



## **GreenNet** – Incentives

### **Stakeholder consultation on non-technological barriers to RES-E integration**

*Jaroslav Jakubes, Enviros, s.r.o*

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# *GreenNet – Incentives*

## **Aims**

- **to identify existing non-technological barriers** and information deficits on large-scale RES-E grid integration by a consultation process of important market actors/stakeholders.
- **not to elaborate detailed statistical survey/analysis** but to identify key barriers/problems/trends of development from the point of view of different stakeholders.



# **GreenNet – Incentives - Stakeholder consultation**

## **Focus**

Focus of Stakeholder consultation – 3 key categories of market actors / stakeholders involved in grid integration of RES but having different priorities and interests:

- **Regulatory authorities**
- **DSOs**
- **Project developers / Associations / Others**



# *GreenNet* – Incentives - Stakeholder consultation

## **Methodology**

- Stakeholder consultations – structured, face to face or personally addressed emails or telephone conversations
- Work coordinated by ENVIROS (CZ) with participation of partners from AT, CZ, DE, HU, IT, RO, SI, UK + GR (Regulator)

### **Tasks:**

- Elaboration of questionnaires
- Identification of stakeholders / target groups to be addressed
- Face-to-face interviews and telephone / e-mail consultation
- Consistency check and evaluation of results
- Elaboration of evaluation report and presentations



# **GreenNet – Incentives - Stakeholder consultation**

## **Results / outputs**

### **Outputs:**

- Evaluation report – available on **GreenNet – Incentives** website
- Presentations + discussion on several events (workshops / conferences) + set of ppt presentations
- Conclusions / feedback used also in other outputs of
- Results will also be used in the training / education and dissemination activities of **GreenNet – Incentives** project



# GreenNet – Incentives - Stakeholder consultation

## Technical details

- 3 variants of Questionnaires – approx. 20-30 questions
- Most of questions formulated so that answers were provided using a scale in order to allow quantitative evaluation of the responses.
- In total collected **72 questionnaires** - 19 based on face-to-face interviews, the rest by by e-mail or telephone conversation
  - 13 - Regulatory authorities (10 countries)
  - 25 - DSOs (9 countries)
  - 34 - RES-E Developers (9 countries)



## **Priorities of involved Stakeholders**

**Stakeholders - very different views on issues covered by questionnaires – different interests and issues to solve**

- **DSOs** – more/less do not care on condition that they do not have to solve complicated technical / administrative issues and their costs related to connections / grid extension are covered / recovered through system services fees or end user prices
- **Regulators** – protect end users, in most countries involved in design / implementation of RES-E support system
- **RES-E Developers** – main interest = develop projects and get connected - quickly, simply, without excessive costs
- DSOs + RES-E Developers - significantly more critical to issues related to system of support of RES but more optimistic view regarding potential of RES



## Key results – non-technological barriers to RES-E (1)

### RES-E support schemes - work but could be improved

- **Feed-in tariff schemes** applied in most countries
- **Priority access to grid, priority transmission / distribution of RES-E** in most countries
- **Technology specific support** is missing or set in a way that some technologies are not supported in a sufficient way
- **Stability of support / long term guarantee of support** is missing or not motivating enough
- System of RES-E support is **too complex** / administrative demanding
- Support for **small scale or innovative RES-E sources / schemes** is missing in some countries





## System of support of RES-E, priority access to grid

Country	System of support of RES-E	Priority access to the grid	Priority Transmission / distribution
<b>Austria</b>	Feed-in Tariff	No	Yes
<b>Czech Republic</b>	Feed-in Tariff	Yes	Yes
<b>Germany</b>	Feed-in Tariff	Yes	Yes
<b>Greece</b>	Feed-in Tariff	Yes	Yes
<b>Hungary</b>	Feed-in Tariff	Yes	Yes
<b>Italy</b>	Quota/Green Certificate + Feed-in Tariff (small installations)	No	Yes
<b>Norway</b>	Other (grants)	No	No
<b>Romania</b>	Quota/Green Certificate	Yes	Yes (?)
<b>Slovenia</b>	Feed-in Tariff	No	No
<b>UK</b>	Quota/Green Certificate	No	No



## Key results – non-technological barriers to RES-E (2)

**Administrative procedures** – unanimously identified as **KEY BARRIER** by all stakeholders, in all countries (!)

- **Lack of coordination between authorities**, sometimes even opposite interests of authorities involved – kind of „one stop shop“ would be more than welcome
- **Planning / construction permit procedures** - time and administrative demanding, too complex, inexperienced administrators (regarding RES-E sources)
- **EIA procedures** - time demanding, complex, too strict (nature and landscape protection)
- **Grid connection procedures** – low motivation of DSOs to connect distributed sources, time demanding, too strict (technical requirements), high cost of connection for RES-E developer



## **Key results – non-technological barriers to RES-E (3)**

### **Other barriers**

- **Activities of interest groups against RES** – environmentalists, NIMBYists, lobbies
- Some countries – **public perception and support of RES** - in particular wind – could be root of other barriers as it projects into politics / public administration => administrative barriers
- **Biomass market development** in case biomass for electricity
- **Competition** in site acquisition / development of projects
- **General political support** – sometimes only proclamative

### **Positive motivating factors**

- Indicative targets for RES
- Interest of investors / banks
- **Activities of interest groups supporting RES**

## **Key results – grid connection regulation**

- **Most countries apply shallow system of allocation of costs** for grid connection (costs of grid reinforcement covered by DSO, RES-E developers cover costs of connecting line)
- **Most stakeholders would prefer shallow system** in future
- The transparency of allocation of costs of grid connection, discrimination in allocation of costs (technology, location specific) is not considered as a problem
- **Info about grid infrastructure** - sufficient in most countries, not a key problem
- **Locational signals** - implemented in some way in AT, NO, SI and GR – would be welcome by DSOs in other countries - improvement of grid planning
- **Special provisions for connection of innovative / small scale RES-E** are missing



# Grid connection regulation for RES-E system of coverage of costs of grid connection

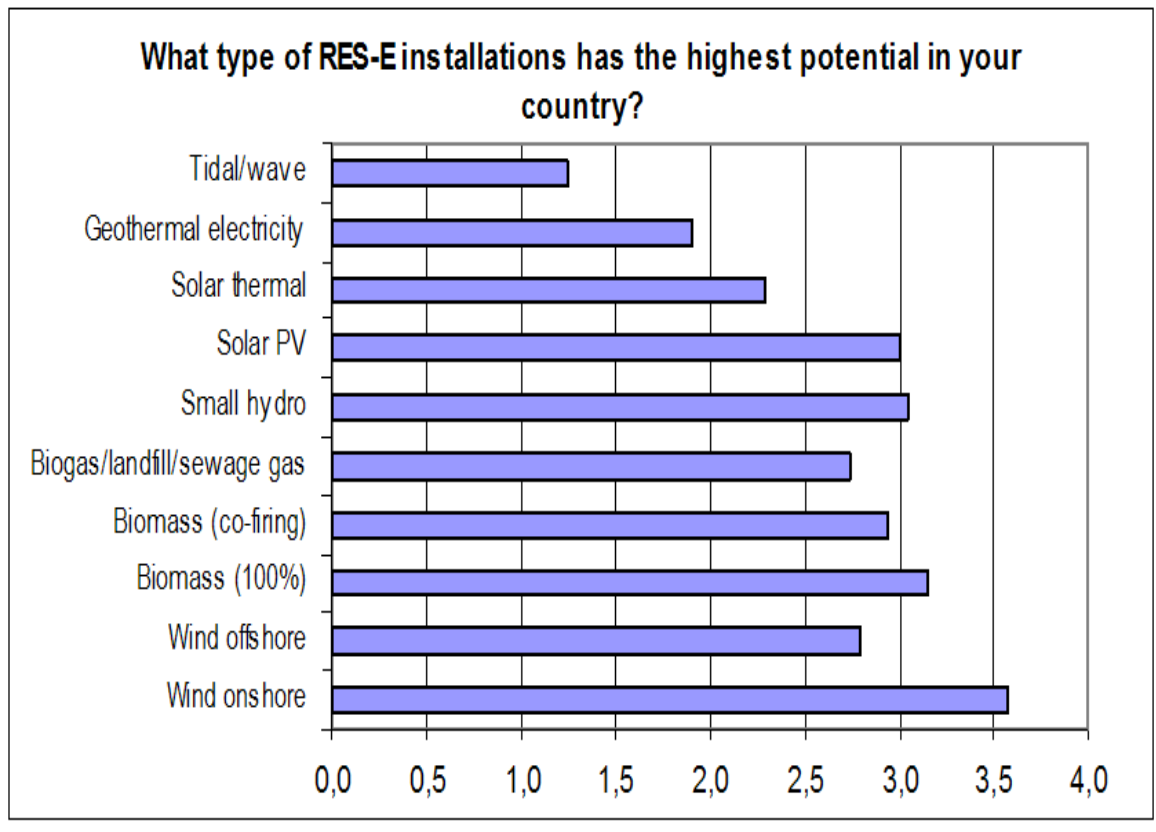
Country	Present	Preferred system (results of questionnaires)		
		Regulators	DSOs	RES-E Developers
Austria	Deep	Shallow	Deep	Super shallow (3) Shallow (2)
Czech Republic	Other	Deep	Shallow (2) Deep (1)	Shallow (4) Other (1)
Germany	Shallow / super shallow	Shallow	Shallow	Shallow (3) Super shallow (1)
Greece	Shallow	Shallow	n/a	n/a
Hungary	Shallow	Shallow	Super- Shallow	Shallow (2) Deep (2)
Italy	Shallow	Shallow	Super shallow (1) Deep (1)	Super shallow (2) Deep (2) Shallow (1)
Norway	Deep	Shallow (1) Deep (1)	Shallow (2) Deep (1)	Other
Romania	Shallow	Shallow	Deep	Shallow
Slovenia	Shallow	Shallow	Shallow (1) Deep (1) Other 1) Super-shallow (1)	Super shallow
United Kingdom	Shallow	n/a	Shallow (2) Other (2)	n/a



# GreenNet – Incentives - Stakeholder consultation

## Potential of RES-E sources

All countries, all stakeholders:  
(0-lowest, 5 highest); 72 respondents



- **Regulators** - significantly more skeptical, favour small hydro (from unclear reason)  
- almost same level as wind.

- **DSOs** - more balanced view, highest ranking for offshore wind

- **RES-E Developers** - most optimistic way - onshore wind considered as most promising RES-E source while there is no significant difference between biomass and solar PV.

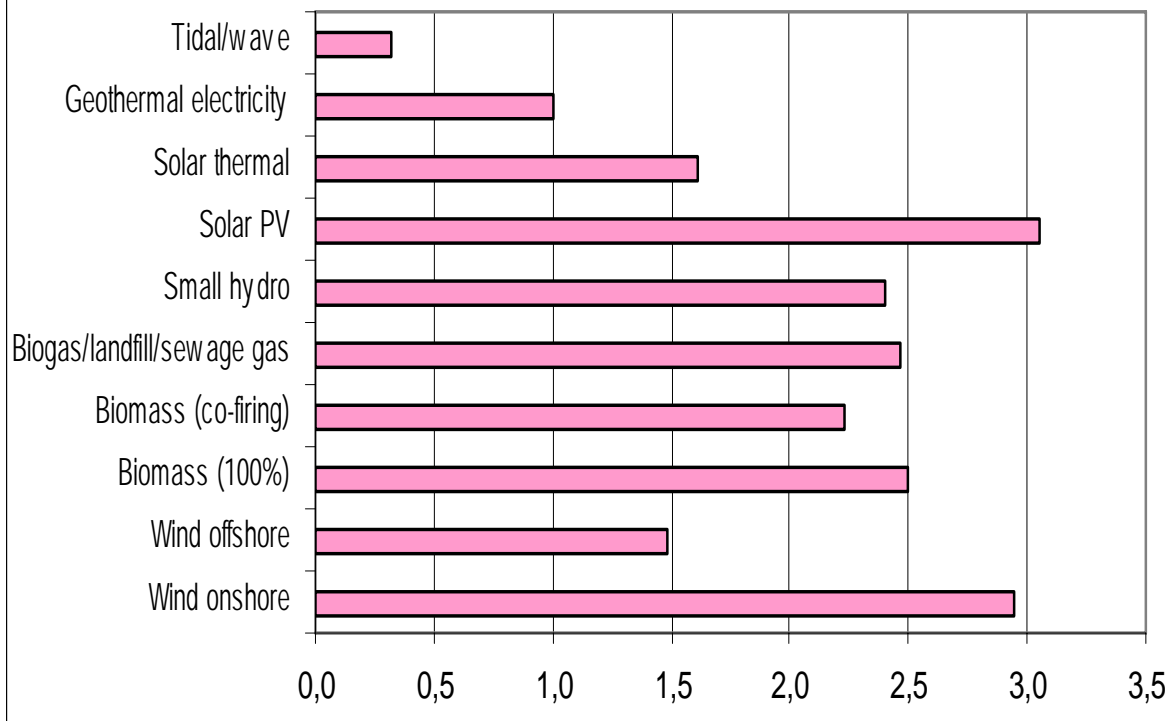


# GreenNet – Incentives - Stakeholder consultation

## Current development of RES-E generation

All countries , all stakeholders:  
(0-lowest, 5 highest); 72 respondents

What type of RES-E installations currently develops in the most dynamic way?



- **Regulators** - small hydro at the same level as wind onshore

- **DSOs + RES-E Developers** – similar view – solar PV and onshore wind

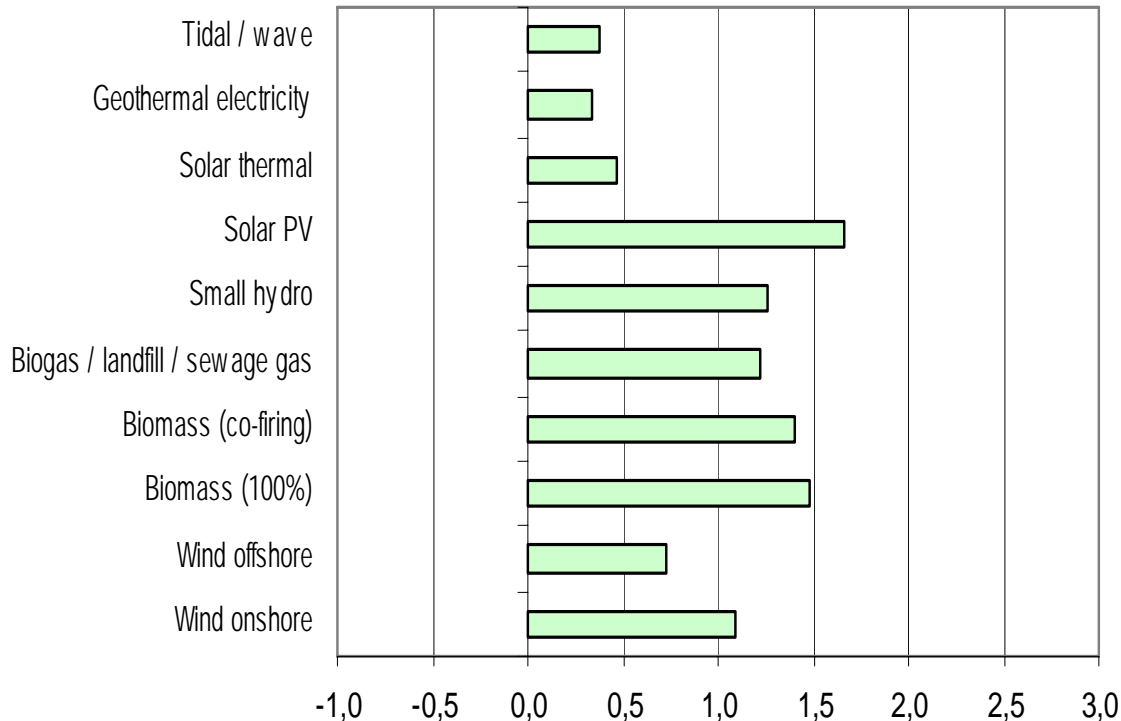


## Motivation provided by RES-E support system

**All countries , all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 72 respondents

How would you evaluate level of support provided by your country's RES-electricity support system?



