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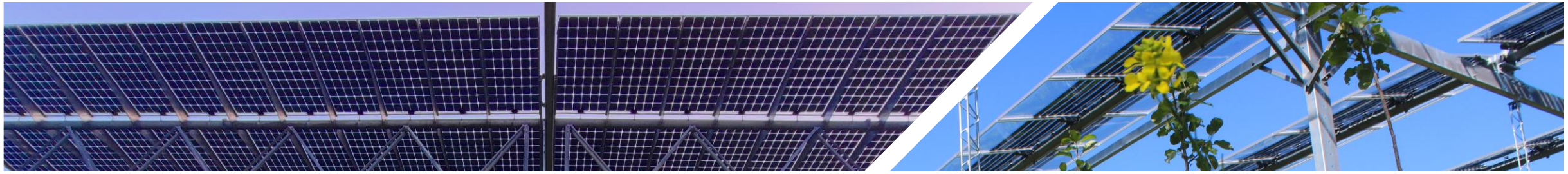

Soziale Akzeptanz als Baustein für eine erfolgreiche Umsetzung von Agri-PV: Perspektiven aus Landwirtschaft, Naturschutz, Verwaltung und Gesellschaft

Felix Zoll, Alexandra Doernberg

Leibniz-Centre for Agricultural Landscape Research (ZALF), Working Group: Co-Design of Change and Innovation

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Why does acceptance matter?

Source: faz.de

Source: moz.de

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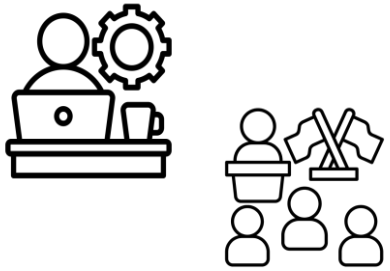
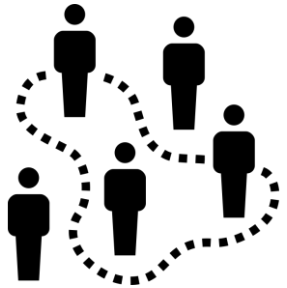
Results from two empirical studies

Agriculture



Policy & Planning

Nature Conservation



(local) citizens

Study 1: qualitative expert interviews (n=31)

Study 2: quantitative survey (n=1000)

RQ 1: What are perceived benefits and risks of agrivoltaics installations?

RQ 2: Which sites are preferred?

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Results

Perceived benefits by experts:

- Dual land use: central benefit compared to other renewables
- Synergies for agriculture: protection for special crops and animal husbandry

