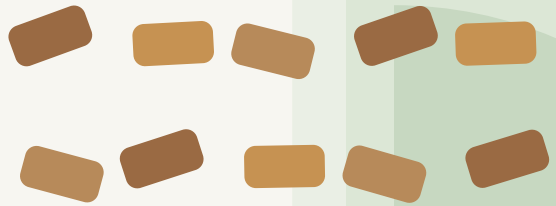
STRENGTHENING RURAL BUSINESSES FOR A MORE COMPETITIVE EUROPE

Turning Local Biomass Residues into Rural Business and Energy Value Chains

One Village – 1 MW of Bioenergy from Local Biomass



How can an underused local resource become the basis of a local business and energy value chain?

RESIDUES | BUSINESS | HEAT | VALUE

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GREEN ENERGY
Romanian Innovative Biomass CLUSTER

The territorial asset is already there

Rural competitiveness starts by recognising what already exists — and connecting it.

1

BIORESOURCES

Forestry residues
Agricultural residues
Wood-processing residues
Green waste

2

LOCAL BUSINESSES

Farmers • foresters
Wood processors
Logistics & service SMEs

3

INFRASTRUCTURE

Storage
Existing boilers / plants
Local utility assets

4

HEAT DEMAND

Public buildings
Businesses
Households

5

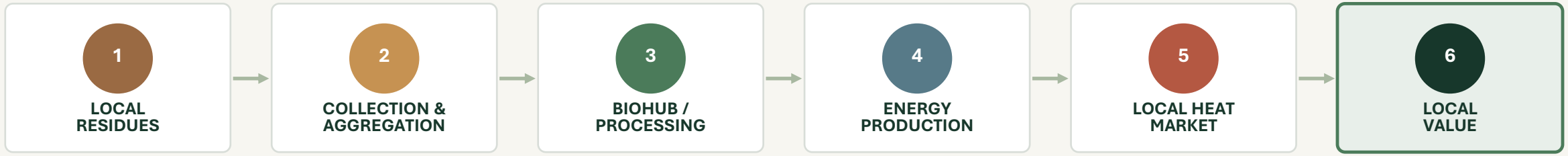
CAPACITY & INSTITUTIONS

Municipalities
Cooperatives • agencies
Local know-how

A residue becomes a territorial asset when it can generate economic value.

Turning biomass residues into a local value chain

The business opportunity appears when flows, contracts and users are organised end-to-end.