- Results very subjective and country specific, differ significantly across stakeholder groups

- no significant differences only in solar PV

- Regulators see the support systems as more motivating than DSOs and RES-E Developers

- most significant differences - onshore / offshore wind

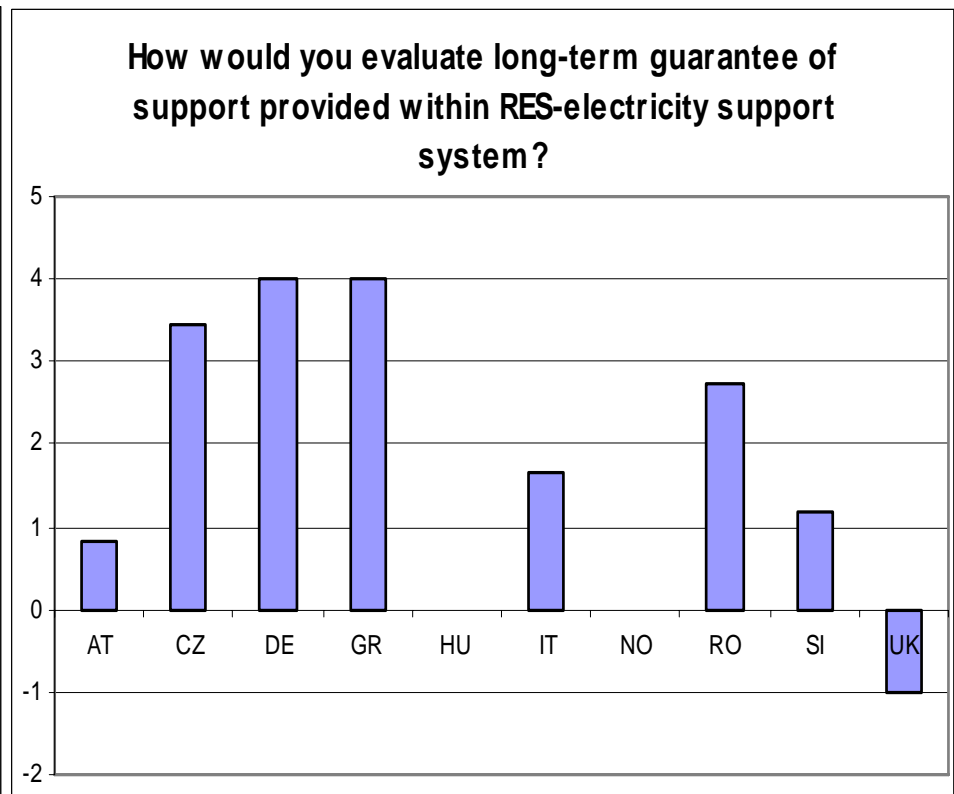
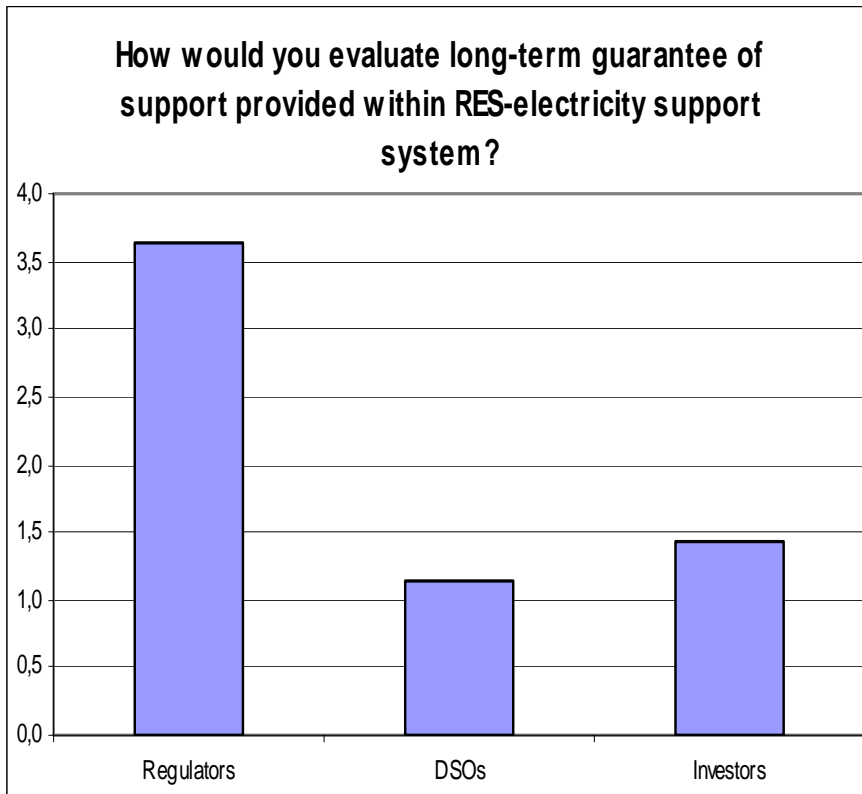
- Most critical/pesimistic – AT, NO

- Most positive/optimistic – DE, CZ, (GR, SI – except wind, UK - wind)





## Motivation provided by RES-E support system



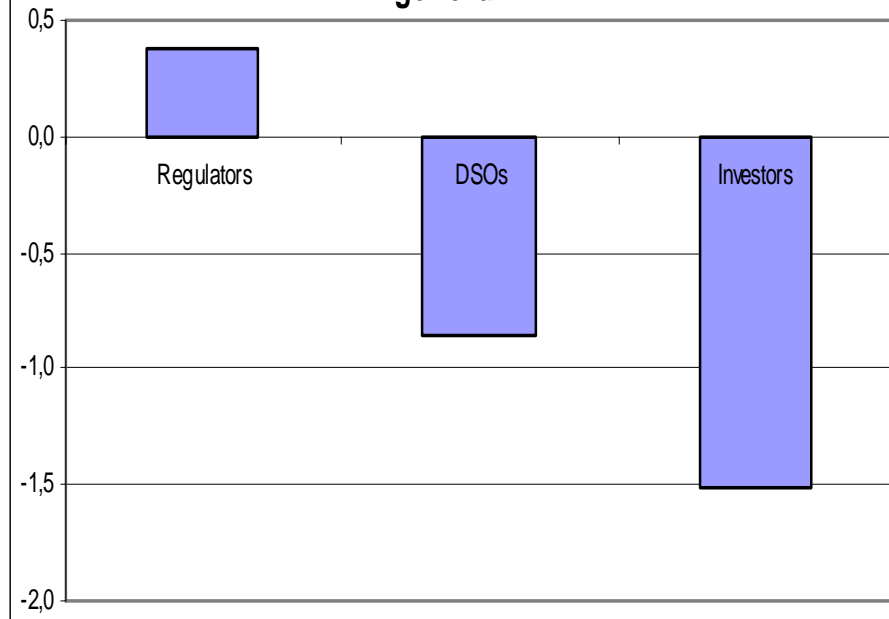
- Again, Regulators see support systems as more motivating than DSOs and Developers
- most long-term stable support DE, (GR), CZ
- could be better – AT, IT, RO
- no motivation / long term stability of support – NO, HU, UK



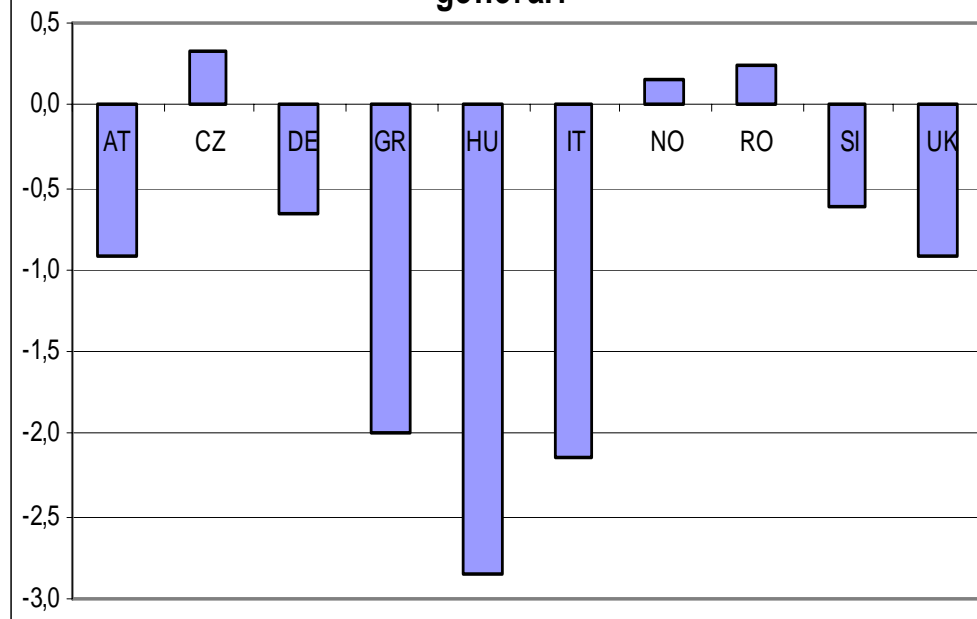
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## Administrative burden / complexity of RES-E support system

How would you evaluate administrative burden / complexity of RES-electricity support system in general?



How would you evaluate administrative burden / complexity of RES-electricity support system in general?



- So-so, could be better - CZ NO, RO
- Should be better – AT, DE, SI, UK
- Bad, demotivating – GR, HU, IT



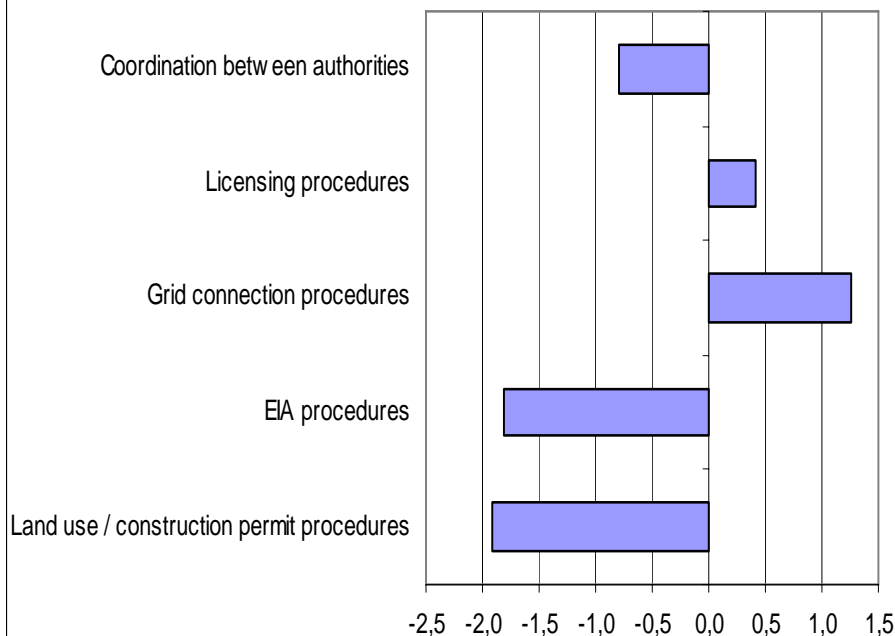
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## Administrative procedures related to RES-E installations development (1)

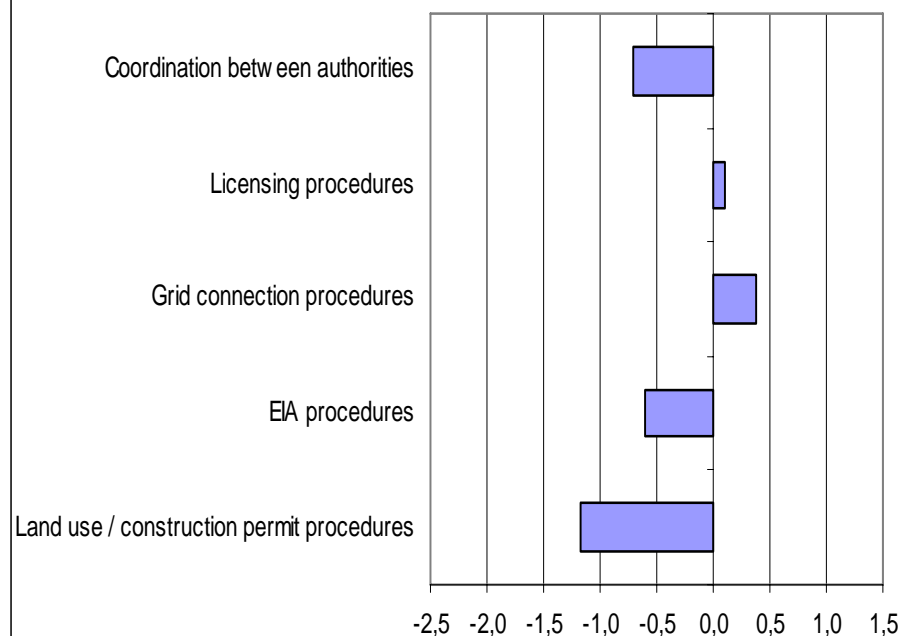
All countries, **Regulators only**  
 (-5 negative; 0 neutral; 5 positive);  
 13 respondents

All countries, **DSOs only**  
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 25 respondents

How would you evaluate administrative procedures related to RES-E installations development ?



How would you evaluate administrative procedures related to RES-E installations development ?