→ Photovoltaic system has to benefit agricutlure

- Economic benefits: additional income for farmers and municipalities

→Financial benefits have to be visible

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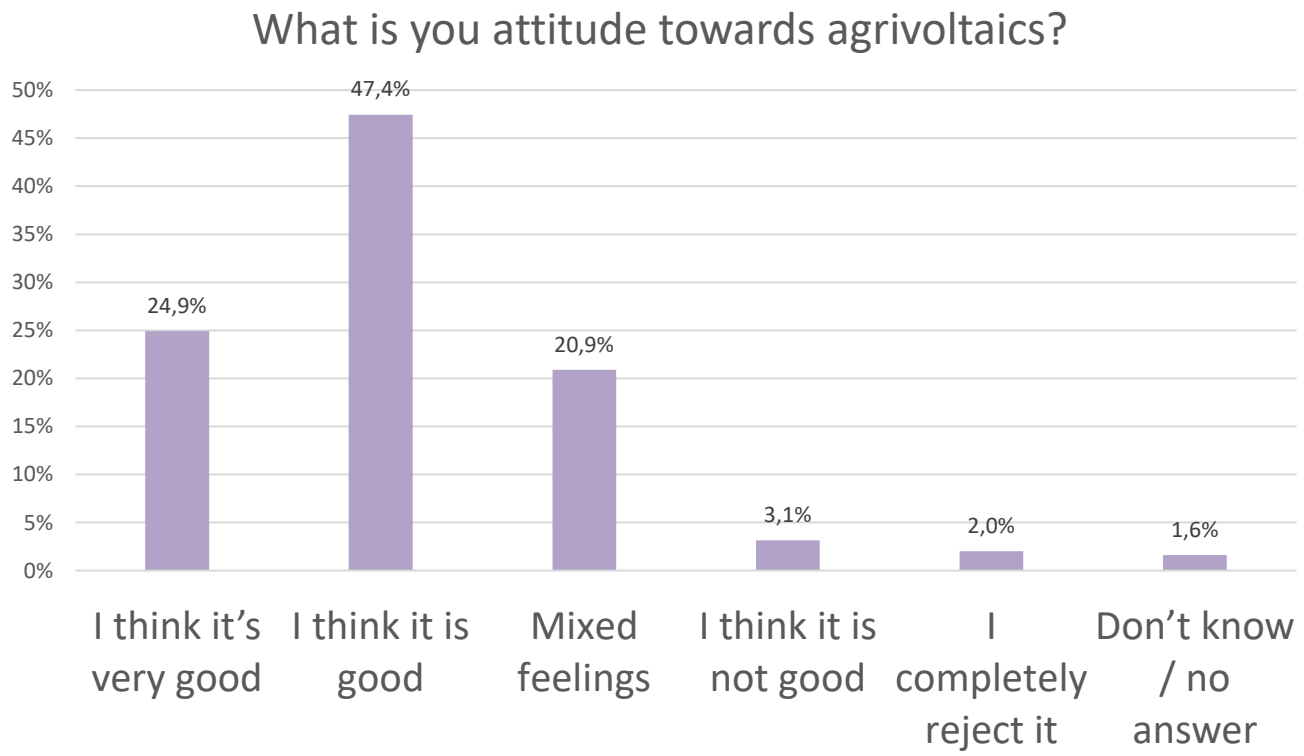
Results

General attitude of society:



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Results: Benefits perceived by **society**

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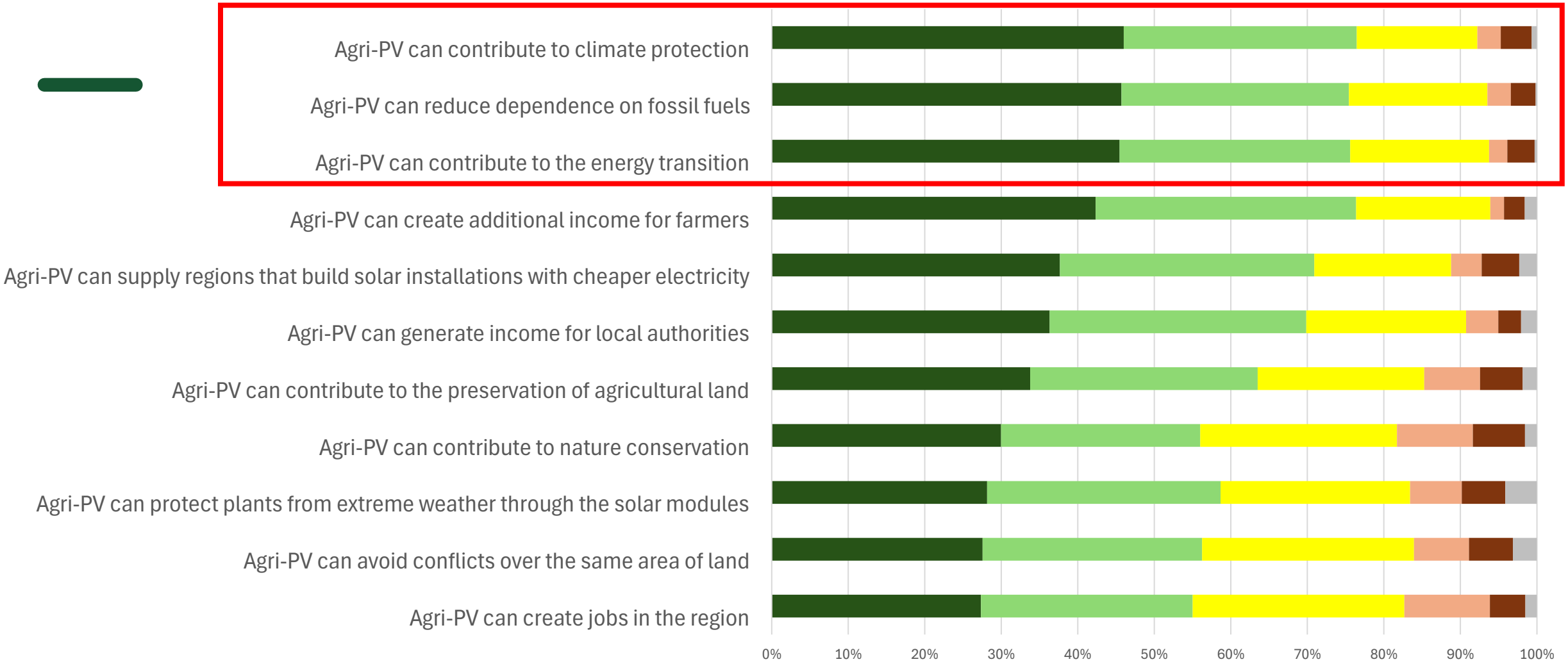

