



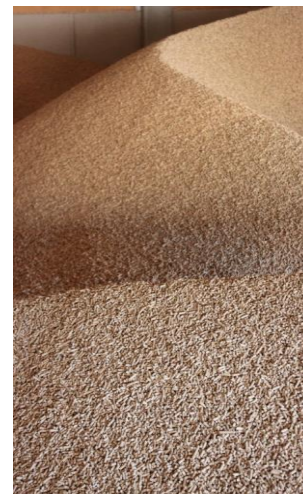
This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement N° 691661



BioVill

Increasing the Market Uptake of Sustainable Bioenergy

BioVill - Increasing the market uptake of sustainable bioenergy through bioenergy villages



© WIP

Jens Adler/GIZ

BioVill & CoolHeating Final International Conference
28 November 2018, Brussels



Key Facts

Bioenergy Villages (BioVill) - Increasing the Market Uptake of Sustainable Energy	
Challenge	High, but not or inefficiently used biomass potential for local energy supply and regional economic development in Croatia, Macedonia, Romania, Serbia and Slovenia.
How to address the challenge?	BioVill supports the implementation of the bioenergy village approach in communities in the five partner countries and thus, contributes to increase the use of locally produced renewable energy and to strengthen the local and regional economy, resulting in positive effects on climate change and environmental protection.
Duration	03/2016 – 02/2019
Budget	EUR 1.99 million
Partners	9: GIZ, WIP, AEA, KEA, REGEA, GEA, SDEWES-Skopje, GIS, SKGO
Countries	7: A, D, HR, MK, RO, SLO, SRB

What is a Bioenergy Village?

A bioenergy village is a village, municipality, settlement or community or a part of it, which supplies most of its energy demand for electricity and heating from local biomass, e.g. from agriculture, forestry and waste, and from other renewable energy sources.

It usually combines several energy technologies, such as woodchip boilers, pellet stoves, logwood boilers, biogas plants, combined heat and power plants, and sometimes also solar, thermal and wind energy. Often, a local district heating grid distributes the heat to the consumers.