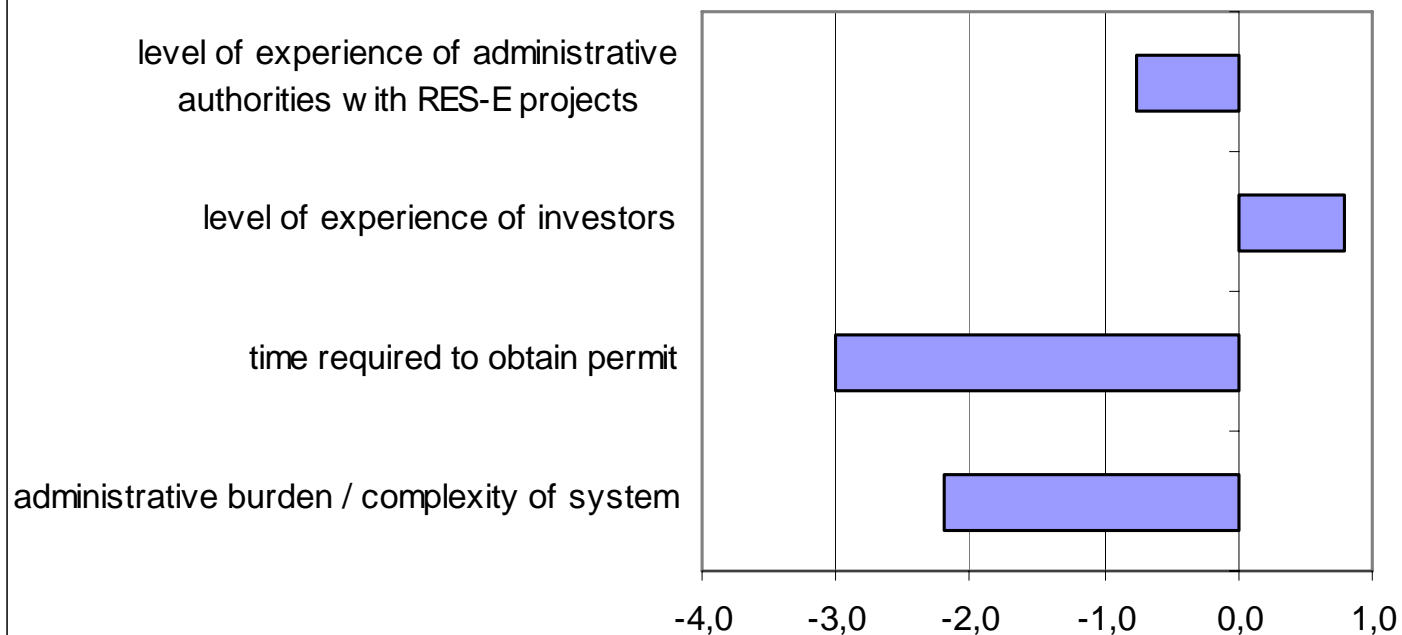


# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development (2)

All countries , **RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 34 respondents

How would you evaluate the following factors related to  
Land use permit / Construction permit procedures?

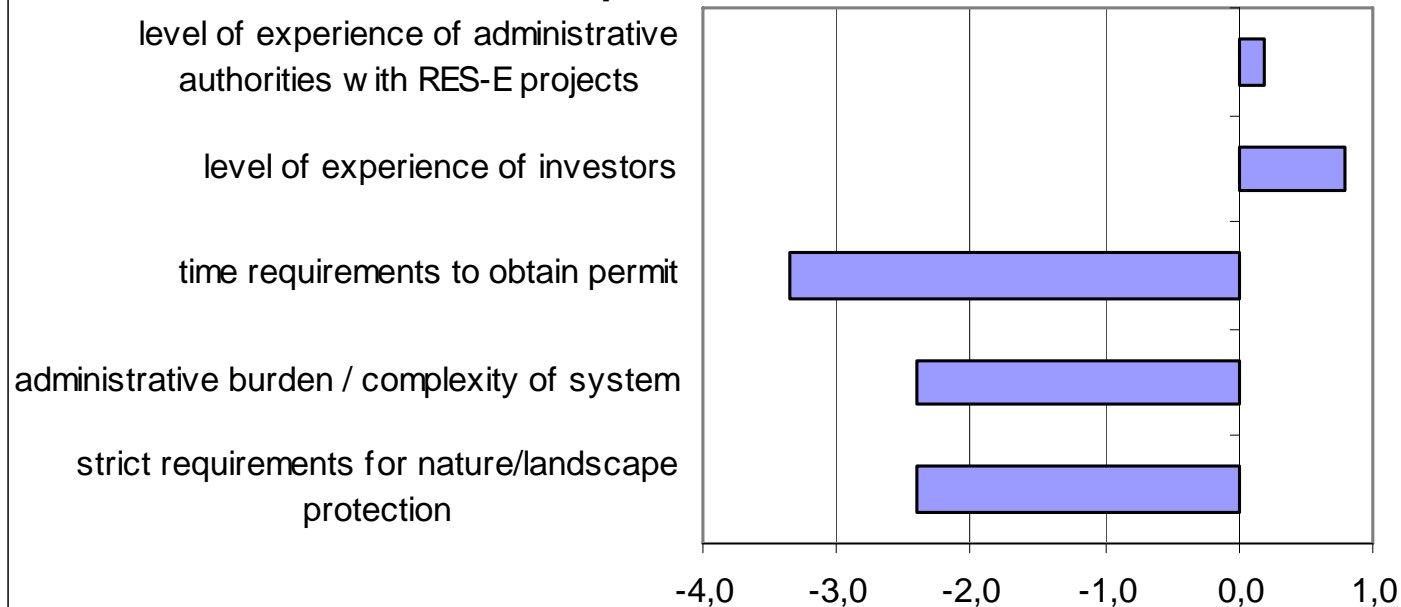


# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development (3)

All countries , **RES-E Developers:**  
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(Where relevant) How would you evaluate the following factors related to Environmental Impact Assessment (EIA) procedures?



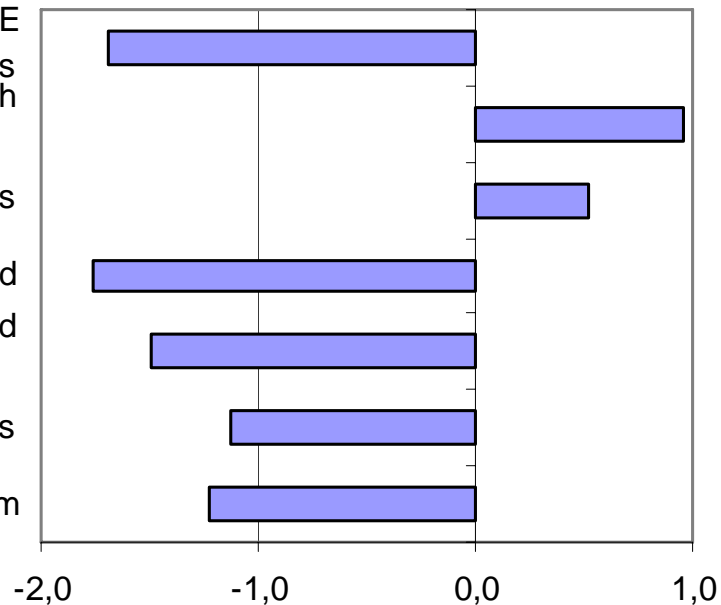
# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development (4)

All countries , **RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 34 respondents

How would you evaluate the following factors related to  
Grid connection procedure?

motivation of grid operators to connect RES-E projects, cooperation with project developers  
level of experience of grid operators with RES-E projects  
level of experience of investors  
time requirements to get connected  
costs / cost share model applied for grid connection  
technical requirements  
administrative burden / complexity of system

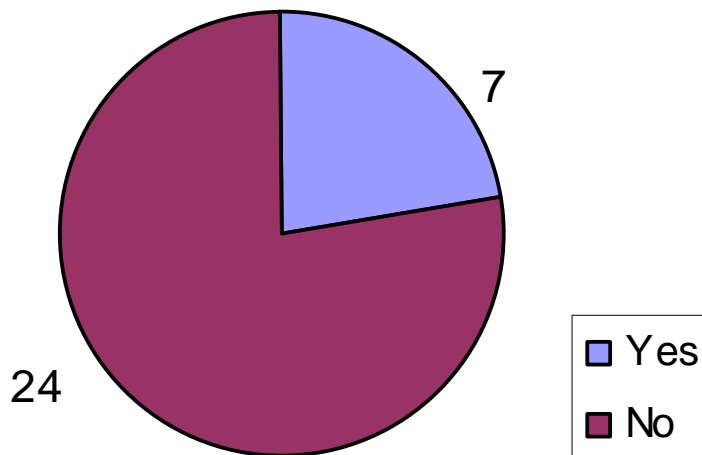


# GreenNet – Incentives - Stakeholder consultation

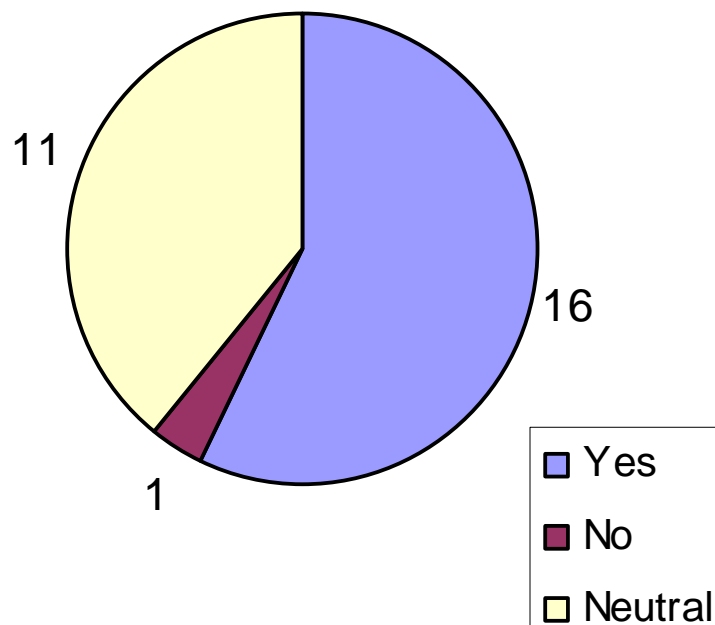
## Administrative procedures related to RES-E installations development (5)

All countries , **RES-E Developers:**

Does any authority provide centralised administration (one-stop-shop) of all procedures necessary for grid connection of RES-E projects?



If not, would such an option be invited by RES-E investors?

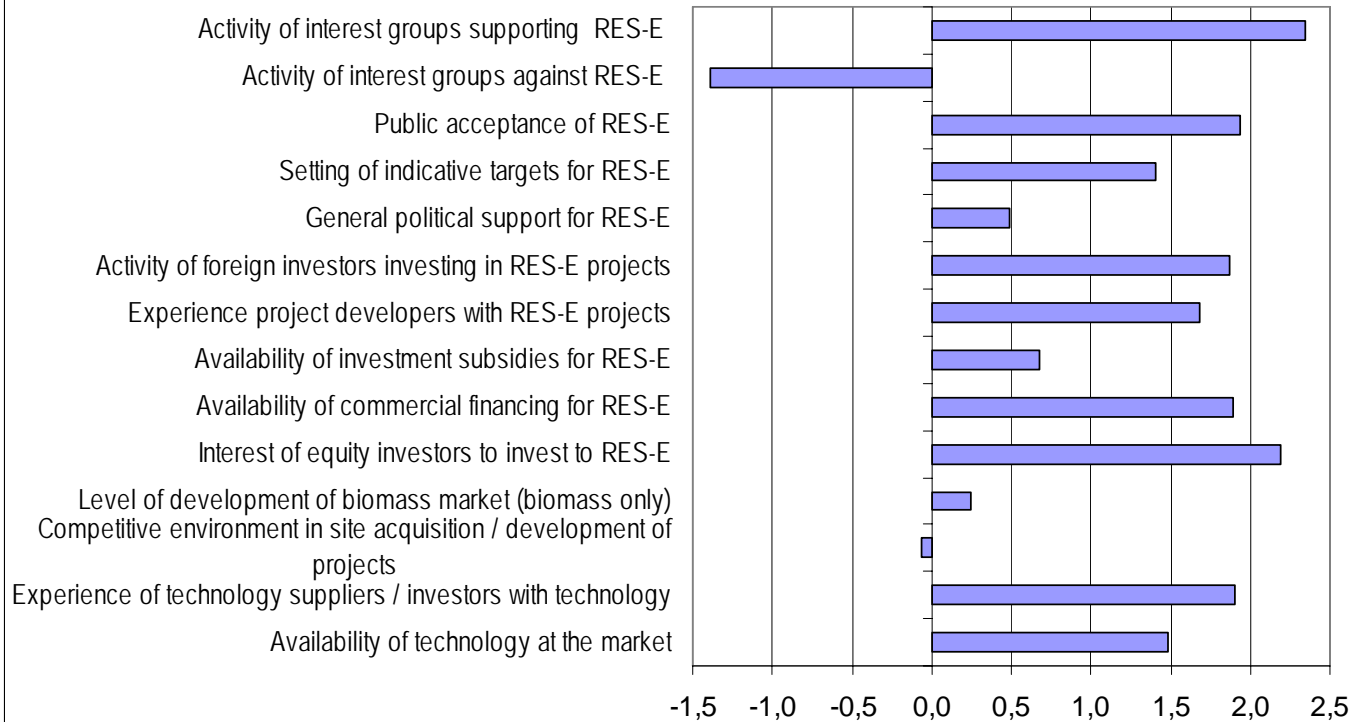


# GreenNet – Incentives - Stakeholder consultation

## Other factors related to RES-E installations development

All countries , **RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 34 respondents

How would you evaluate other factors related to RES-E development?



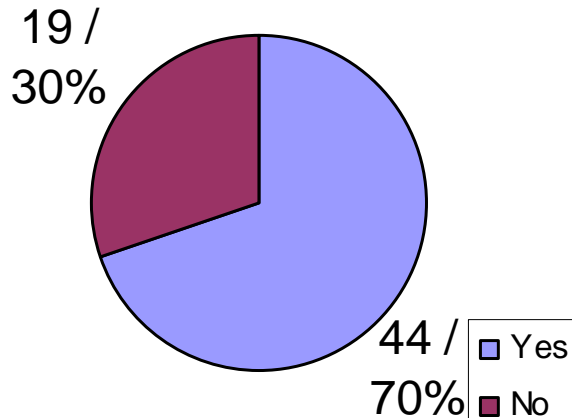


# Transparency and other issues related to system of grid connection cost allocation

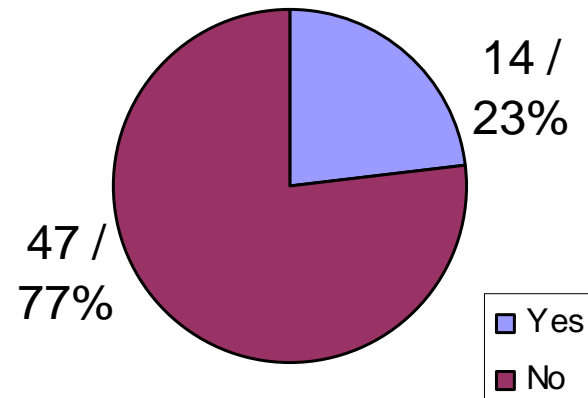
All countries, All stakeholders:

72 respondents

Do you consider allocation of these costs to single installations sufficiently transparent?



Do you consider rules for charging / allocating costs discriminatory (technology specific, location specific, stakeholder specific etc.)?

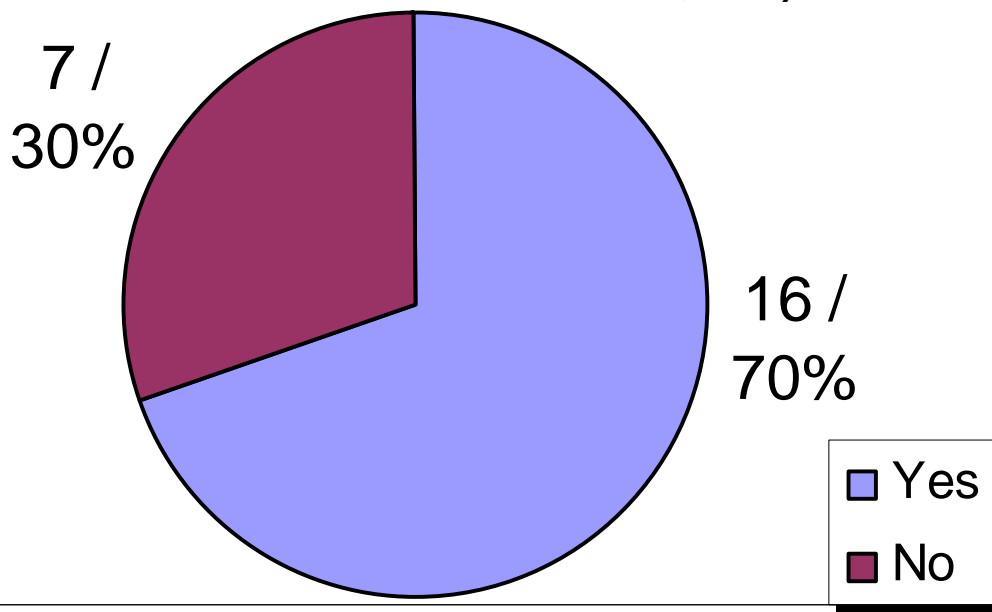


Not transparent / discriminatory – AT (all investors!), CZ, IT



## Locational signals

(Where applicable) Would you prefer locational signals for siting RES-E plants to be implemented in your country (designated RES-E deployment areas, designated RES-E grid reinforcements/extensions, etc.)?