What must be organised

Supply

Volumes • quality • timing

Coordination

Contracts • logistics • roles

Demand

Reliable users • price • service

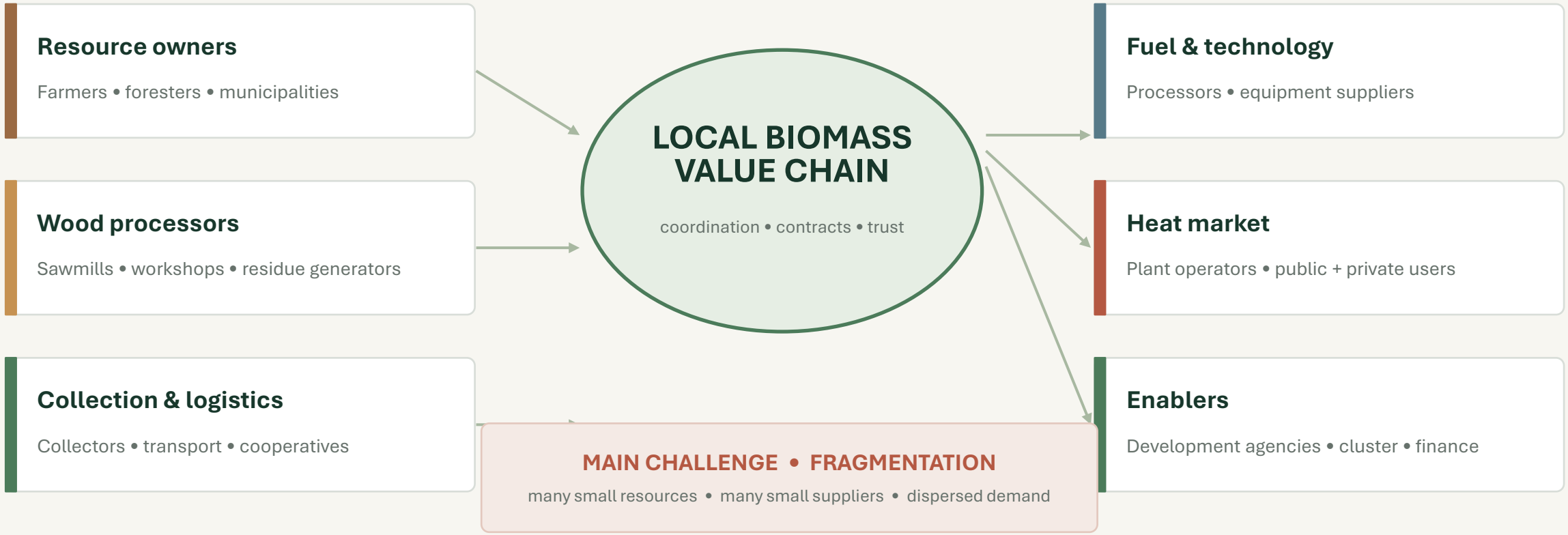
LOCAL VALUE

- Revenues
- Jobs
- Services
- Investment
- Energy security

The objective is not simply to burn biomass. The objective is to organise a functioning local market around it.

The rural business ecosystem

A viable chain is a network of specialised rural actors — coordinated around shared flows and demand.



Competitiveness comes from reducing coordination costs and making fragmented local assets act like one market.

One Village – 1 MW

A common resource base and market logic — not necessarily one 1 MW boiler.

1 MW

is a territorial scale marker

The village may reach it through one plant, several distributed systems, or a combination — as long as the resource base and market are organised.

CENTRALISED

District heating / anchor load
Shared plant + network

DISTRIBUTED

Several biomass systems
Separate heat users

HYBRID

Anchor users + distributed sites
Shared supply & logistics

ONE ORGANISED TERRITORIAL PLATFORM

RESOURCE BASE | LOGISTICS | CONTRACTS | HEAT USERS

One village. One resource base. One organised value chain. Multiple heat users.

One resource → multiple forms of value

A stronger rural economy emerges when energy expenditure, contracts and ownership circulate locally.

1

ECONOMIC VALUE

- Local income & supplier revenues
- SME contracts and recurring services
- Investment and maintenance activity
- More local energy expenditure retained locally

2

ENVIRONMENTAL VALUE

- Renewable heat from local feedstock
- Residue valorisation instead of disposal
- Reduced fossil-fuel dependence
- Circular use of territorial resources

3

SOCIAL / TERRITORIAL VALUE

- Rural employment and skills
- Cooperation across local actors
- Local ownership and participation
- Greater energy resilience

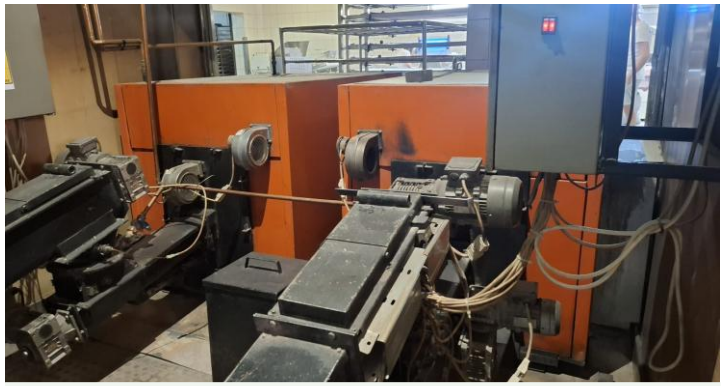
Rural competitiveness improves when one local resource produces several layers of value at the same time.