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Results: Benefits perceived by **society**

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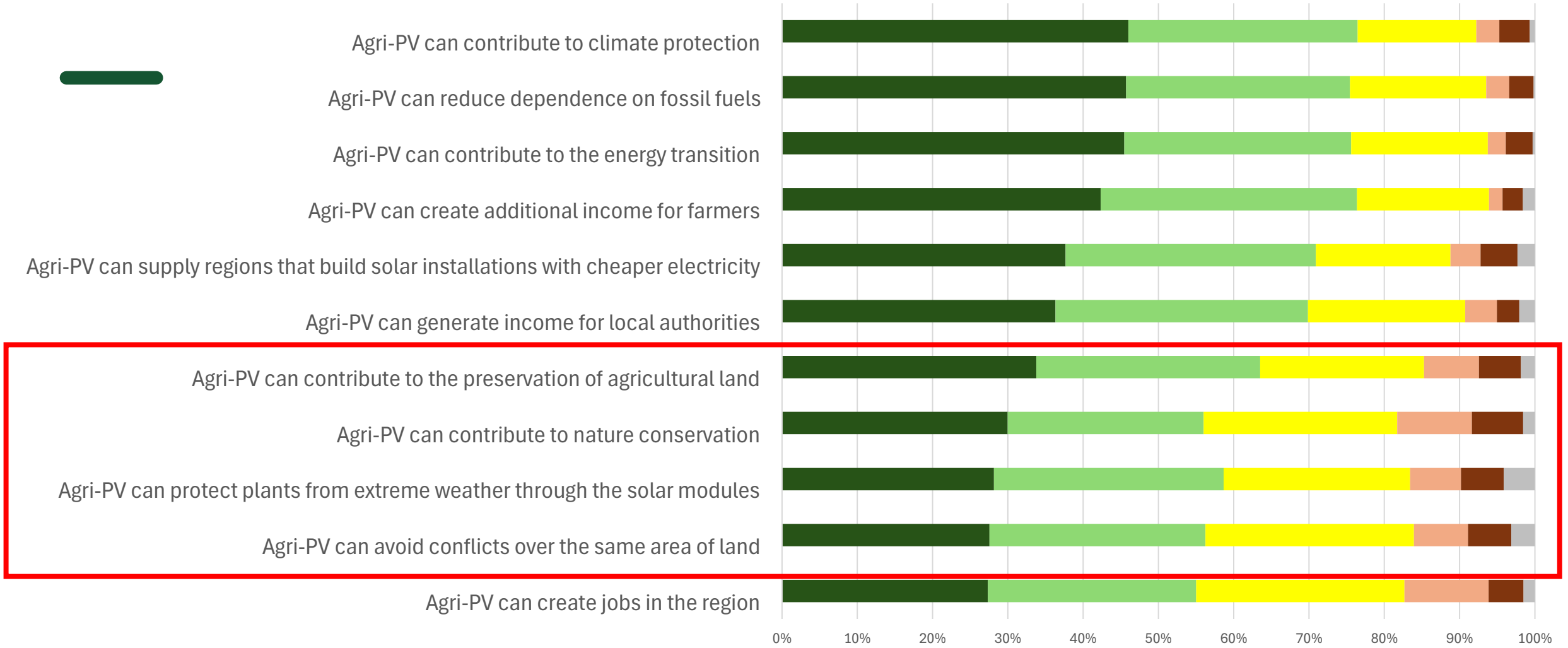

