Rural Energy Consumers and Distributors – Attitudes towards Solar Power

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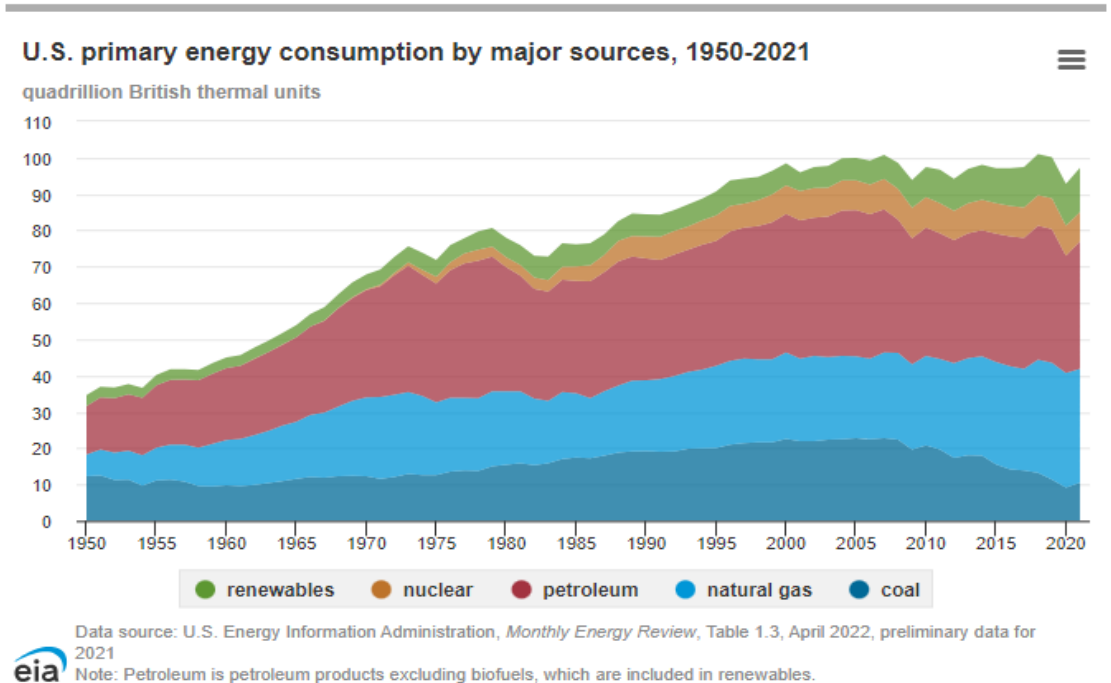
A view from 10,000 feet…

- The energy sector is not going away, but production, distribution, and usage patterns are in transition
  - Production – Coal → Gas → Solar, Wind
  - Distribution – Shifts in modes of production create different distribution patterns
  - Consumers
    - Both efficiency and greater usage
    - Changes in use patterns, preferences
- Urban versus rural settings