© GEA



© Dietmar Hagauer, AEA

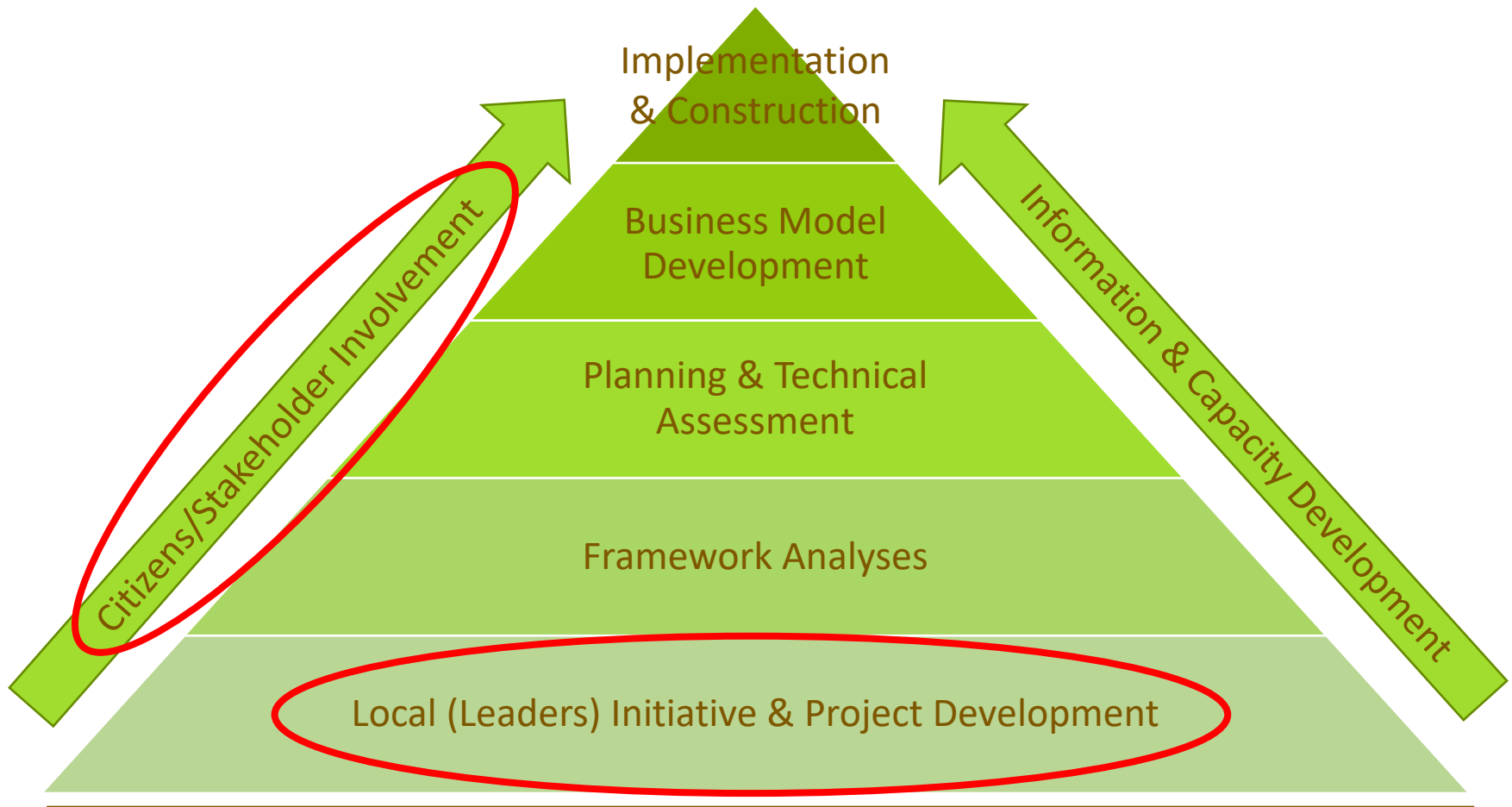


© WIP

Key Characteristics of a Bioenergy Village

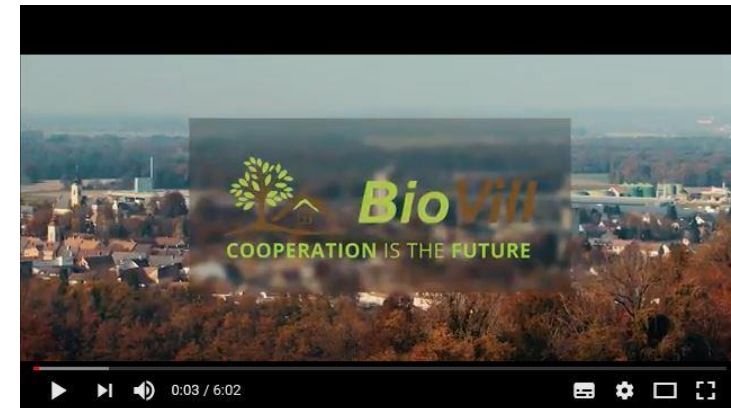
- Sustainability:** The biomass feedstock is produced locally and in a sustainable way.
- Energy Self Sufficiency:** A large share of the electricity and heat demand is covered by locally produced biomass and other renewable energies.
- Local Ownership:** The business model allows consumers, farmers and forest owners to become shared owners of the installations.
- Regional Development:** The added value remains within the village and supports the local and regional economic development.
- Public Participation:** The creation and management of the bioenergy village is based on a high level of public participation.
- Resource Efficiency:** The energy concept of a bioenergy village includes also energy efficiency and energy saving measures.
-

Steps to Implement a Bioenergy Village



Benefits of the Bioenergy Village Approach:

- ✓ Increased use of **locally produced renewable** resources for **energy** generation (e.g. heat & electricity)
 - ✓ Improved development of the whole bioenergy sector
 - ✓ Strengthened **local and regional economy**, job creation & income generation
 - ✓ Positive effects on climate change mitigation, **environmental protection** and human wellbeing
 - ✓ Improved **cooperation mentality**
-



Video about the Bioenergy Village

Approach:

<https://www.youtube.com/watch?v=v2YI6G63oXk&feature=youtu.be>

Project Objectives

Overall Objective

Fostering the development of the bioenergy sector in the EU by means of transferring existing experiences from Austria, Germany and other European countries to South-Eastern Europe and supporting the development of regional bioenergy concepts and the establishment of bioenergy villages in Croatia, Macedonia, Romania, Serbia and Slovenia.

