycle

"Vineryards 4 heat" at a glance	
Location	Vilafranca del Penedés, Spain
Type of APPR involved	Prunings
Crop species used	Vineyards (in espalier)
Year of initiation	2015
Volume of APPR mobilized (tons per year)	225 t/y on average (≤ 1 t/ha)
Surface area with permanent crops mobilized	375 ha in total (several scattered fields) (25,000 ha of vineyards in Penedés county)
Maximum radius of operation	< 15 km
Main product	Heat production - Boiler 500 kW + Boiler 130 kW
CO_2 emissions avoided	125 t saved in 2016
Number of jobs created	4 (permanent)
Total level of investment	0.6 M€

“Vineyard Virtuous Cycle”

Manual pruning and preparation of branches	Integrated collection with shredding	Download on truck at field side	Storage in a roofed facility	Transport to final users	On-site storage and energy conversion



Farmers

NOU VERD

Vilarnau, EMAVSA

Approx. 50 associated farmers (COVIDES)

Social Cooperative of Gardening Service (NOU VERD)

Municipal Water Company of Vilafranca (EMAVSA) managing the District Heating «La Girarda» that provides hot water to 4 public buildings

Winery «Cavas Vilnarau» Thermal energy in the winery process

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“Vineyard Virtuous Cycle”

Harvesting + pre-treatment process using the Cobra Collina

the roofed storage facility

The Cobra Collina (by Peruzzo) unloads vineyards pruning chips to a trailer

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Container placed at Cavas Vilarnau to supply heat to the winery

Hog fuel from vineyard prunings

www.up-running-observatory.eu/en/search.php?country=all

Search Filters

Select the data to be visualized

- Field Measurements Prunings
- Field Measurements Plantation Removal
- Mechanized Collection Prunings
- Mechanized Collection Plantation Removal
- Value chains

Select/Deselect All

Country

All Countries

Observatory map of biomass from agrarian pruning and plantation removal

soil conditions to remove pruning residues

SCORE	SOC (%)	TEXTURE (%)	SOIL SLOPE (%)	CLIMATIC CONDITION*
3	> 3.0	CLAY 10-30; And SILT < 50; And SAND < 50	< 5	> 30
2	1.5 - 3.0	CLAY 10-30; And SILT > 50; Or SAND > 50	5 - 20	20 - 30
1	< 1.5	CLAY < 10 Or CLAY > 30	> 20	< 20

* Aridity Index AI = P/(T+10); P = average annual rain (mm,); T= average annual temperature (°C)

rethink conventional agricultural practices

- Drive a change towards more sustainable agricultural practices
- Provide an alternative to current pruning residues management
- Reduce farmers costs avoiding traditional operations
- Reduce the risks of pest and diseases propagation

www.up-running.eu

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Thank you very much for your attention!

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