- Locational signals in some way implemented in AT, NO, SI and GR
- 70% of DSOs would prefer
- Clear preference indicated in particular in DE and UK



**GreenNet – Incentives - Stakeholder consultation**  
**Comparative analysis**  
**Austria vs. Czech Republic**



## System of support of RES-E, priority access to grid

Country	System of support of RES-E	Priority access to the grid	Priority Transmission / distribution
Austria	Feed-in Tariff	No	Yes
Czech Republic	Feed-in Tariff	Yes	Yes

## Grid connection regulation for RES-E

Country	Present	Would prefer		
		Regulators	DSOs	Investors
Austria	Deep	Shallow	Deep	Super shallow
Czech Republic	Other	Deep	Shallow	Shallow

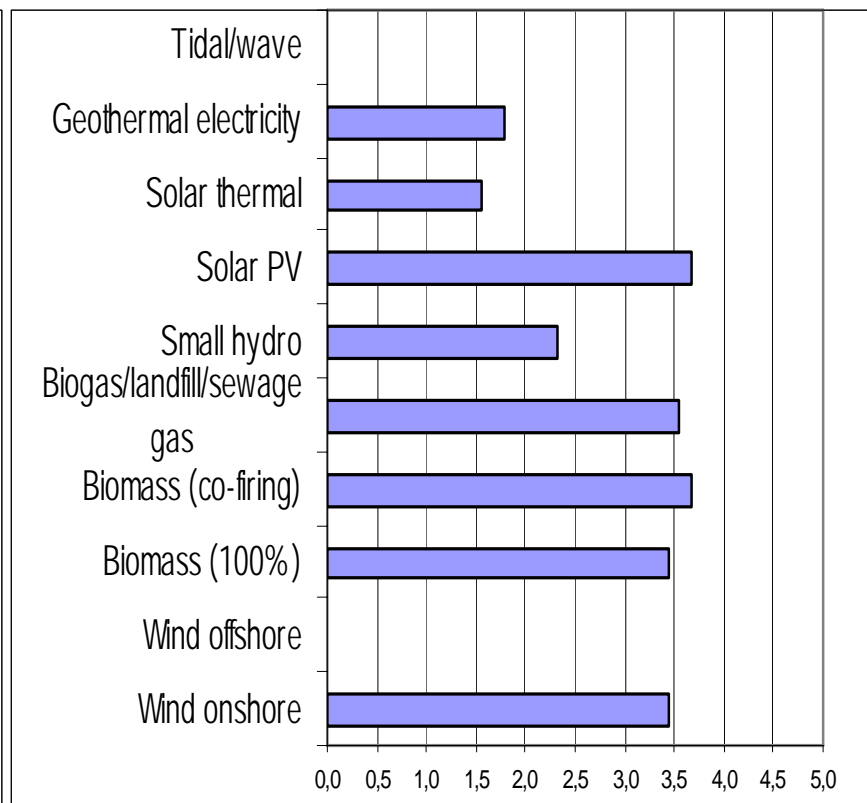
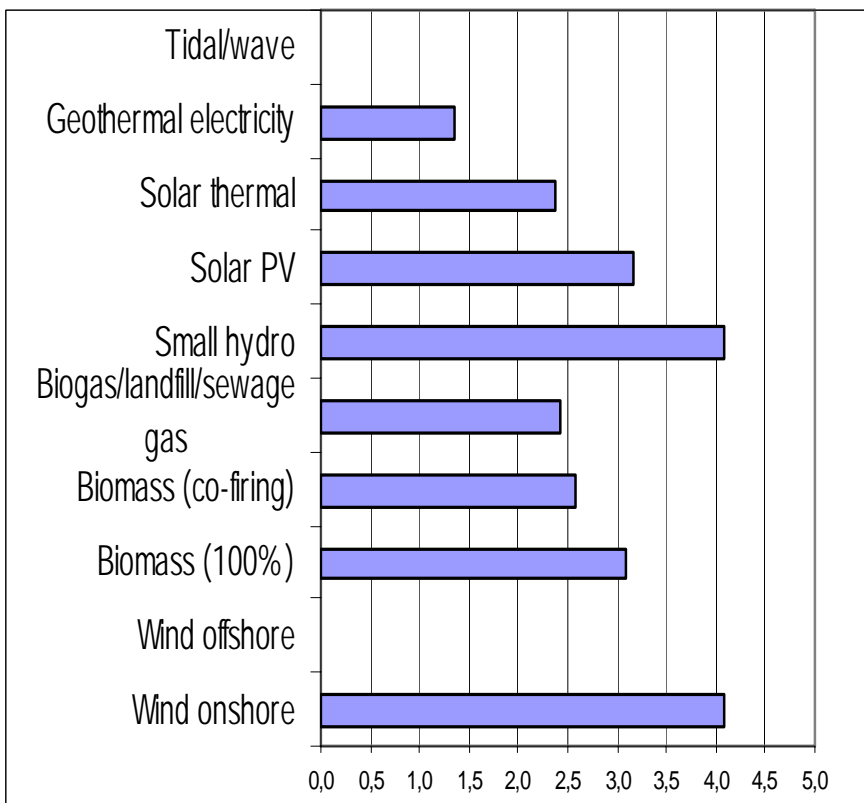


## Potential of RES-E generation

**What type of RES-E installations have the highest potential in your country?**

**Austria, all stakeholders:  
(0-lowest, 5 highest); 12 respondents**

**Czech Republic, all stakeholders:  
(0-lowest, 5 highest); 9 respondents**



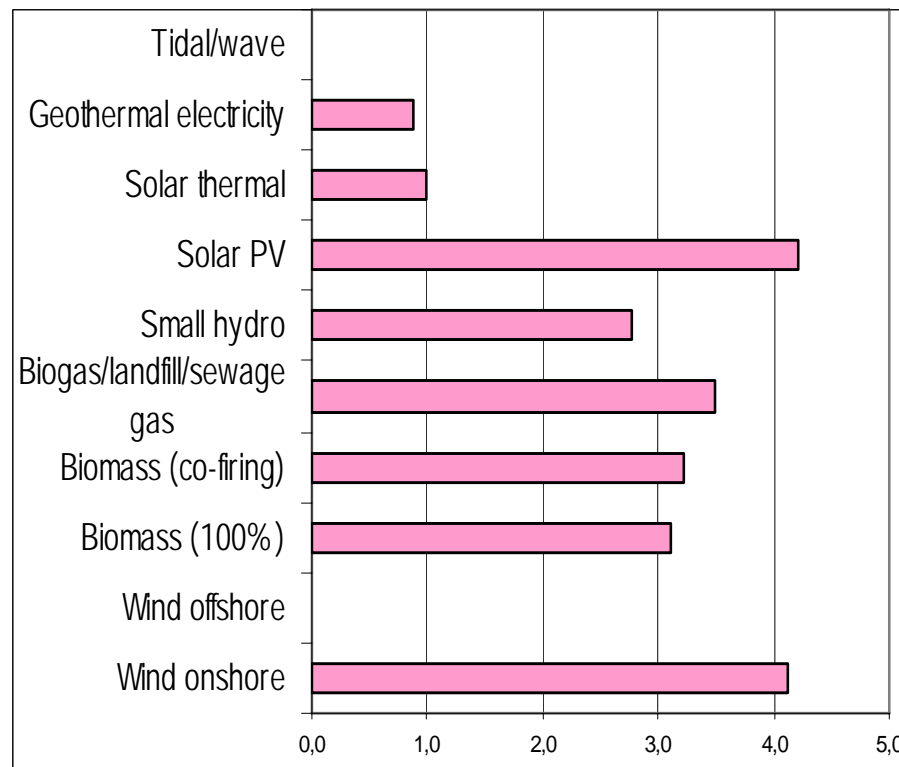
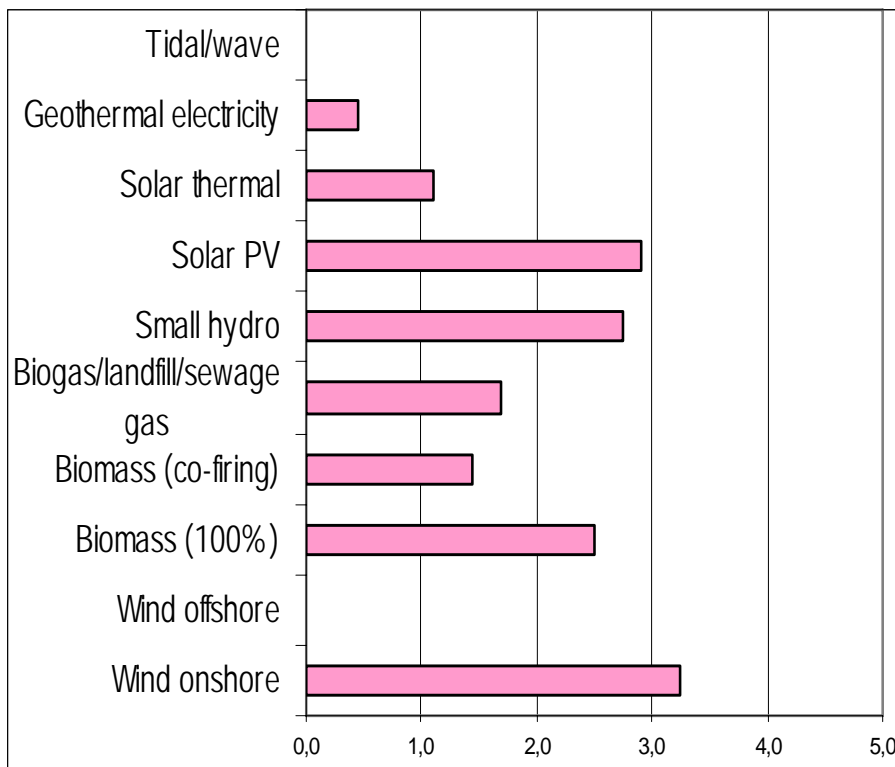
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## Current development of RES-E generation

What type of RES-E installations currently develops in the most dynamic way?

**Austria, all stakeholders:**  
(0-lowest, 5 highest); 12 respondents

**Czech Republic, all stakeholders:**  
(0-lowest, 5 highest); 9 respondents



# Motivation provided by RES-E support system

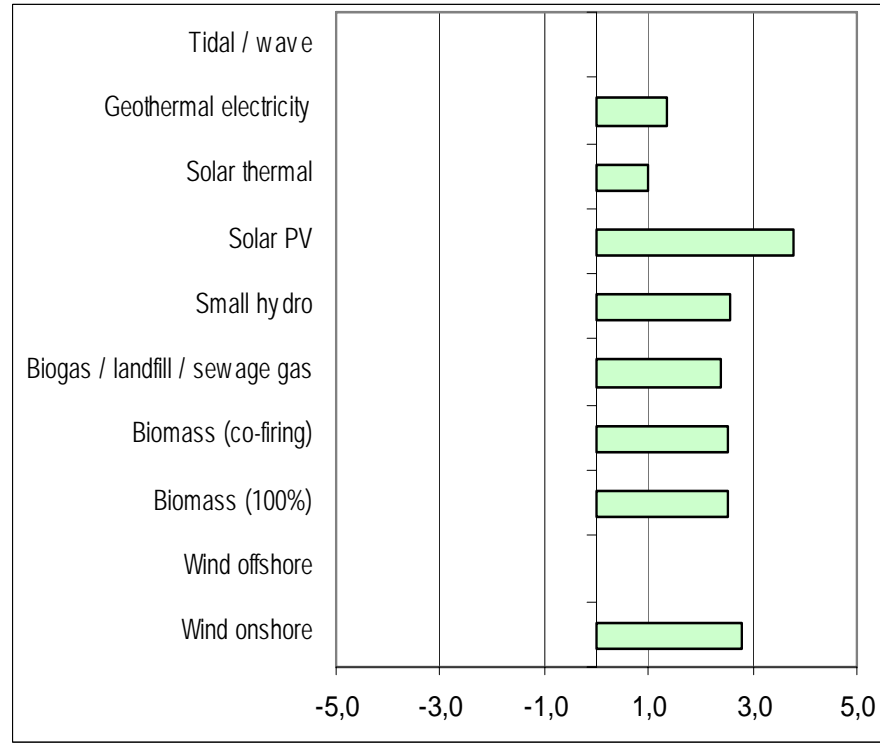
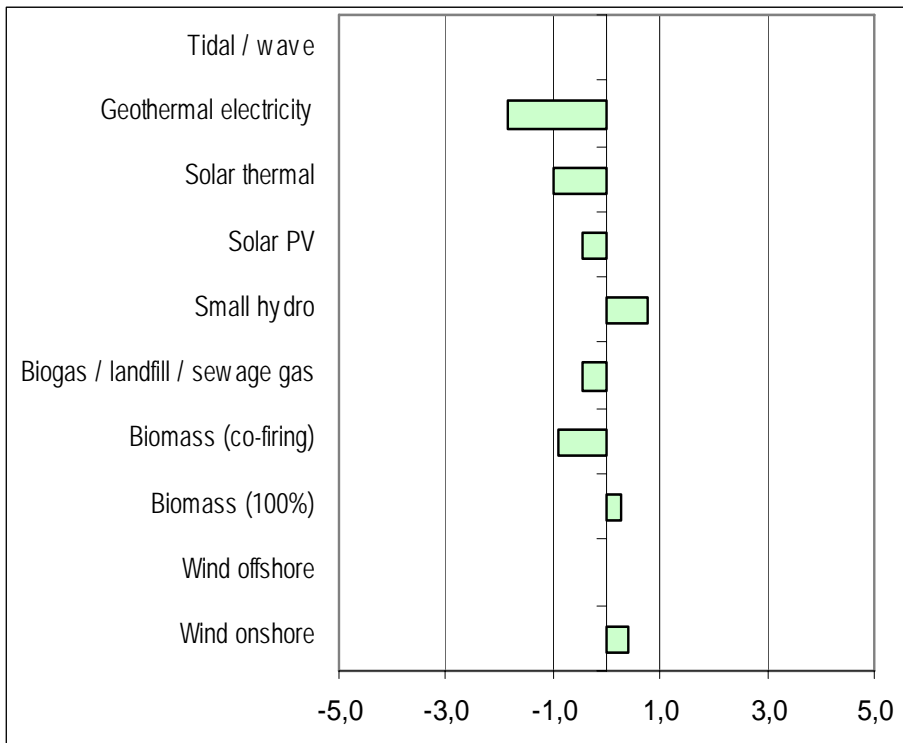
How would you evaluate level of support/motivation provided by your country's RES-electricity support system?

