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Environmental Studies and Policy  
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## ***Does Local Energy Mean Renewable?***

***Report from a survey on the acceptance for the development of  
Renewable Energy Sources among Polish local authorities***

*Andrzej Ancygier and Kacper Szulecki*

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## INTRODUCTION

The Polish power sector currently stands at a crossroads. It is highly possible that after 2015, when the oldest and the least effective coal-fired power plants are switched off, Poland will face a power deficit. Although the government is planning the construction of a nuclear power plant, the details of its financing are still not clear, and it would not go online before the mid-2020s. The construction of the Opole coal-fired power plant has already begun, but its profitability is questionable.

Yet the challenges facing the Polish power sector make it necessary to answer some fundamental questions. Does Poland have to be dependent on coal even if this means importing it from Russia or investing in new lignite power plants? Can it really afford the construction of a nuclear power plant? Or could maybe at least part of the solution to the challenge of power deficit come from the development of renewable sources of energy?

This report presents the outcome of a survey conducted among the authorities of the Polish communes between August and October 2013. The results show that the interests of the Polish local authorities are very different and often even exactly opposite to the interests expressed by the Polish government. There is large enthusiasm for the development of dispersed power sources, especially solar and wind. At the same time there is very little support for the development of centralized power units, such as coal and nuclear. Indeed, in many communes the support for renewable power sources results from the opposition towards the government's plans to build new lignite power plants.

Preliminary results of the survey were presented during Dahrendorf Symposium in November 2013 during a discussion dealing with the possible development of European energy policy. There was general agreement among the scientists and politicians that especially the poorer, rural areas of the European Union can benefit from the development of renewable energies. But the necessary factor is the introduction of a predictable and stable support mechanism for small-scale, distributed power units that would take into consideration the high up-front investment costs and – with the exception of bio energy – very low operating costs. The results of the survey show that the introduction of such a mechanism is strongly desired and long overdue.

*Andrzej Ancygier and Kacper Szulecki*

## METHODOLOGY

The survey was conducted between 1 August and 31 October 2013. During this time 2126 emails were sent, one to each commune in Poland, with the request to fill out an online questionnaire. By the end of October we received 262 answers. Although the survey was anonymous, the software allowed us to make sure that the questionnaire was not filled out twice in a location using the same IP address.

To make sure the results of the survey were not biased towards communes in which renewable energy units already existed, we compared the share of communes participating in the survey with the share of communes in Poland in which renewable energy installations already existed. Whereas in around 11% of all communes in Poland there are already larger renewable energy installations, the share of surveyed authorities confirming existence of such installations on their territory was 12.2%. The slightly higher percentage can be explained by the fact that the survey was sent also to municipal communes (city districts), who taking into consideration the topic of the survey and the very limited role of renewable energy in many Polish cities declined to participate in the survey.

Other surveys, conducted earlier that year, confirmed high support for renewable energy sources in the Polish population. In the survey conducted in 2013 by the Public Opinion Research Center (CBOS) for Greenpeace, 89% of Poles would like to see more energy coming from renewable sources. At the same time only 16% purport that Poland should develop nuclear energy.<sup>1</sup> Even lower support for nuclear energy in Poland came out of a survey conducted by Homo Homini Insitute. With only one answer possible, 7% of participants described nuclear energy as the best source of energy. The numbers for wind and PV panels were 30% and 28% respectively.<sup>2</sup> In another survey conducted by SW Research in late 2013 almost three-quarters of Poles agreed with the statement that the current policy of the government is not conducive to the development of renewable sources of energy. At the same time 95% replied that more energy should be retrieved from such sources.<sup>3</sup>

The main difference between the aforementioned and our survey was the focus on local authorities. They often play an instrumental role in blocking or facilitating an investment in renewable sources of energy. In most cases they are also much better informed about the impact of investment on the financial and economic situation of the commune. As a result, their opinions in many cases differ from that of the population.