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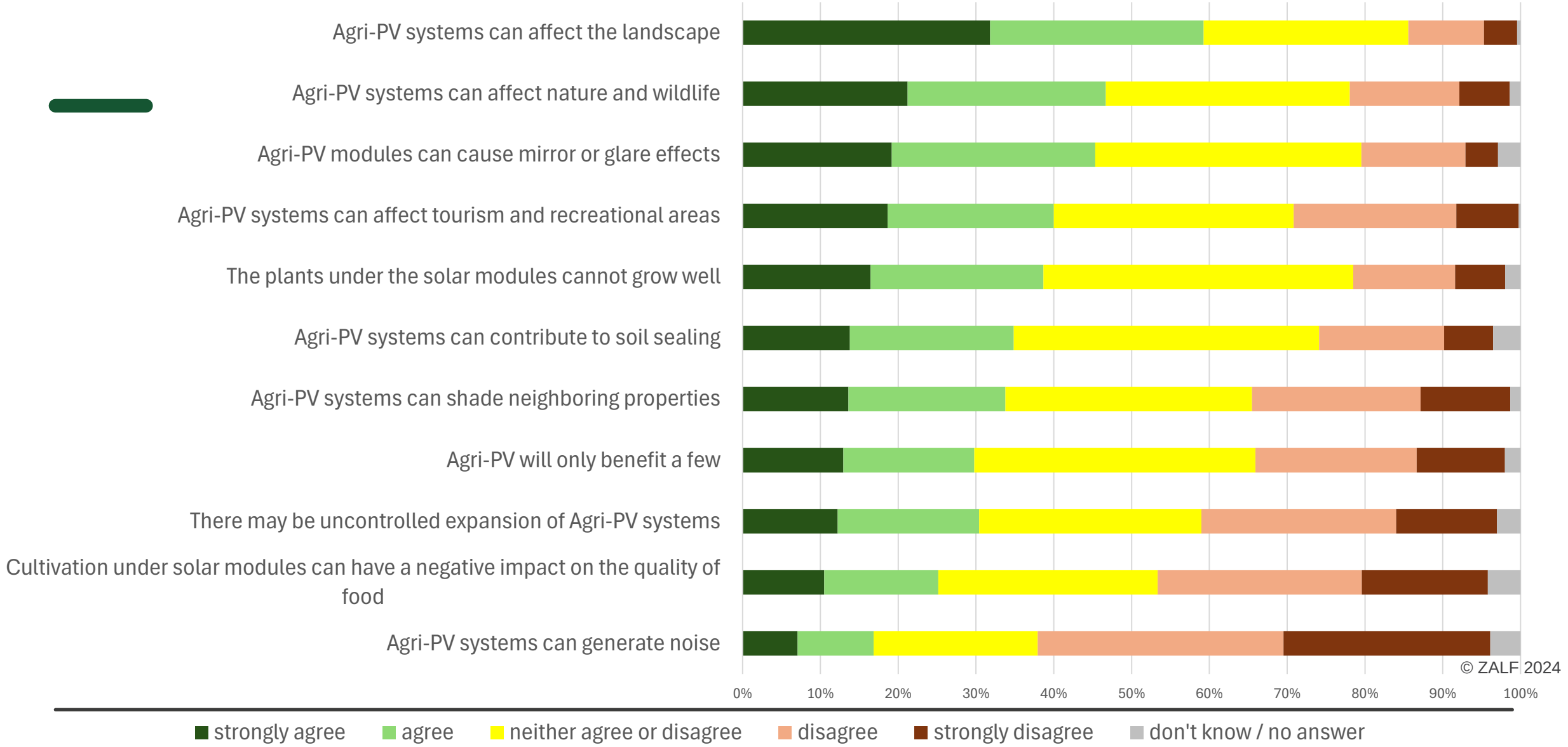
Results

Perceived risks by experts:

- Unresolved issues of resource consumption, dismantling and recycling
- "Sell-out" of land to investors for AV that does not focus on agriculture
- Need for compensatory measures which require extra land
- Landscape aesthetics, negative impact on nature and wildlife

3.2 Results: Risks perceived by **society**



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Results

Expert opinion: Siting and agricultural land use

- Clear preference for solar installations on rooftops
- Not too much solar at once → mix and speed of renewable expansion is important
- Expansion with a sense of proportion and sensitive site selection