**Austria, all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 12 respondents

**Czech Republic, all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 9 respondents



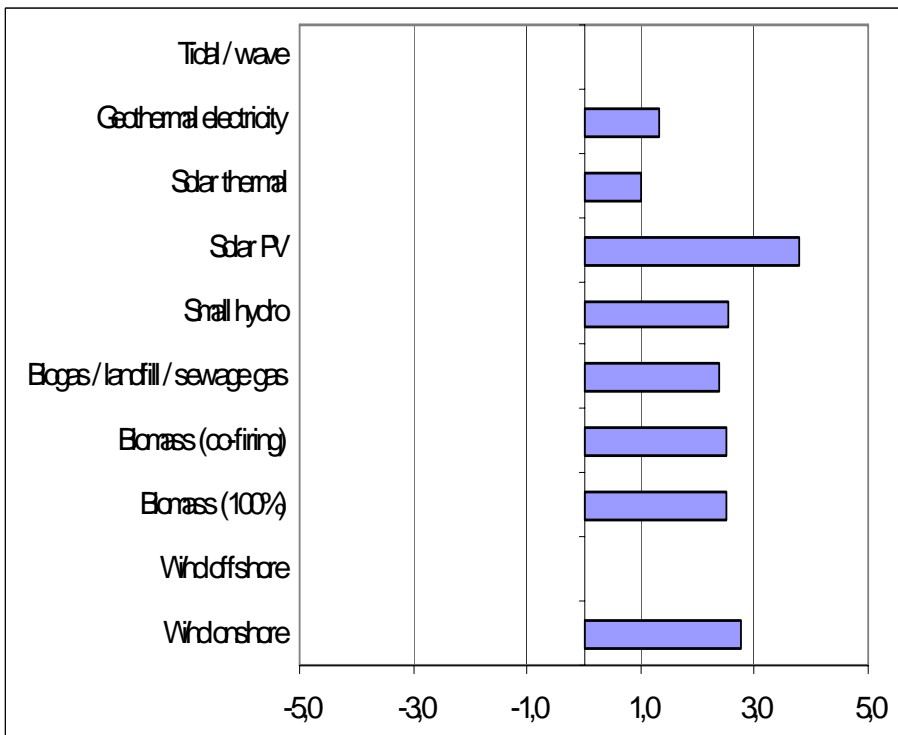
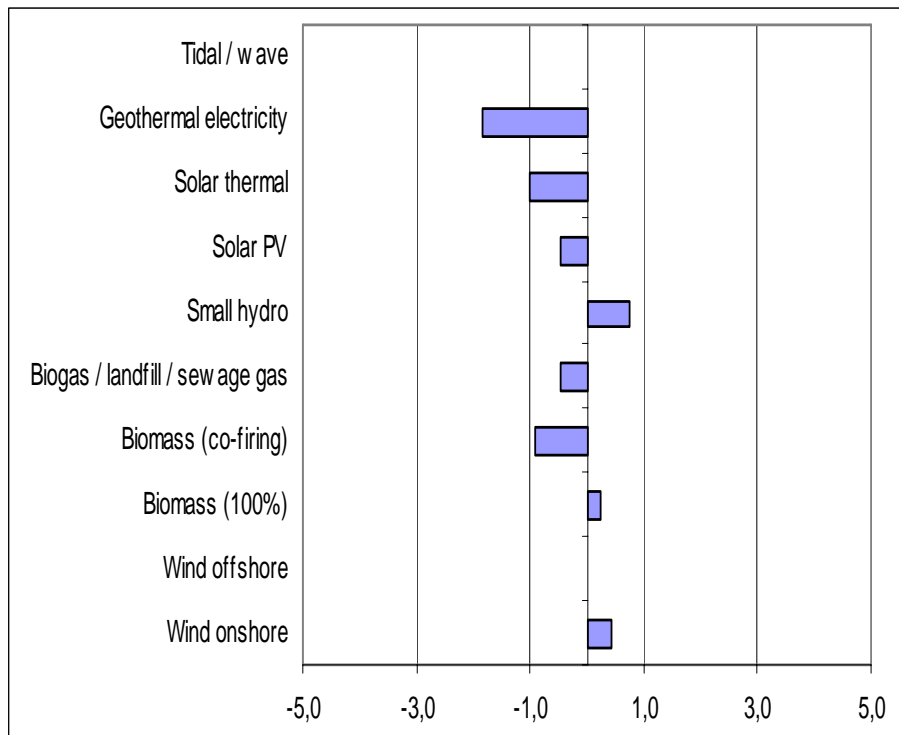
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## Motivation provided by RES-E support system

How would you evaluate long-term guarantee of support provided by your country's RES-electricity support system?

**Austria**, all stakeholders:  
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**Czech Republic**, all stakeholders:  
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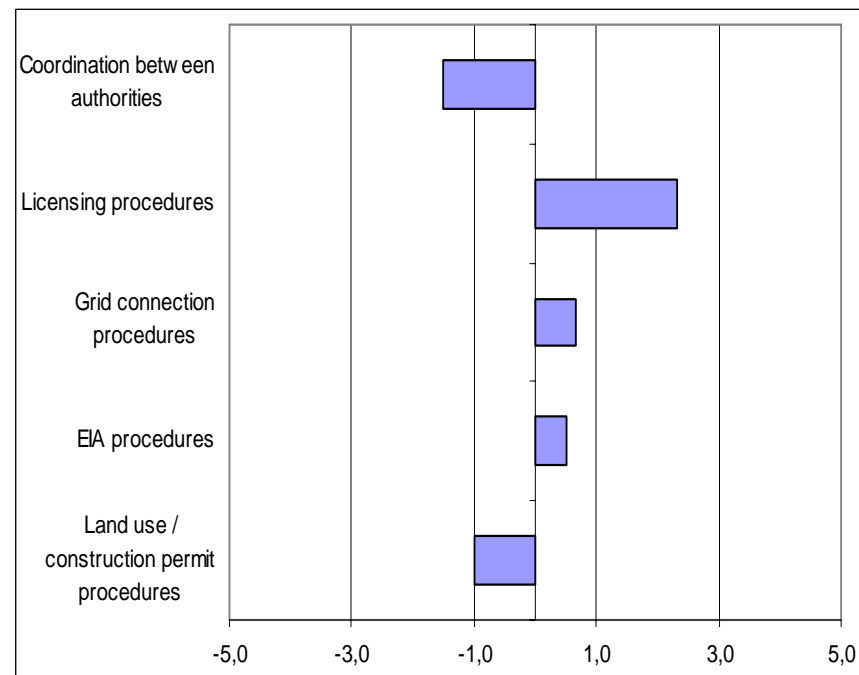
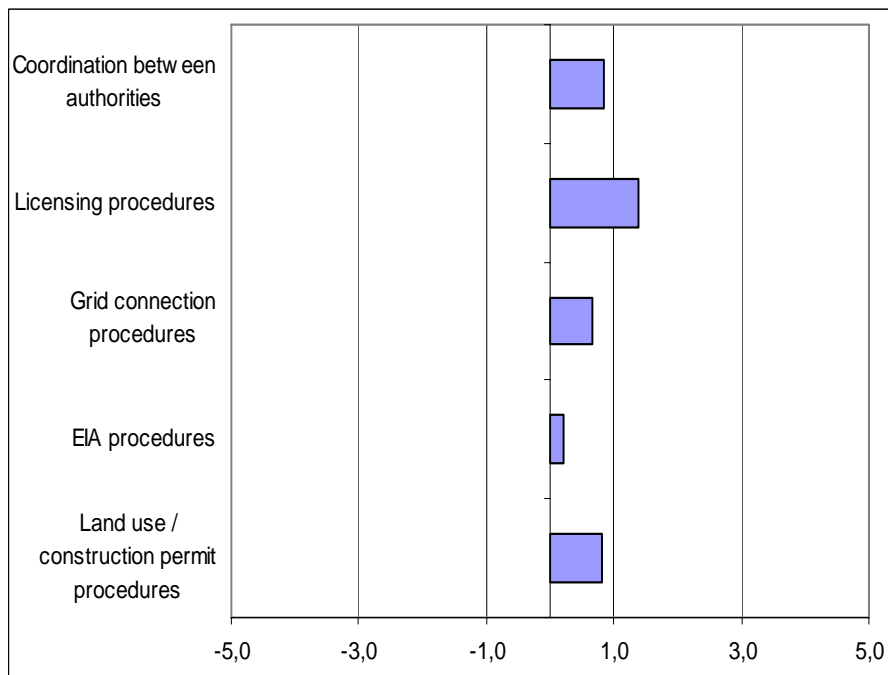
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## Administrative procedures related to RES-E installations development

How would you evaluate administrative procedures related to RES-E installations development ? (answered by **Regulators + DSOs**)

Austria, **Regulators + DSOs** :  
(-5 negative; 0 neutral; 5 positive); 7 respondents

Czech Republic, **Regulators + DSOs** :  
(-5 negative; 0 neutral; 5 positive); 4 respondents



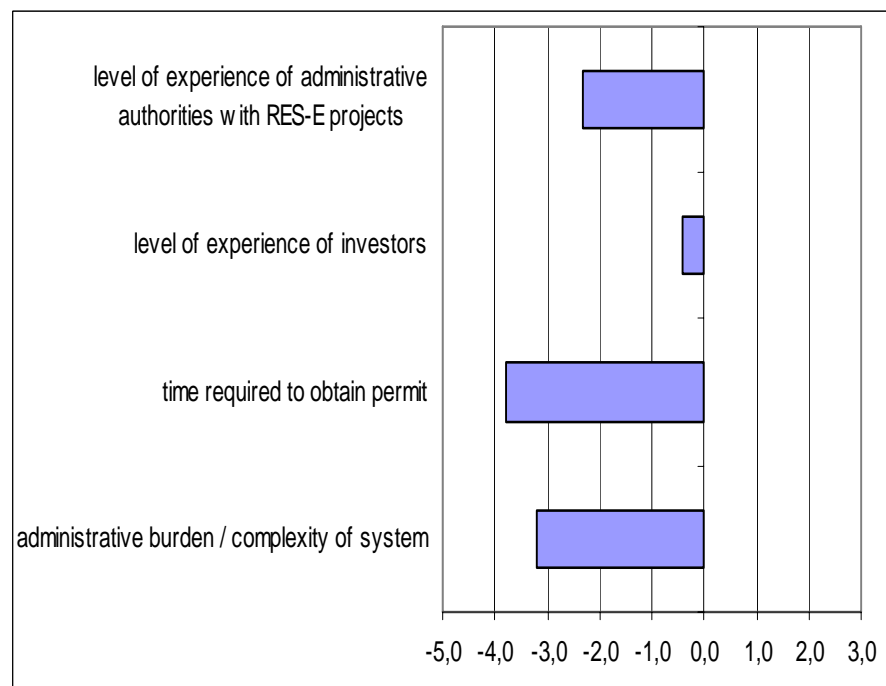
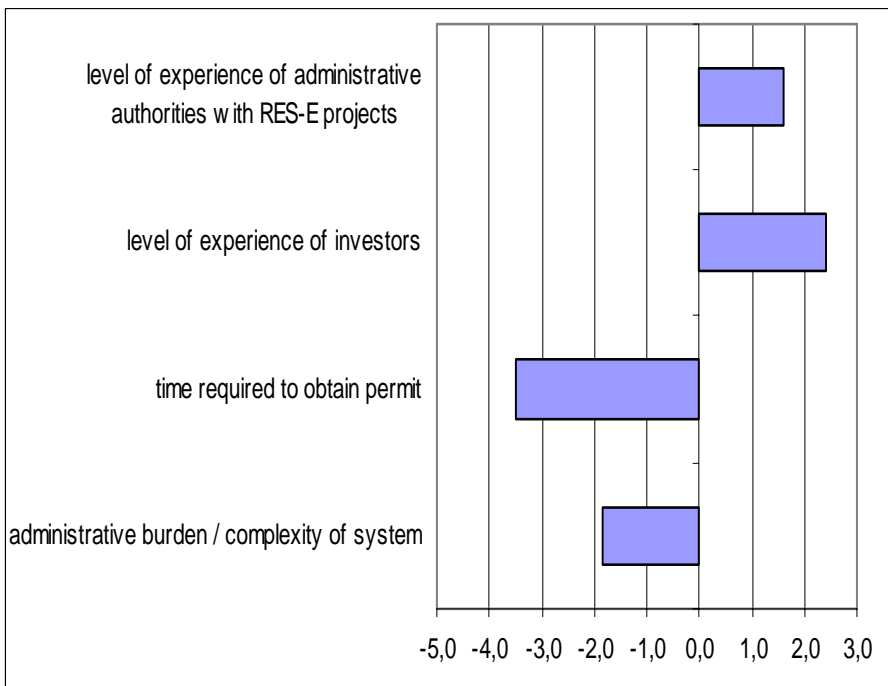
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## Administrative procedures related to RES-E installations development

How would you evaluate the following factors related to Land use permit / Construction permit procedures? (answered by **RES-E Developers**)

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**Czech Republic, RES-E Developers:**  
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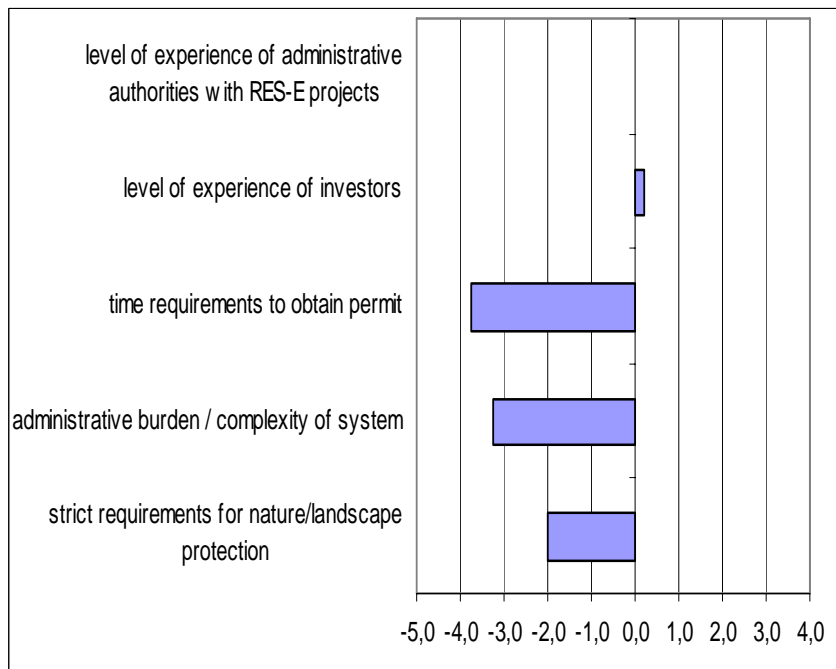
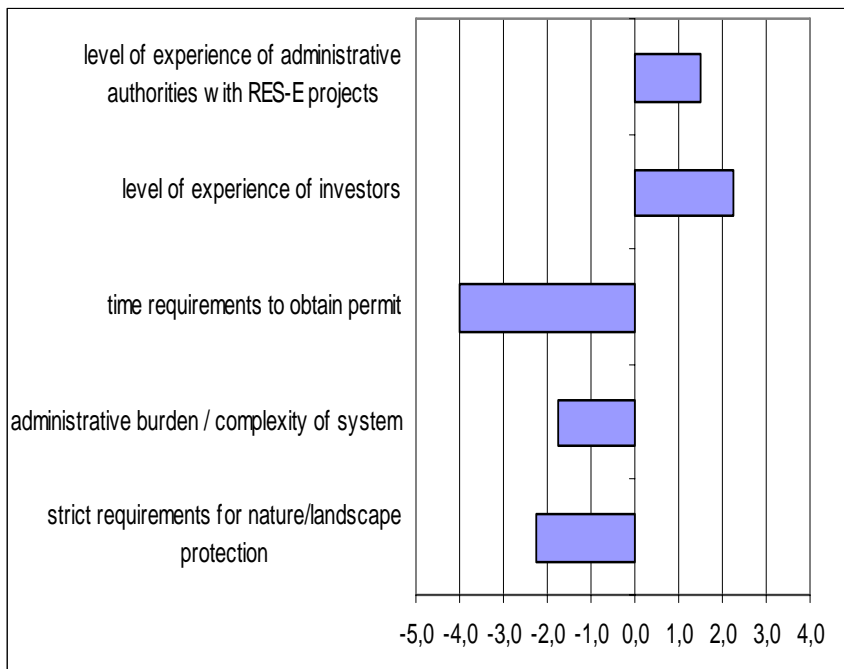
# GreenNet – Incentives - Stakeholder consultation

