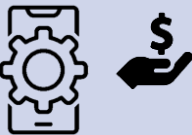

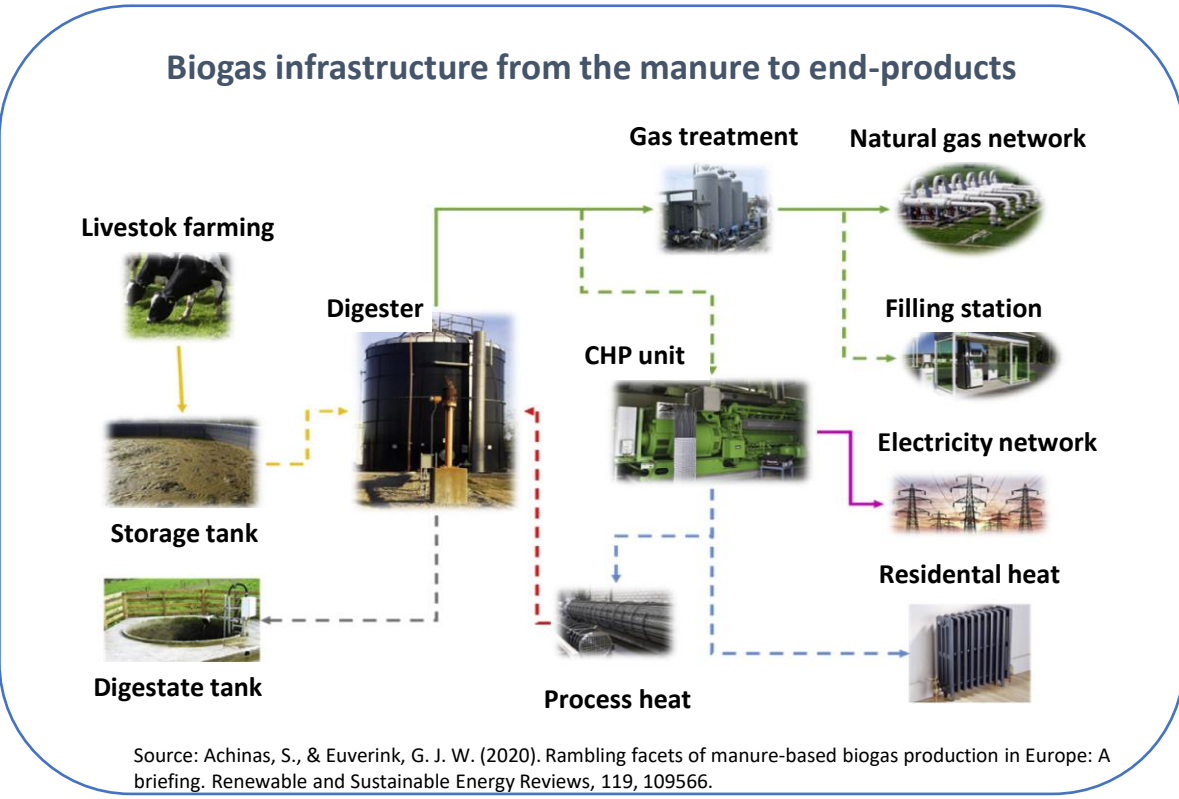


Topic	Topic
Technical efficiency, Economic resilience 	Environment 

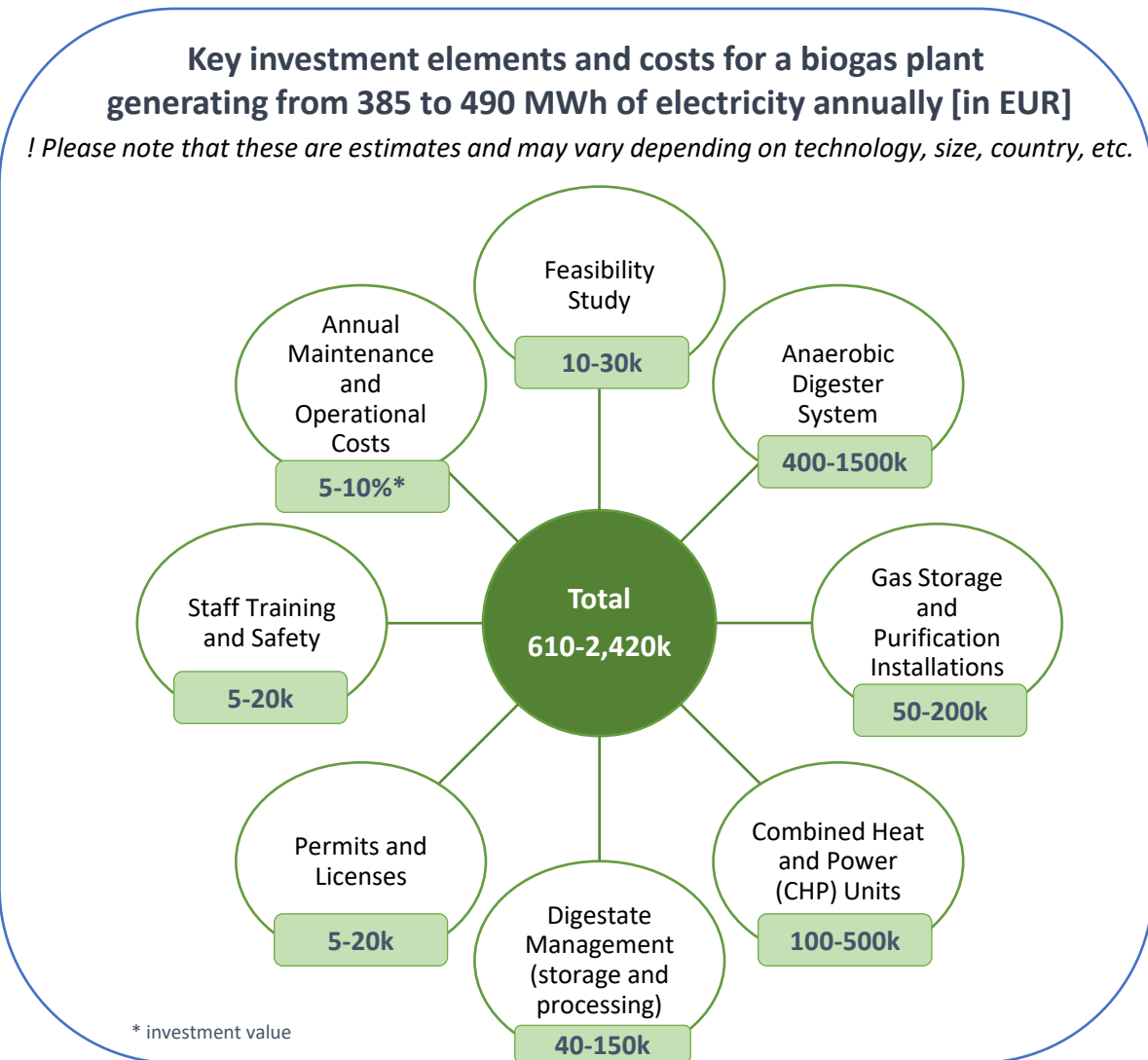
Background

The development of biogas plants on dairy farms reduces greenhouse gas emissions and increases the efficiency of slurry use, converting it into renewable energy and preserving its natural fertilizer properties. This dual benefit reduces energy costs and is in line with sustainability goals, offering an additional income stream on farms. However, improper management of digestate can lead to worse environmental impacts than slurry.



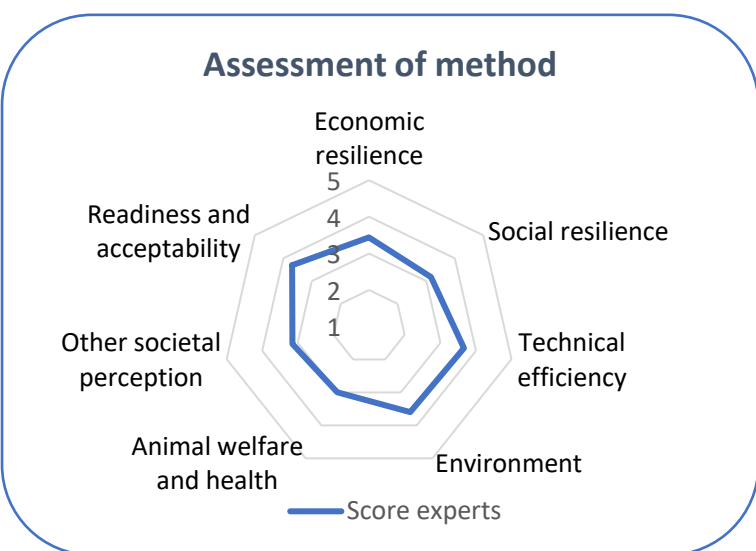
- ### Positive features
- **Efficient Manure Management:** Manure is repurposed, reducing environmental hazards.
 - **Reduced Greenhouse Gases:** Captures methane, lowering carbon emissions.
 - **Renewable Energy Production:** Generates biogas for heating, electricity, or fuel.
 - **Organic Fertilizer:** Produces nutrient-rich digestate, enhancing soil health.
 - **Economic and Energy Benefits:** Cuts operating costs and can generate extra income.

- ### Be careful, especially on these points
- Make sure the methanation is suitable for the farm given the size of the biogas plant, sufficient input (slurry), etc.
 - Obtain necessary permits and adhere to environmental regulations.
 - Conduct thorough financial planning and return on investment (ROI) analysis to confirm the project's economic feasibility.



Specific advises

Improper digestate management (timing of spreading, use of specific machinery, etc.) can lead to worse environmental impacts than slurry, especially in nitrogen emissions.



Quote of the farmer:
"Biogas turning our farm's waste into community energy and a cleaner tomorrow"

- ### Useful sources:
- 1) <https://projects.sare.org/wp-content/uploads/FarmerbiogashandbookFinal.pdf>
 - 2) <https://business.garrettcounty.org/resources/agribusiness/pdf/Farmers-Guide-to-Biogas.pdf>
 - 3) <https://www.epa.gov/sites/default/files/2014-12/documents/agstar-handbook.pdf>