“I think that AV systems have a much higher acceptance than conventional PV systems. It is an important criterion for the population, that we preserve land for agriculture.” (Planning authority)

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Results

Expert opinion: Siting and agricultural land use

- Feasible and preferred: special crops and livestock farming → potential contribution to energy transition limited
- Crop production (currently) not very suitable (too expensive)
- Agriculture and policy: AV on less fertile soils
- Nature conservation: AV on good/intensively farmed soils

„For nature conservation, everything that is associated with extensification is positive. They like it when arable land becomes a meadow. Because it is then no longer farmed so intensively. Of course, this is difficult from an agricultural point of view if you then lose land.“ (Administration)

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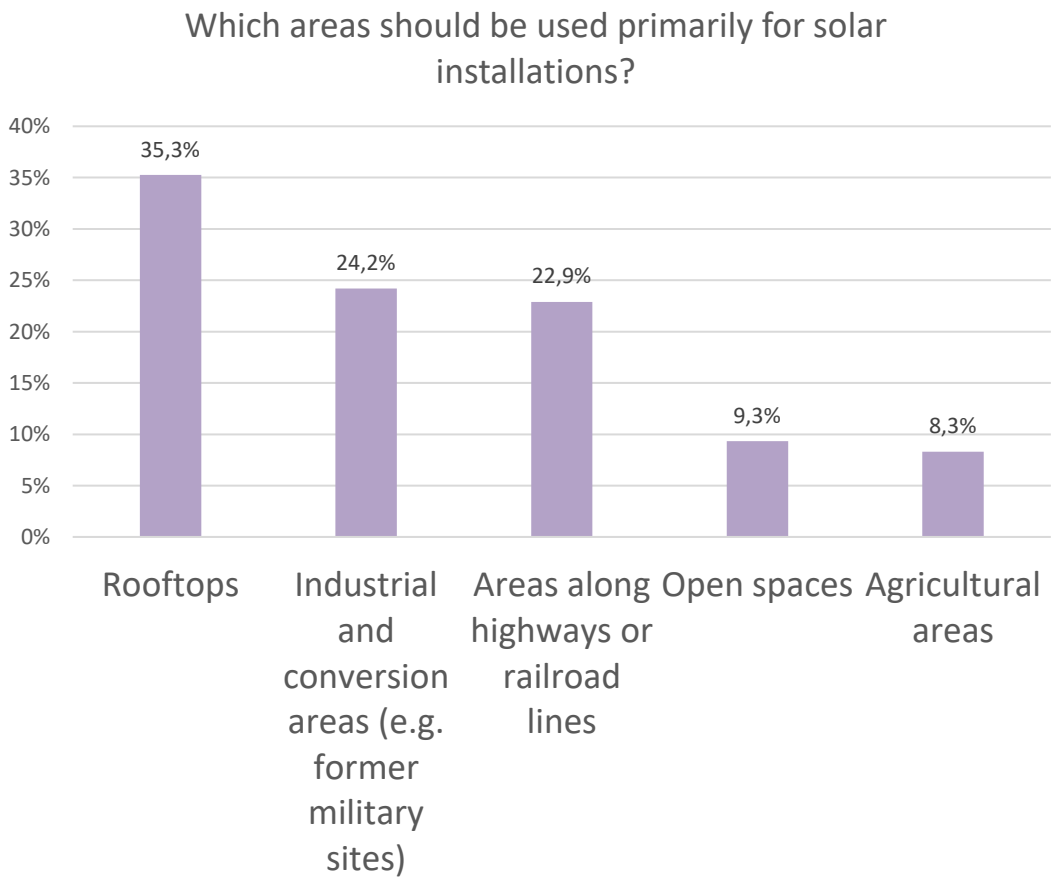
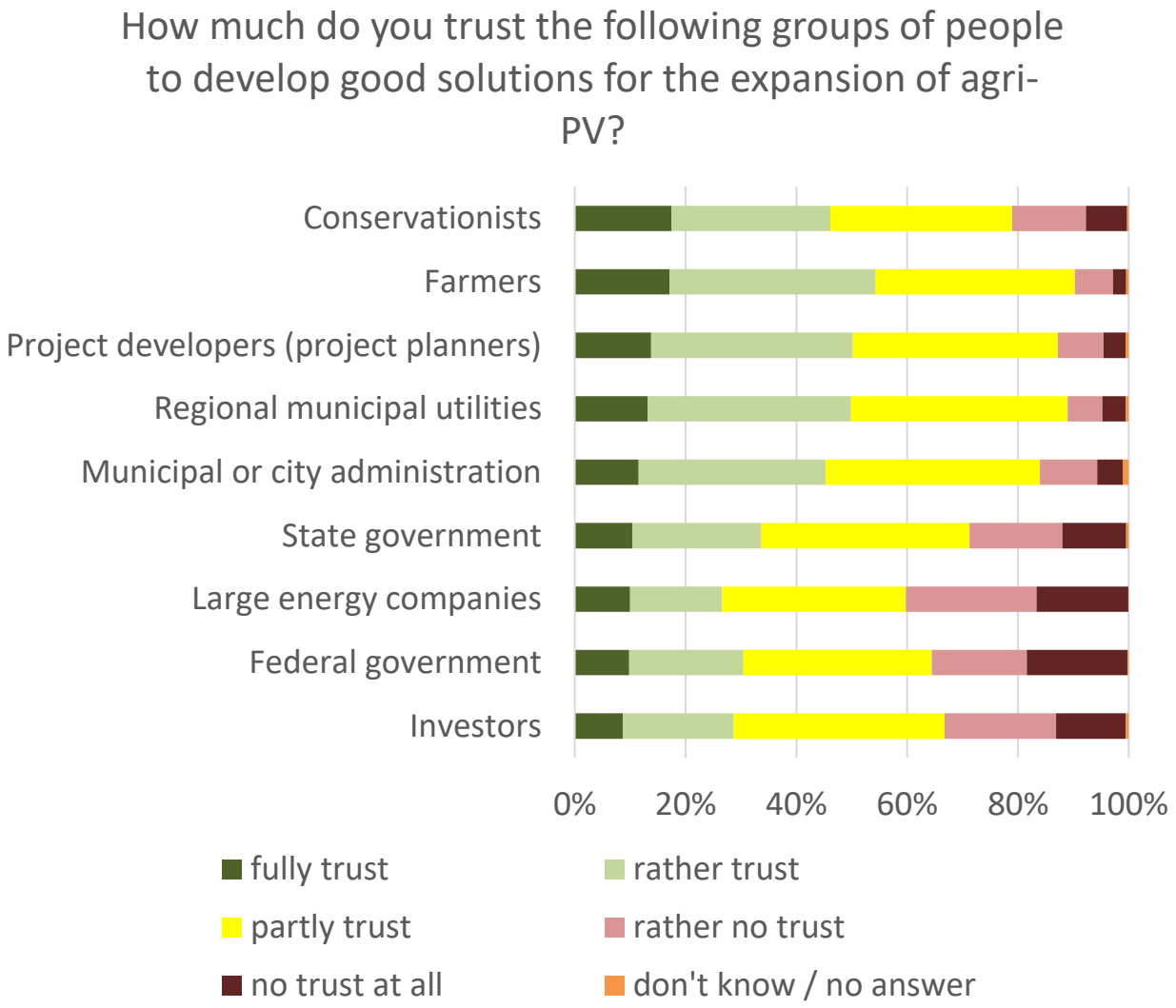
Siting preferences of society