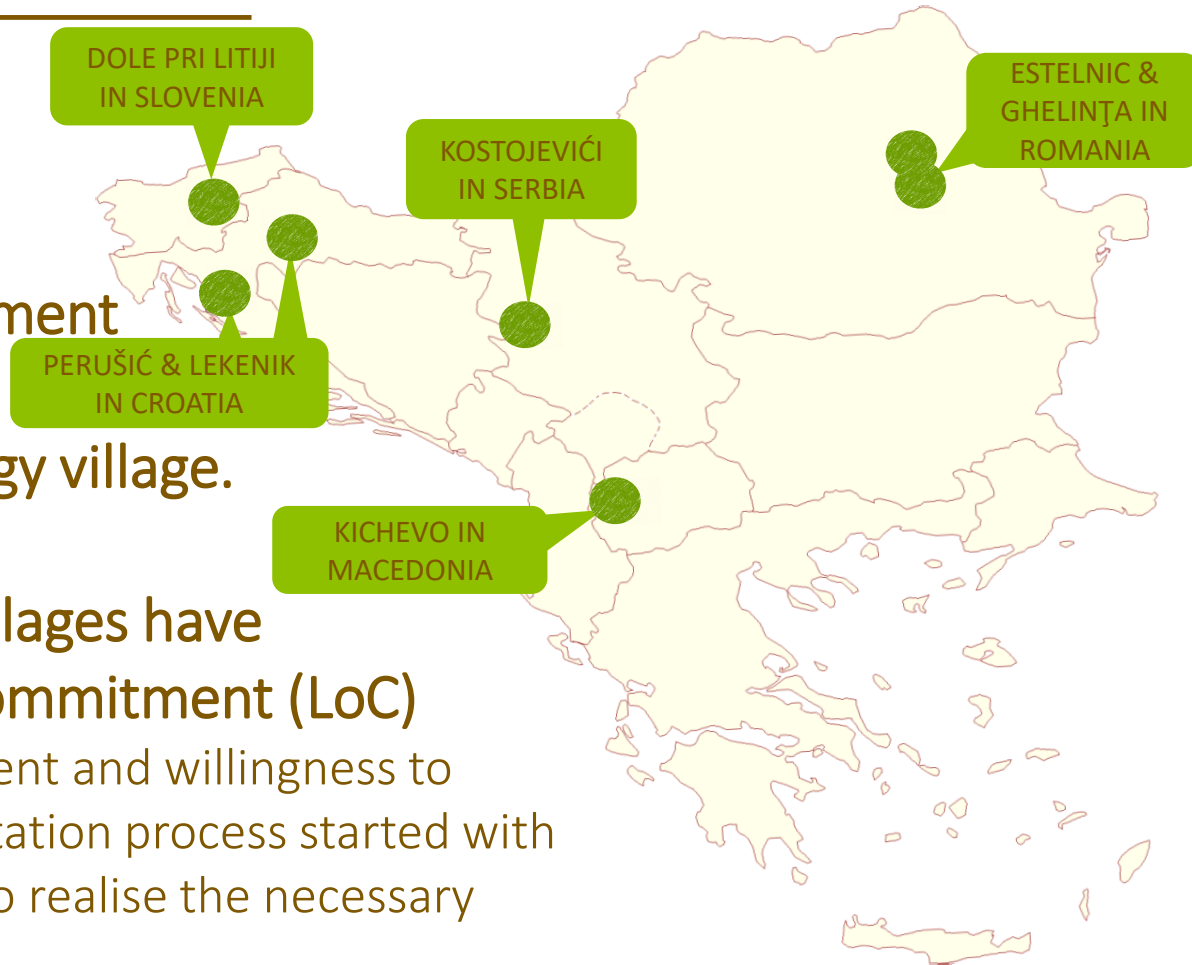
Project Objectives

Specific Objectives

1. 5 villages have developed the institutional set-up and energy management concept for becoming a bioenergy village.
2. Mobilization of at least 62 GWh/year heat and power based on solid biomass in at least 5 target villages based on the exchange of European best practices.
3. Increased public acceptance of sustainable bioenergy and raised public awareness on commercial opportunities.
4. Capacity Building of users and key actors in business and legislation

Main Achievements – Bioenergy Villages

- ✓ 7 villages have developed the institutional set-up and energy management concept for becoming a bioenergy village.
- ✓ Key actors of all 7 villages have signed a Letter of Commitment (LoC) to show their commitment and willingness to continue the implementation process started with the BioVill project and to realise the necessary investments.