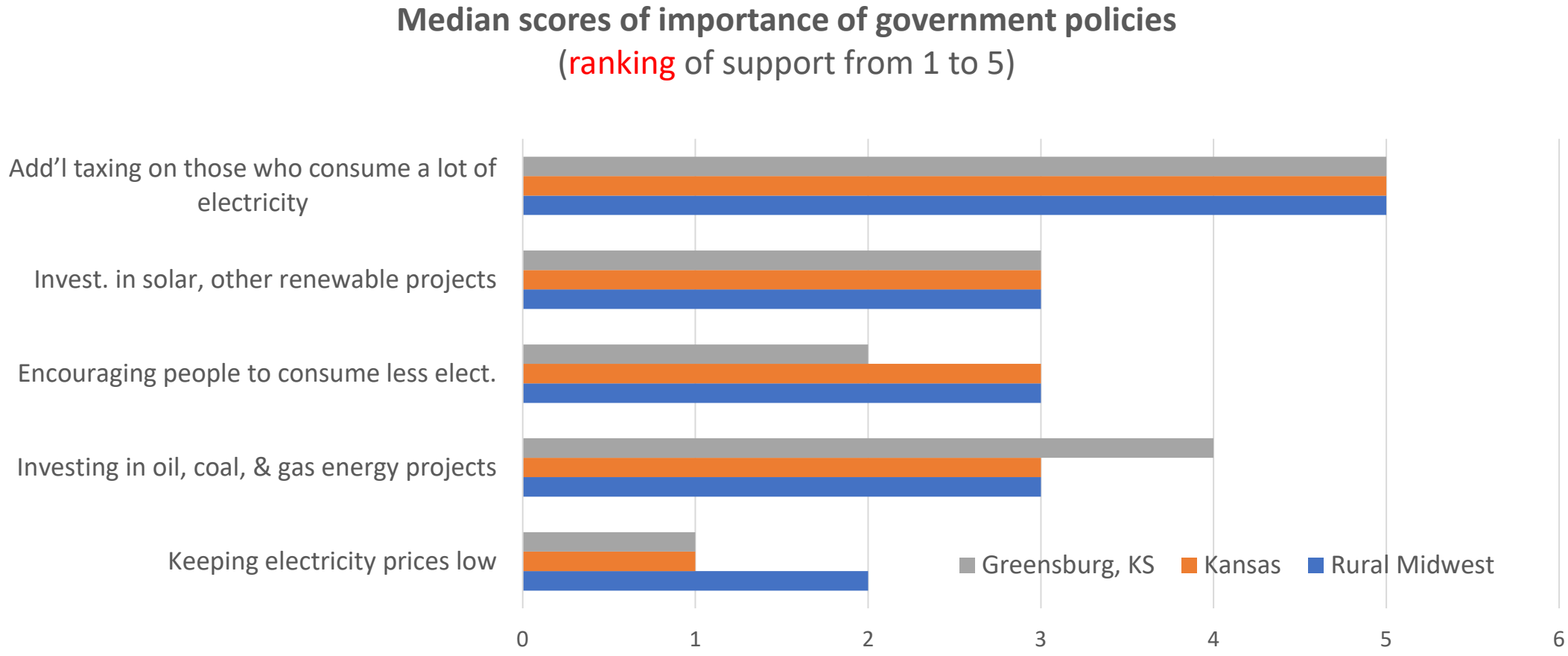


Consumers

- Data from consumers on the top energy policy priority for Greensburg, KS (n=39), rural Kansans (n=38), and rural Midwesterners (n=733)

- **#1 priority is "keeping electricity prices low**"
  - Rather than taxing high use, conservation, renewable investment, or oil/gas investment

“Please rank the following policy priorities in the order in which you would support them.”



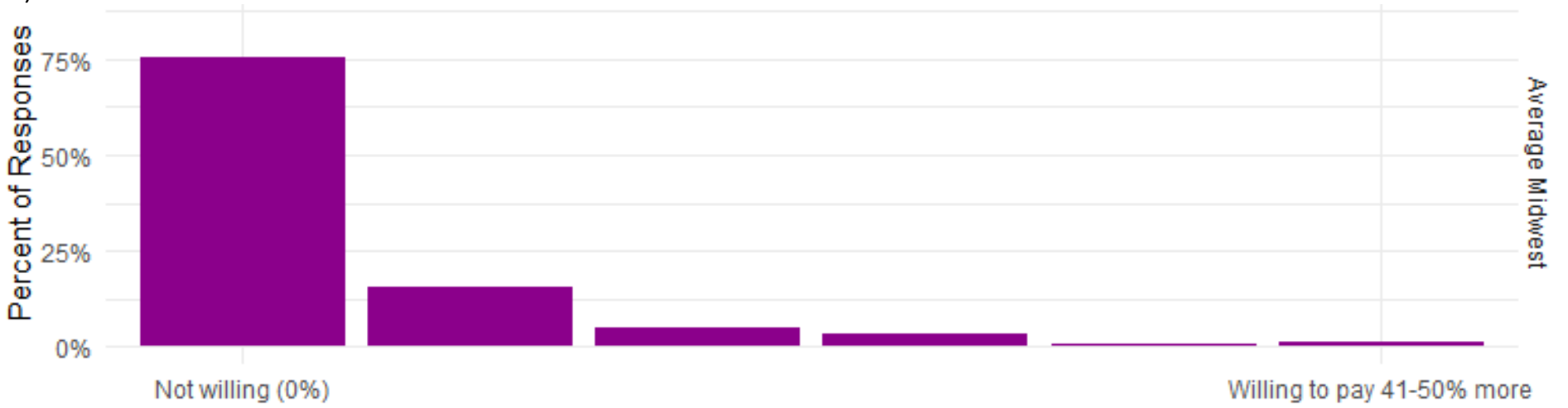
* Initial settings were in the order shown in table.