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How would you evaluate the following factors related to Environmental Impact Assessment (EIA) procedures ? (answered by **RES-E Developers**)

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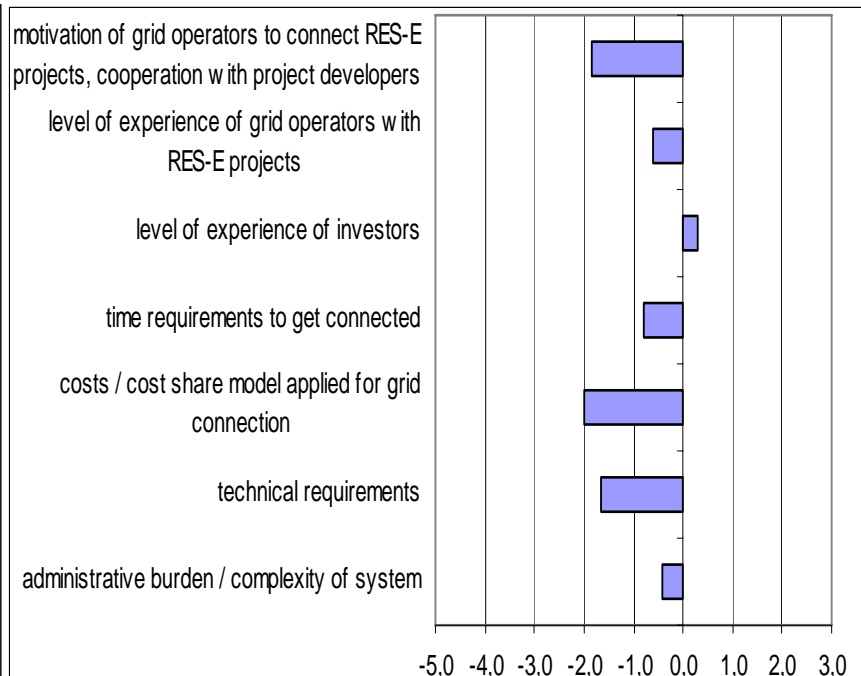
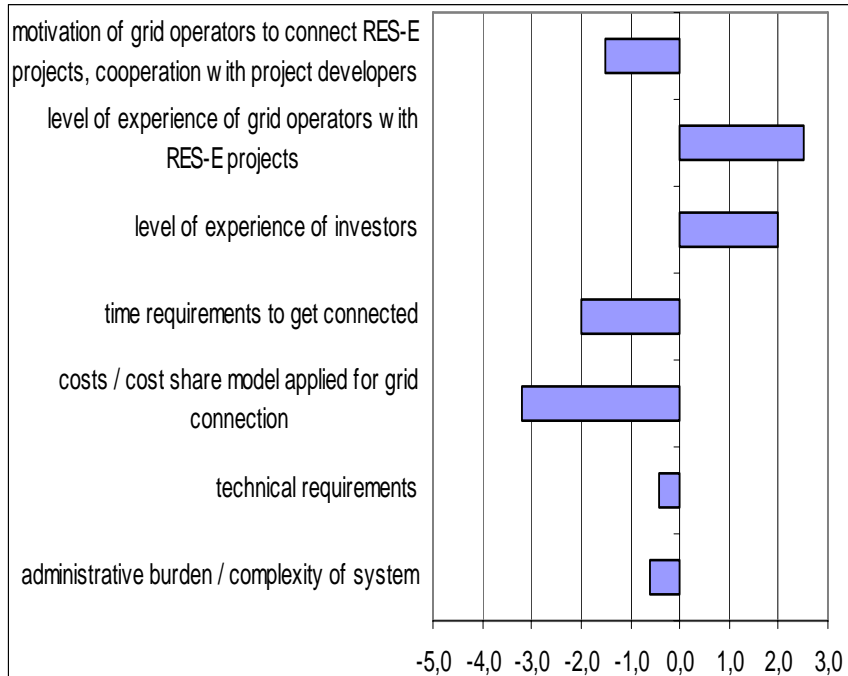
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## Administrative procedures related to RES-E installations development

How would you evaluate the following factors related to Grid connection procedures ? (answered by **RES-E Developers**)

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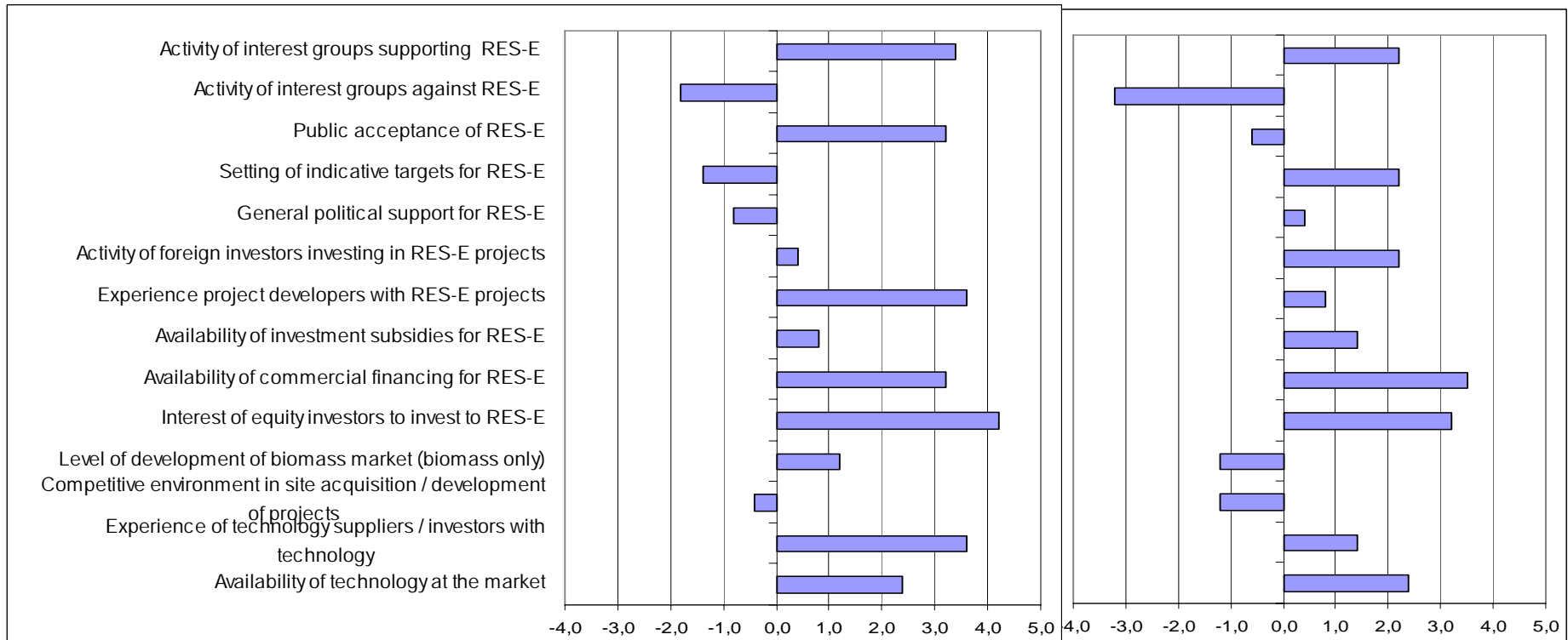
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## Other factors related to RES-E installations development

How would you evaluate other factors related to RES-E installations development ?

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**GreenNet – Incentives - Stakeholder consultation**  
**Comparative analysis**  
**Austria vs. Hungary**



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## Grid connection regulation for RES-E

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Hungary	Shallow	Shallow	Super-Shallow	Shallow



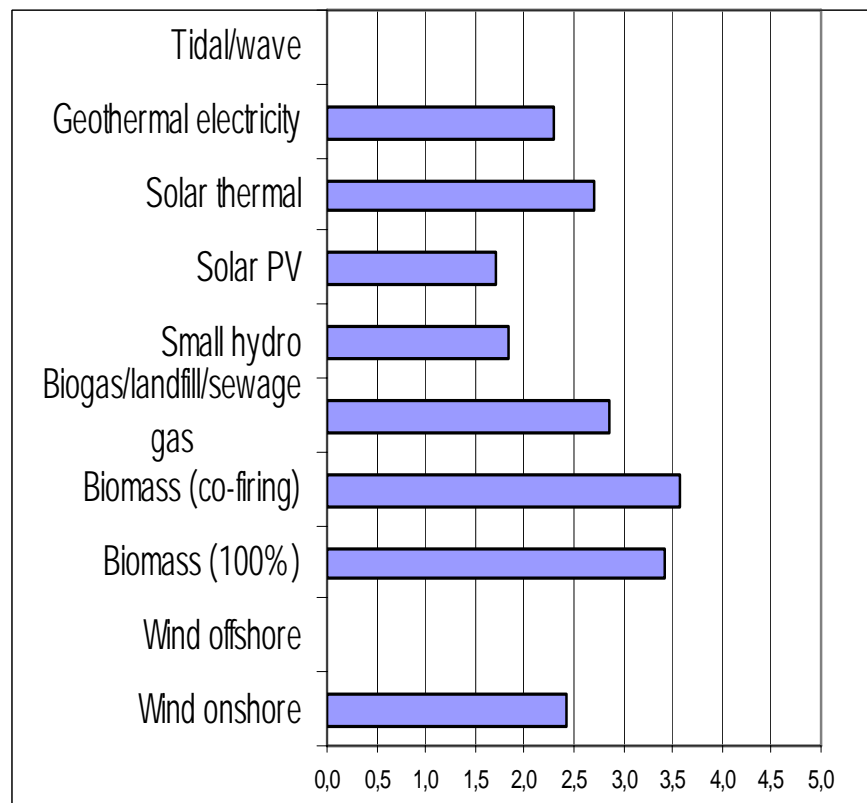
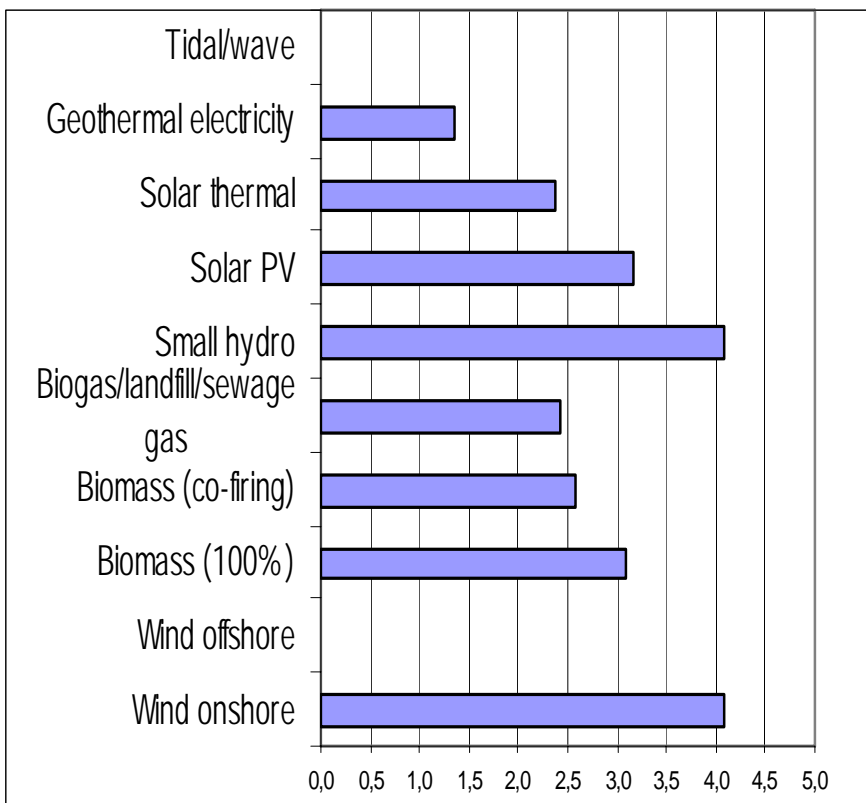
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## Potential of RES-E generation

**What type of RES-E installations have the highest potential in your country?**

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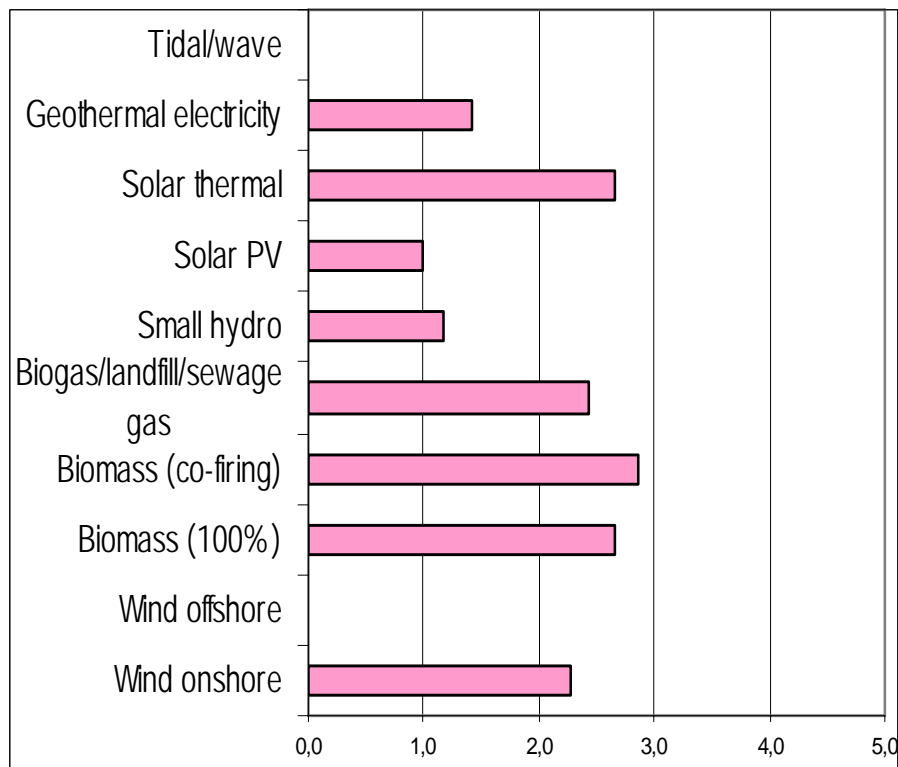
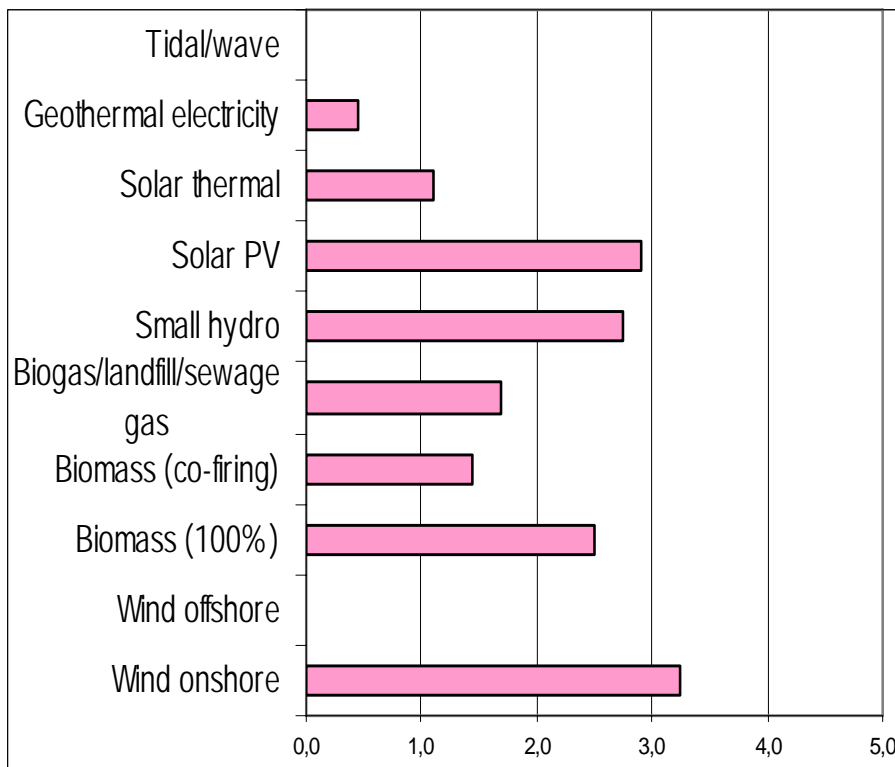
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# Motivation provided by RES-E support system