Main Achievements – Mobilizing Bioenergy

According to the current stage of planning (pre-feasibility assessment) in the 7 target villages:

- ✓ **6 greenfield investments** and **1 fuel switch** of an existing district heating system
- ✓ in **six biomass heating plants** and **one CHP plant**
- ✓ will mobilise around **76 GWh heat** and **16 GWh electricity** per year produced from locally available solid biomass.
- ✓ This will lead to a **reduction of emissions of 22.700 tons CO₂ eq per year** and the **creation/securing of 102 jobs** in the target regions

Main Achievements – Public Participation

- ✓ 7 municipalities with a total population of **more than 85,000 inhabitants** started to implement the bioenergy village concept
 - ✓ More than **200 activities** implemented, to involve citizens & key stakeholders, to increase public acceptance of sustainable bioenergy and to raise awareness on its commercial opportunities:
 - ✓ Catalogue of **best practice examples** from Austria, Croatia and Germany
 - ✓ 91 participants at 3 **study tours** to best practice examples in Austria and Germany
 - ✓ >300 respondents involved in **public survey** in the target villages
 - ✓ >80 key actors contribute to the work of **bioenergy working groups** (strategic goals)
 - ✓ **Info points** set-up and in total 22 **information days** for about 1,500 citizens organised
 - ✓ Promotion campaigns on modern **small scale biomass heating systems** for households
 - ✓ **National conferences** on the use of bioenergy and the bioenergy village approach
 - ✓ Information and outreach events for more than **30 follower villages**
 - ✓ Presentation of the bioenergy village approach and the bioenergy concepts of the target villages to **national and local politicians and decision makers**
-

Main Achievements – Capacity Building

- ✓ **> 600 key stakeholders** trained in capacity building measures, e.g. **3 study tours** to best practice examples in Austria and Germany, **10 training courses** - on financing, contracts and business models for local stakeholders and on financing bioenergy projects for the financial sector and **7 seminars** on the bioenergy village approach for representatives of 29 potential follower villages
- ✓ **Increased lobby work** for the bioenergy village concept at national & local level by trained politicians & decision makers

Major Lessons Learnt

1. Public authorities play a major role in the implementation of the bioenergy village approach -> **early involvement required!**
 2. Large bioenergy potentials & interest exist, but data availability (e.g. on best practice examples), knowledge (e.g. on available technologies) and capacities (e.g. to develop viable business models) is still low -> **more research, information and awareness raising campaigns, training as well as process advice needed!**
 3. Current local conditions, e.g. low fossil fuel energy prices, administrative burdens and lack of support for bioenergy investments hamper the development of viable bioenergy business models -> **favourable framework conditions/support programs to be established!**
 4. Investments in bioenergy projects are very limited, due to low financial resources of municipalities and private households as well as lack of trust in joint financing models -> **support funding opportunities, public-private-partnership and cooperative financing models!**
-

Future Potentials

- BioVill target villages will become **best practice examples** for the implementation of bioenergy projects in the partner countries.
 - More than 30 villages show a high commitment to **replicate the experiences** made in the BioVill target villages. Further outreach activities might result in even more interested villages.
 - Scientific institutions (e.g. in Croatia) are interested to analyse the planned bioenergy projects in the target villages and will create and distribute **scientific analyses & research studies**.
 - Involved experts and decision makers will multiply their knowledge and will use their experiences and networks to lobby for **more favourable framework conditions and support programmes** for bioenergy projects.
 - International financing institutions and private technology suppliers are aware of the new developments and interested to **support the implementation of future bioenergy projects**.
-

Conclusion

BioVill was a successful project, because it....

1. has initiated the implementation of the **bioenergy village approach** in **7 villages** in the partner countries up to the investment stage for physical infrastructure,
 2. has **raised public acceptance and awareness** for a sustainable bioenergy production and its commercial opportunities and
 3. has **strengthened the capacities and knowledge** of key stakeholders and decision makers to sustainably manage bioenergy villages and to enact national and EU legislation.
- **Altogether, the BioVill project has therefore contributed to the expansion and sustainability of the bioenergy markets in Europe and the European Union!**

Thank you for your
attention!