Ghelința: proof of concept

Local residues organised into a functioning local heat market.

Village territory

Biomass storage



Local heat use

≈ 3,500 m^3/year
local biomass resources

≈ 1,070 t/year
biomass flow

≈ 1,000 m^3
fuel storage

≈ 2.6 MW
installed biomass capacity

LOCAL RESIDUES → STORAGE & LOGISTICS → PUBLIC + PRIVATE + RESIDENTIAL HEAT

The ecosystem developed incrementally — through several investments and users, not one single project.

How the Ghelința ecosystem grew

Growth came through coordination and gradual market-building.

1 Identify resources

Many small residues become visible as one supply base.

2 Organise storage & logistics

Aggregation reduces fragmentation and supply risk.

3 Connect early public users

Anchor demand creates the first reliable local market.

4 Add private & residential users

More users improve utilisation and local value retention.

5 Expand capacity as demand grows

Capacity accumulates over time rather than in one investment.

KEY MESSAGE • The business model grew by connecting supply, logistics and demand step by step.

From Ghelința to replication

Local experience becomes useful when other territories can diagnose, compare and organise their own assets.

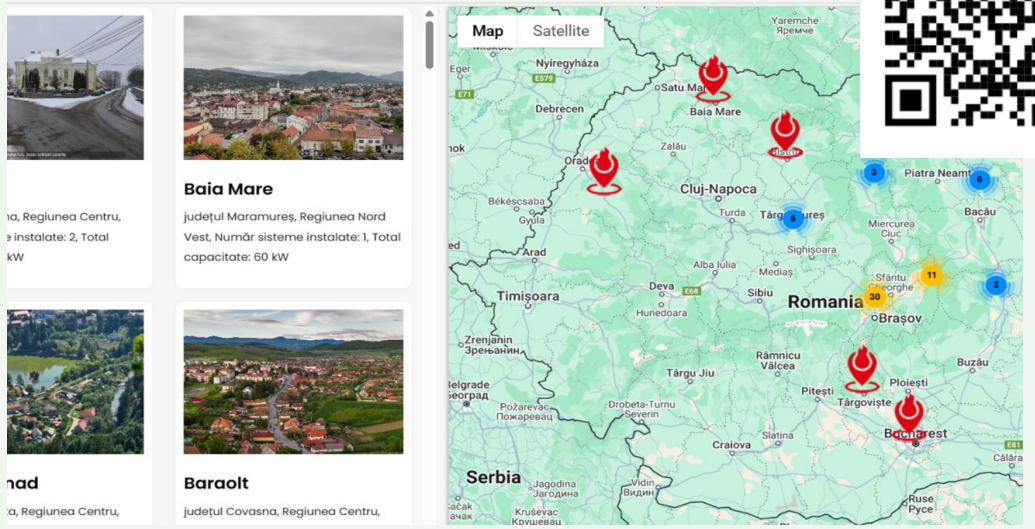
1 **Map resources** → 2 **Map heat demand** → 3 **Connect actors**

4 **Design value chain** → 5 **Build business model** → 6 **Invest & replicate**

Ghelința
Proof of concept → **Shared evidence**
cases • data • know-how → **Next villages**

BioVillMAP

tool for transfer & replication



BioVillMAP makes local examples visible and supports comparison, learning and replication across rural territories.

Rural competitiveness starts with what the territory already has.

The opportunity is to organise resources, businesses, logistics and heat demand into a market that keeps more value local.

1	**Start with territorial assets**	Map residues, businesses, infrastructure and demand together.
2	**Reduce fragmentation**	Use aggregation, contracts and coordination to make small actors investable.
3	**Build the market incrementally**	Anchor demand first, then expand users, capacity and local services.

LOCAL RESOURCE → LOCAL BUSINESS → LOCAL ENERGY → LOCAL VALUE

One village.
One resource base.
One organised value chain.
Multiple local users.