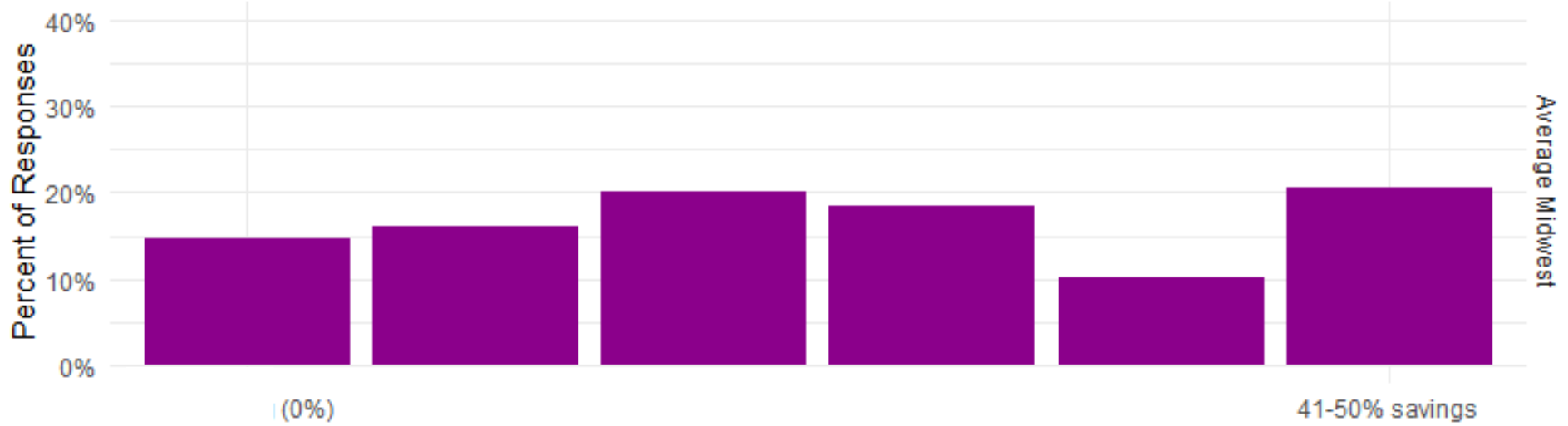
Consumers

- Little willingness to pay more for solar power (75%+ not willing at all, others limited to 5-10% more)
- Little willingness to pay more to keep traditional power generation (75%+ not willing at all, others mainly 5-10% more).

- The range of savings needed to move from traditional to solar power showed wide diversity, with a fairly even distribution (0-50%).

Willing to pay more for solar power *versus* savings needed to choose energy from solar (Midwest overall)