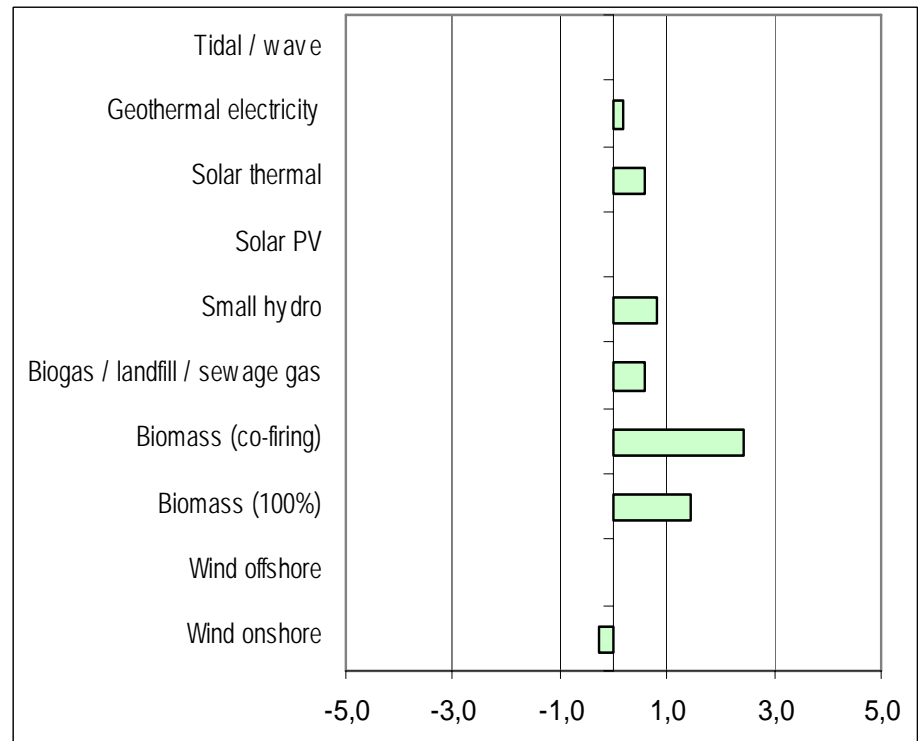
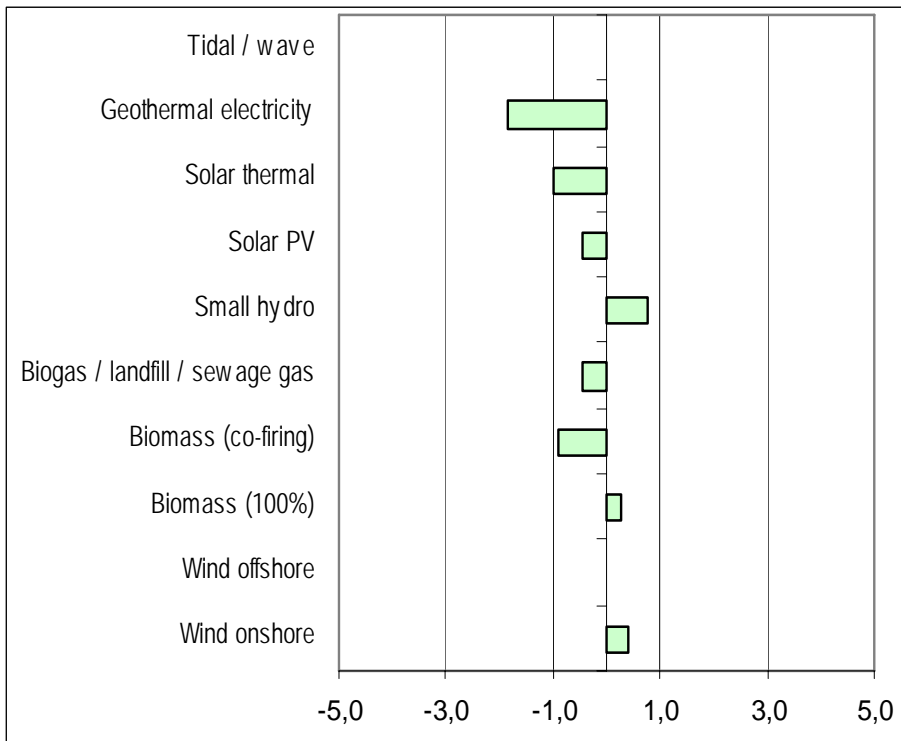
How would you evaluate level of support/motivation provided by your country's RES-electricity support system?

**Austria, all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 12 respondents

**Hungary, all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 9 respondents



# GreenNet – Incentives - Stakeholder consultation

## Motivation provided by RES-E support system

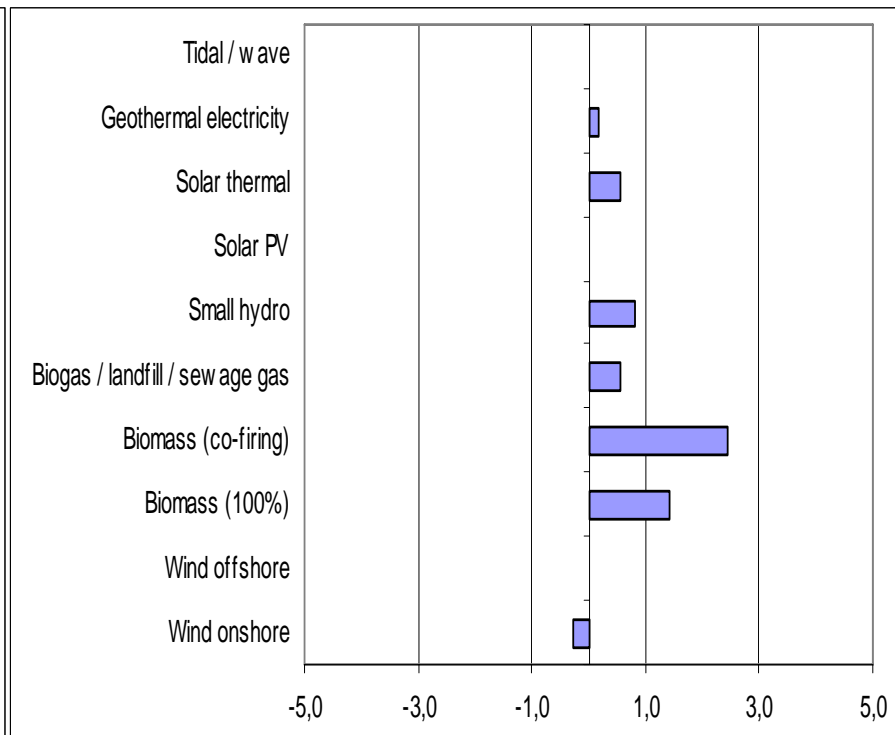
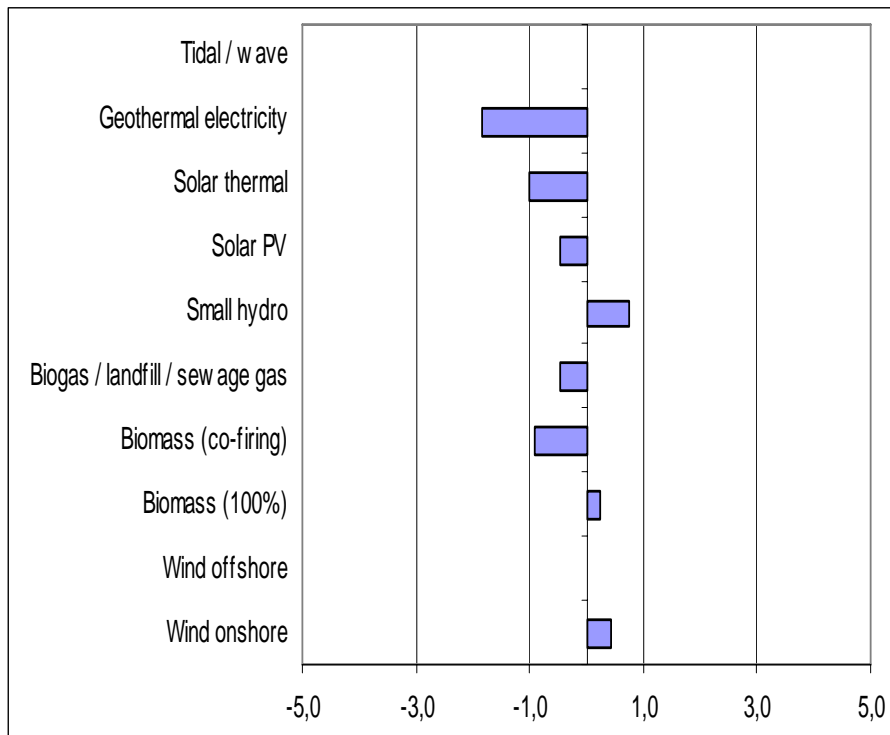
How would you evaluate long-term guarantee of support provided by your country's RES-electricity support system?

**Austria, all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 12 respondents

**Hungary, all stakeholders:**

(-5 negative; 0 neutral; 5 positive); 9 respondents



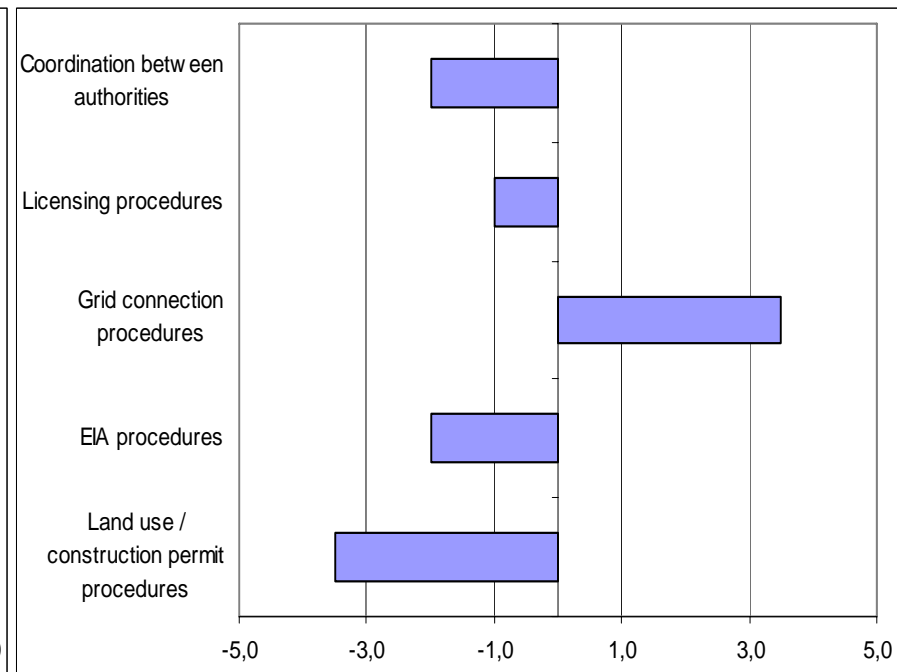
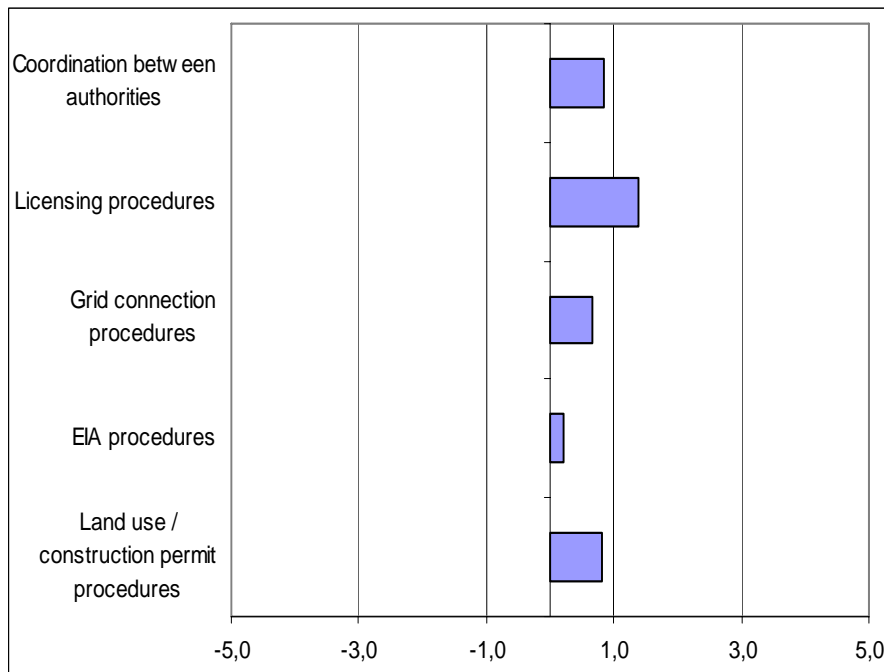
# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development

How would you evaluate administrative procedures related to RES-E installations development ? (answered by **Regulators + DSOs**)