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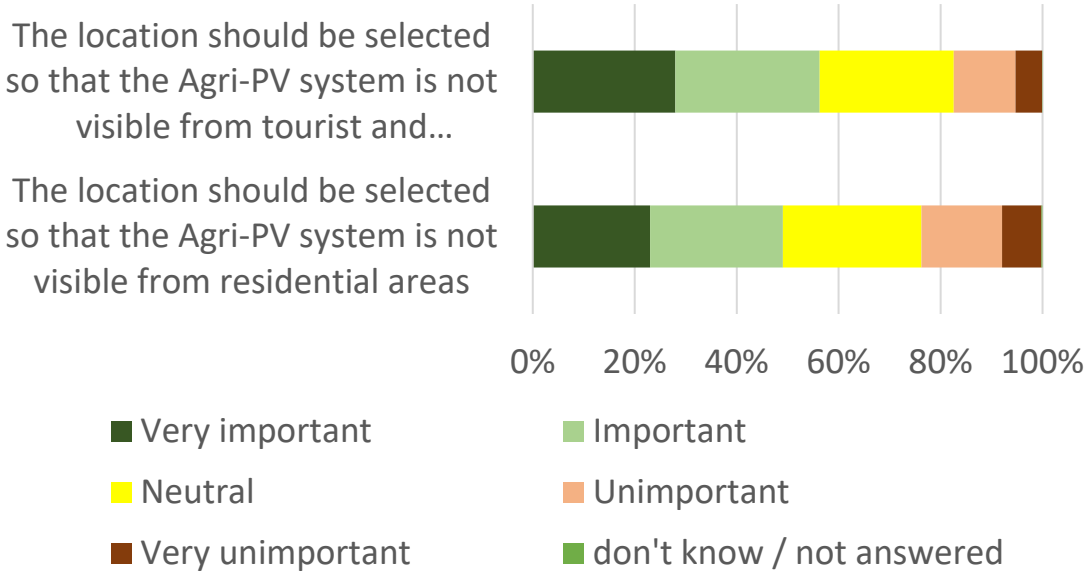
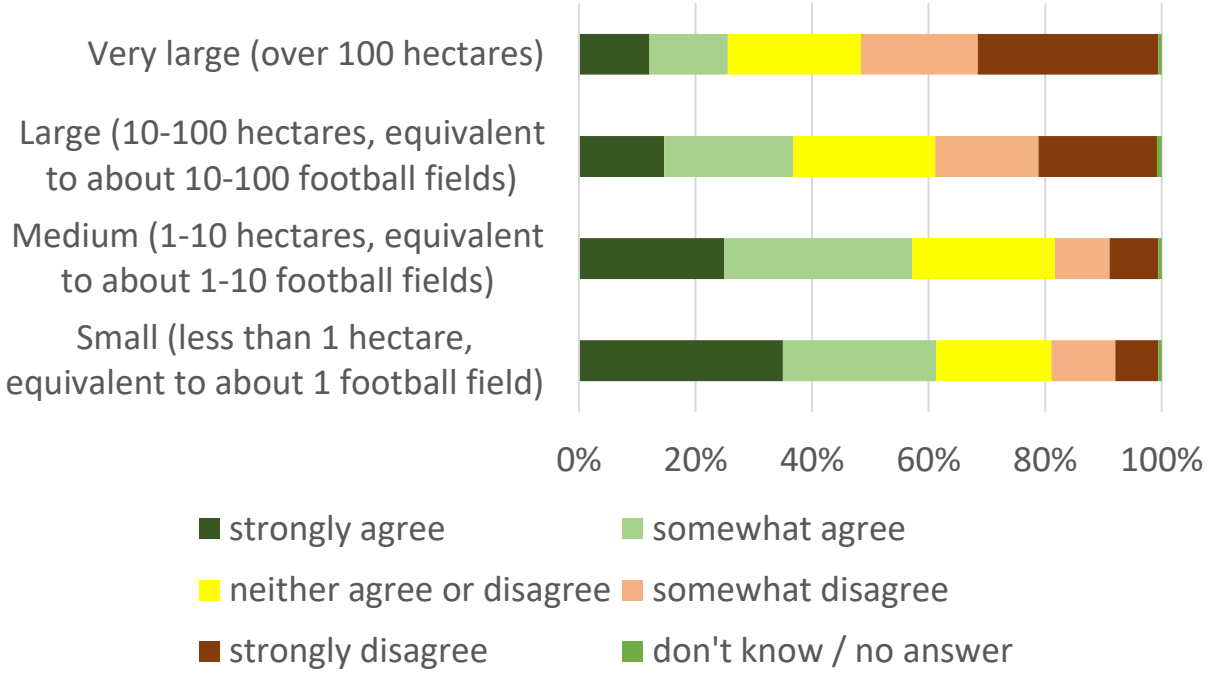
Siting preferences of society