Consumers

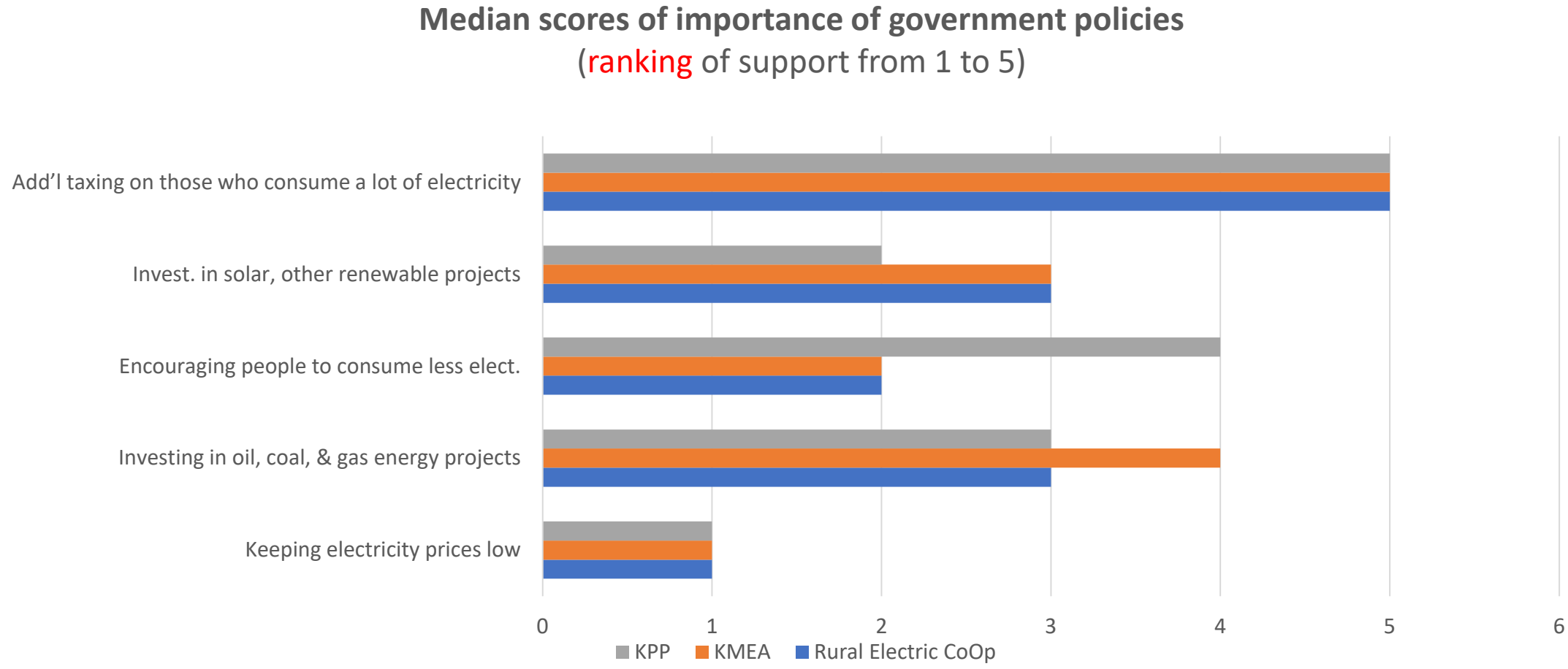
- **Willingness to install solar panels is strong in general** but decreases with focus on Kansas and on Greensburg.
  - People are fairly neutral about solar facilities (community trust to build solar facilities, symbolism of solar facilities, expense of solar energy relative to other sources, and appearance of solar power systems)
- For all of rural Midwest data, the strongest (measured) predictor of support for, approval of, and openness to solar energy was political party affiliation and conservative / liberal self-identification (r = .04-.13, $p < .001$).
  - This is a fairly weak relationship
  - This also showed up in beliefs about climate change (F = 40.90-59.78, $p < .001$)
  - These relationships exist across smaller rural Kansas and Greensburg samples , but are not statistically significant
  - After political party affiliation, there were only sporadic and very small additional significant predictors (age, family income, housing situation, education) across different questions.

Energy Distributors

- Energy distributors (n=48) also ranked “keeping electricity prices low” as their top policy priority.
  - Not statistically different from consumers on willingness to pay more for energy

- Distributor attitudes toward solar energy appeared mostly cost-driven; solar knowledge was a significant predictor of positive opinions about solar energy (r = .32), as was belief in the severity of climate change (r = .49-.54).