**Austria, Regulators + DSOs :**  
(-5 negative; 0 neutral; 5 positive); 7 respondents

**Hungary, Regulators + DSOs :**  
(-5 negative; 0 neutral; 5 positive); 4 respondents



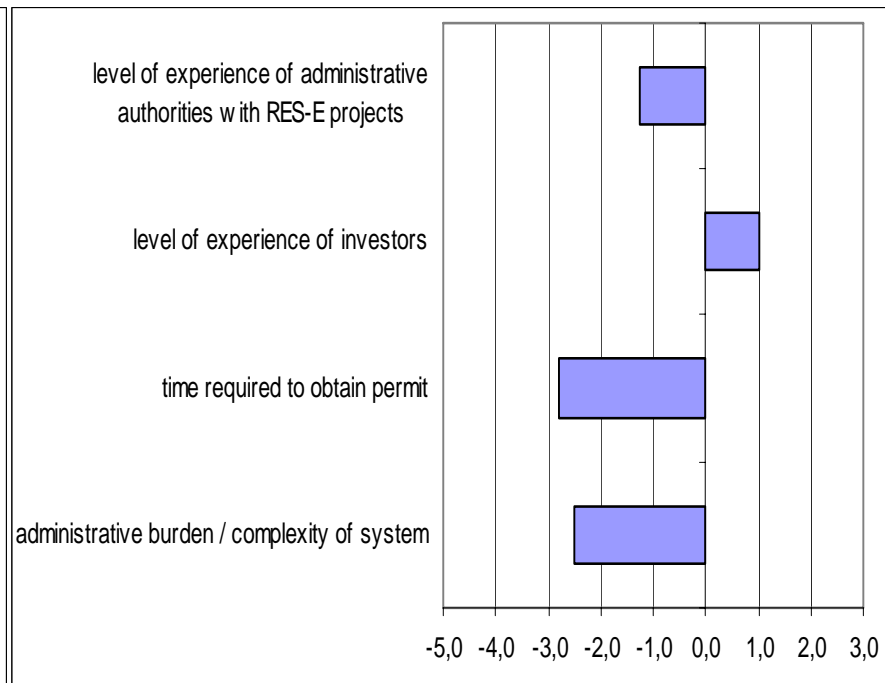
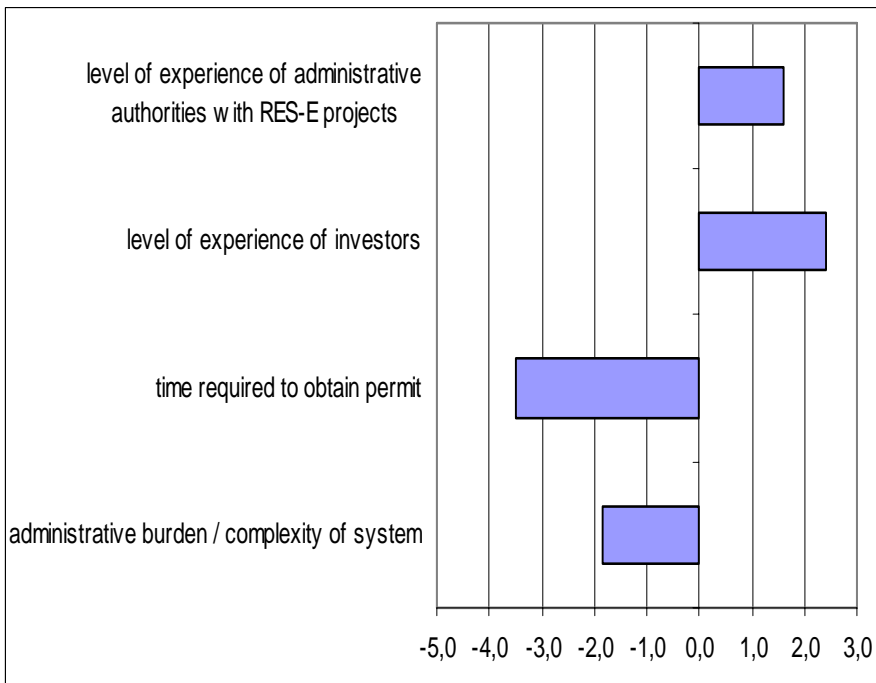
# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development

How would you evaluate the following factors related to Land use permit / Construction permit procedures? (answered by **RES-E Developers**)

**Austria, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 7 respondents

**Hungary, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 4 respondents



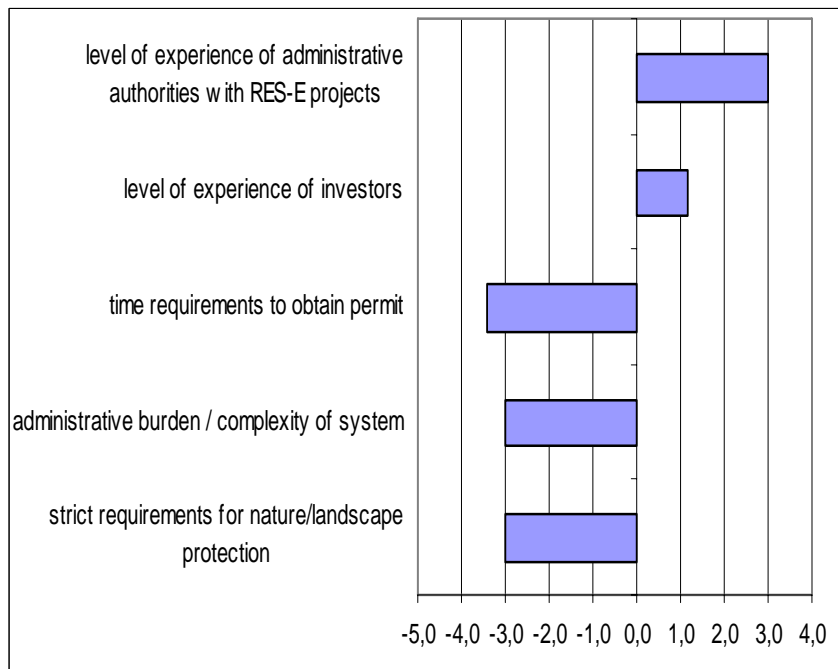
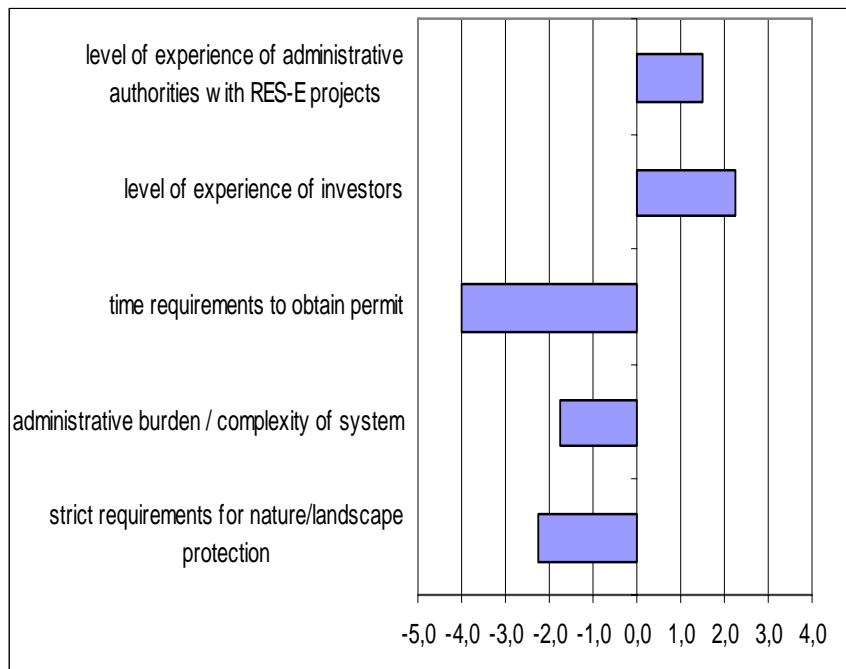
# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development

How would you evaluate the following factors related to Environmental Impact Assessment (EIA) procedures ? (answered by **RES-E Developers**)

**Austria, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 7 respondents

**Hungary, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 4 respondents



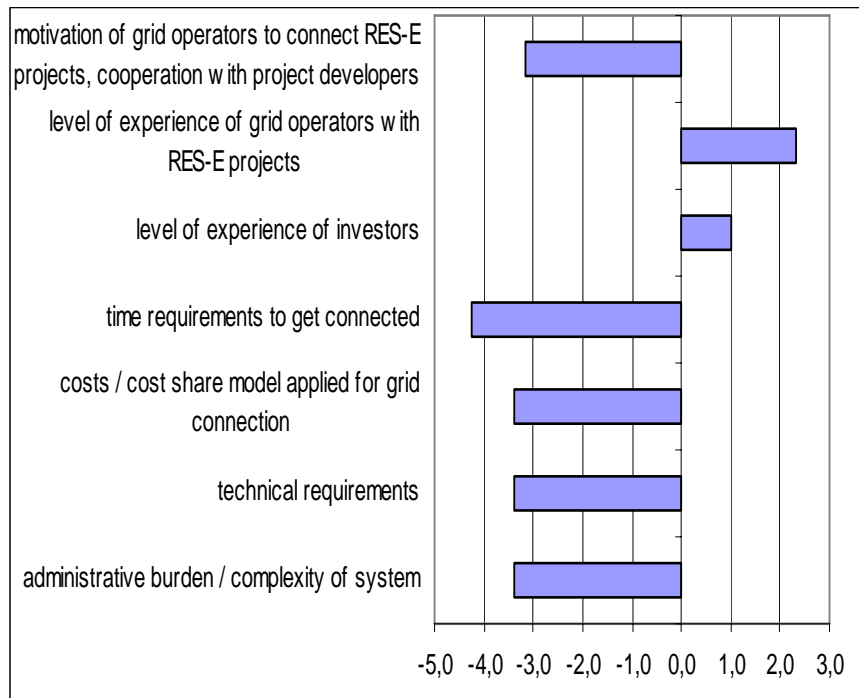
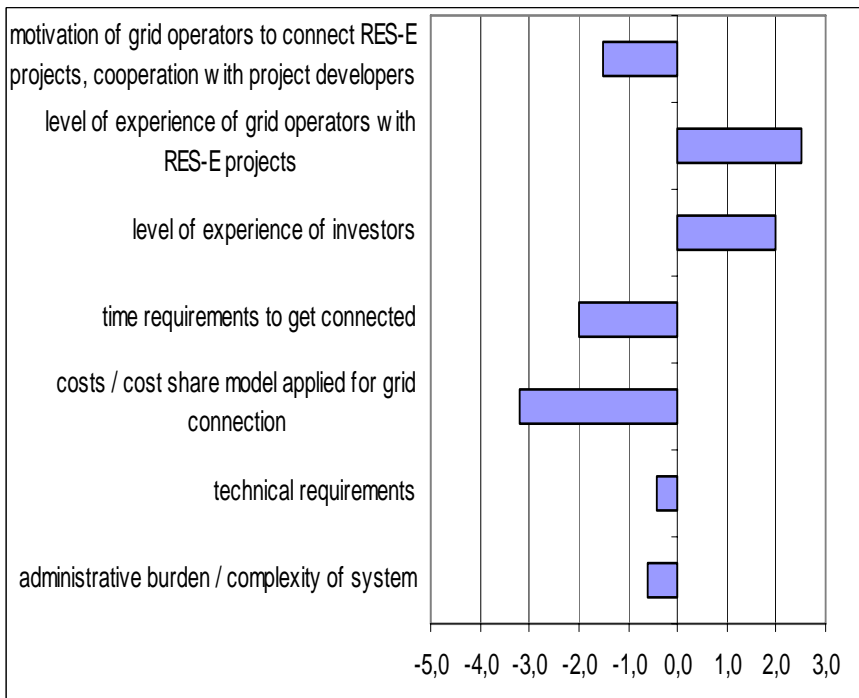
# GreenNet – Incentives - Stakeholder consultation

## Administrative procedures related to RES-E installations development

How would you evaluate the following factors related to Grid connection procedures?

**Austria, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 7 respondents

**Hungary, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 4 respondents



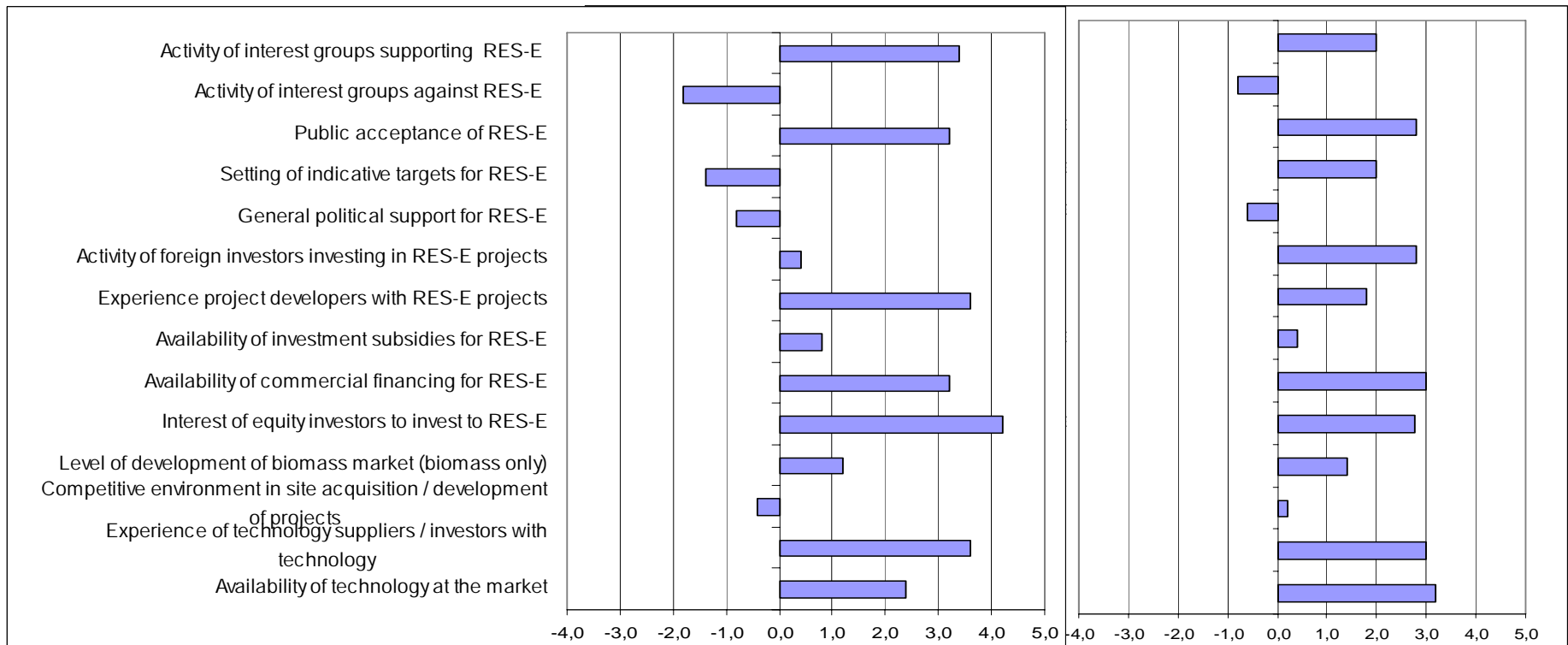
# GreenNet – Incentives - Stakeholder consultation

## Other factors related to RES-E installations development

How would you evaluate other factors related to RES-E installations development ?

**Austria, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 7 respondents

**Hungary, RES-E Developers:**  
(-5 negative; 0 neutral; 5 positive); 4 respondents





# Thank you for your attention

## Contact:

Jaroslav Jakubes

e-mail: [jaroslav.jakubes@enviros.cz](mailto:jaroslav.jakubes@enviros.cz)

tel.: +420 284 007 493

fax: +420 284 861 245

web: [www.enviros.cz](http://www.enviros.cz)

Enviros, s.r.o

Na Rovnosti 1

130 00 Praha 3

Czech Republic