Site selection: How important are the following points when choosing a site for an Agri-PV system?



What size of agri-PV system would be acceptable to you?



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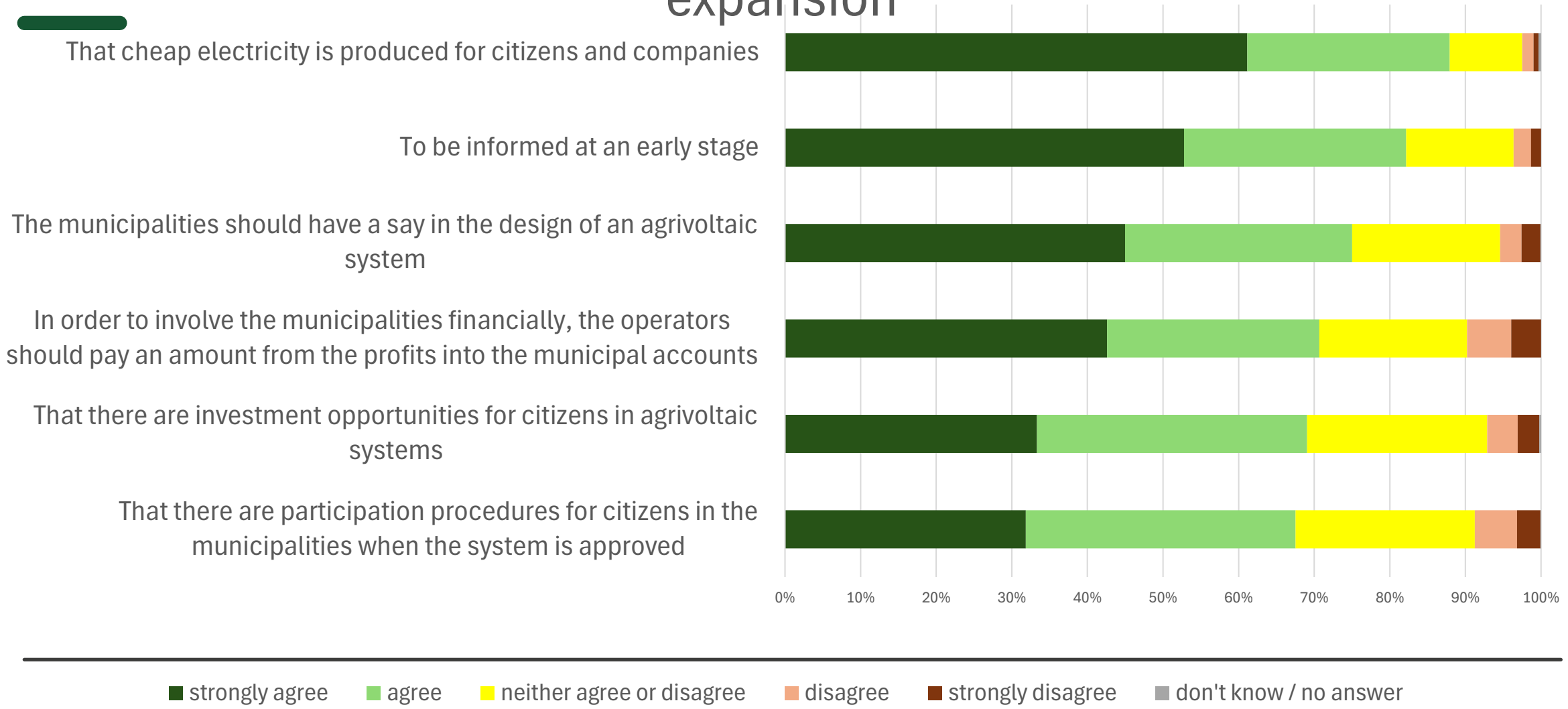
Societal expectations for participation in Agri-PV expansion



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Summary: Acceptance for Agrivoltaics is high, but:

- Main benefits of AV are less known among the society
- Potential land use conflicts between nature conservation and agriculture
- Preference for small installations vs fast energy transition
- Small systems more accepted, but electricity should be cheap

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Recommendations

Participation matters!

- Early information and involvement of the local population,
- Visible (financial) participation, energy cooperatives create ownership

Size and context matter!

- Expansion with a sense of proportion
- Sensitive site selection adapted to local conditions

Communication matters!

- Explain synergy effects better,
- Address perceived risks transparently through proactive, early risk communication
- Leverage trusted messengers: Involve farmers and local actors
- Coordination and cooperation between the energy and agricultural sectors and nature conservation

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Thank you for your attention!

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