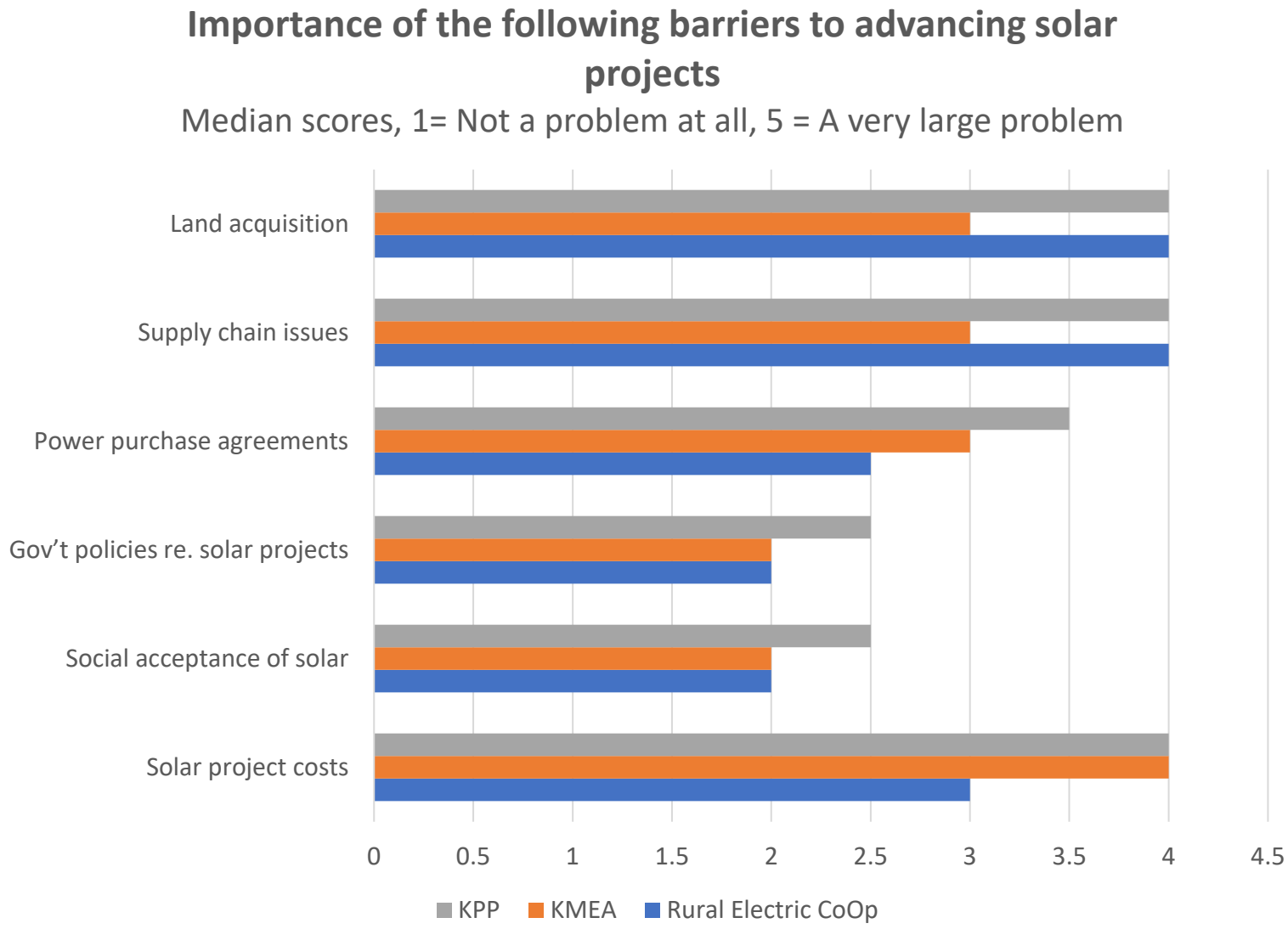
“Please rank the following policy priorities in the order in which your organization would support them.”



* Initial settings were in the order shown in table.

- Distributors see physical costs (land, equipment) as a more significant barrier than government policies or social attitudes.
- Distributors prioritize low energy prices over conservation or any particular energy source.

Note limited sample sizes:
Rural Electric CoOp (n=16) / KMEA (n=23) / KPP (n= 8)



Consumer vs Distributor Attitudes

- Consumer and distributor attitudes differ on a few key issues
  - Distributors believe, more than consumers, that the costs of community solar energy exceed those of electricity produced by more traditional sources
  - Distributors estimate home solar power systems to be more expensive than consumers do.

  - Distributors are less likely than consumers to believe that installing home solar systems signify commitment to that renewable energy source.
  - Consumers are less likely than distributors to agree that they trust the companies that install home solar power systems.

Summary

- **Cost of energy is a primary factor**
  - Solar is likely to be adopted if people believe –and find- it keeps energy prices low.
  - There is an influence of political views on solar power, but it's not very strong.
- **A productive strategy is to develop a set of "early adopters" who will share their results and demonstrate the cost effectiveness of solar power (or the cost gap).**
  - Distributors are ambivalent to solar energy, but very unwilling to increase energy bills (they know their customers here!)
  - If presented with cost-effective solar energy sources and consumer demand for renewable energy, distributors can adopt solar energy

Where do we go from here?

- Messaging about cost is (always) critical
  - Gain framing (saving money)
  - Loss framing (losing money)
- “Evidence” in the form of others’ results is effective
  - If everyone is paying energy bills, “losing” = paying more
- Creating a virtuous cycle of adoption
  - Moving consumers forward on transitions (psychology)
  - Being ready to support that transition (engineering)

Thank you