*Picture. 1 – Division in Western and Eastern Poland*

Differently than the other three surveys we also compared acceptance for renewable energies and opinions about climate change in Eastern and Western Poland. This allowed us to check if the issue of proximity to Germany had an impact on the answers to particular questions.

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<sup>1</sup> Greenpeace, 'Badanie opinii publicznej: Zdecydowana większość Polaków woli energię odnawialną od energii z węgla i atomu', Briefing, November 2013, [http://www.greenpeace.org/poland/PageFiles/564046/Energia\\_badanie\\_opinii\\_publicznej\\_briefing.pdf](http://www.greenpeace.org/poland/PageFiles/564046/Energia_badanie_opinii_publicznej_briefing.pdf) (accessed on 1 June 2014).

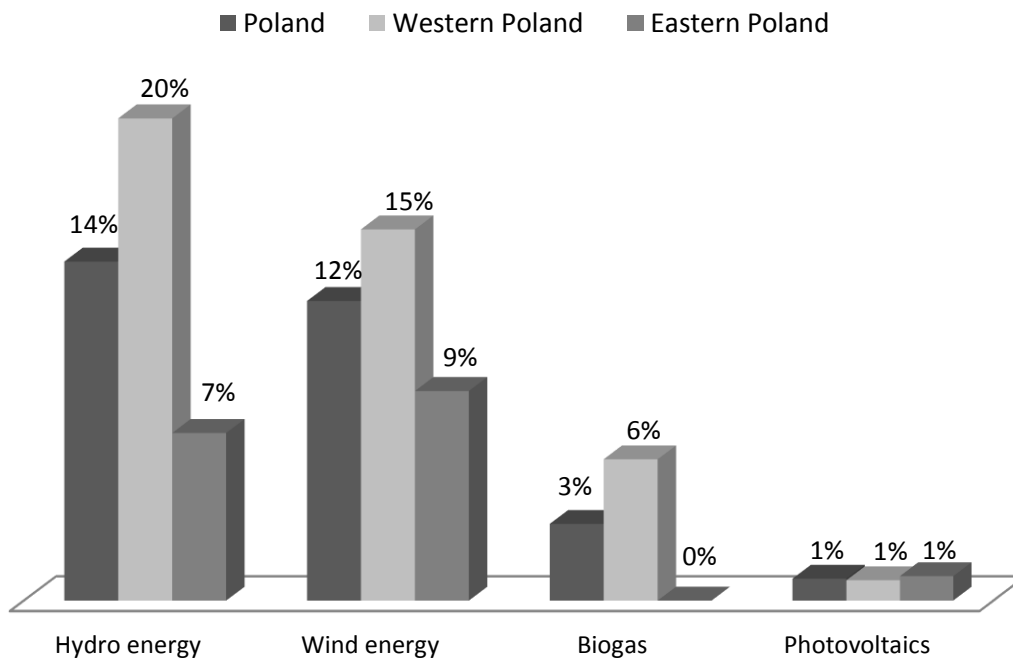
<sup>2</sup> Relation from the conference „Odnawialne źródła energii w Polsce. Bezpieczeństwo – Ekonomia – Technologia – Społeczeństwo”, February 2013, <http://oapuw.pl/relacja-z-konferencji-naukowej-pt-odnawialne-zrodla-energii-w-polsce-bezpieczenstwo-ekonomia-technologia-spoleczenstwo-28-02-2013/>, (accessed on 1 June 2014).

<sup>3</sup> „Energia elektryczna – co wiemy o zielonej energii?” [Optimalenergy.pl](http://de.slideshare.net/OptimalEnergyPL/optimal-energy-raport-co-wiemy-o-energii-odnawialnej). December 2013, <http://de.slideshare.net/OptimalEnergyPL/optimal-energy-raport-co-wiemy-o-energii-odnawialnej>, (accessed on 1 June 2014)

## SURVEY RESULTS

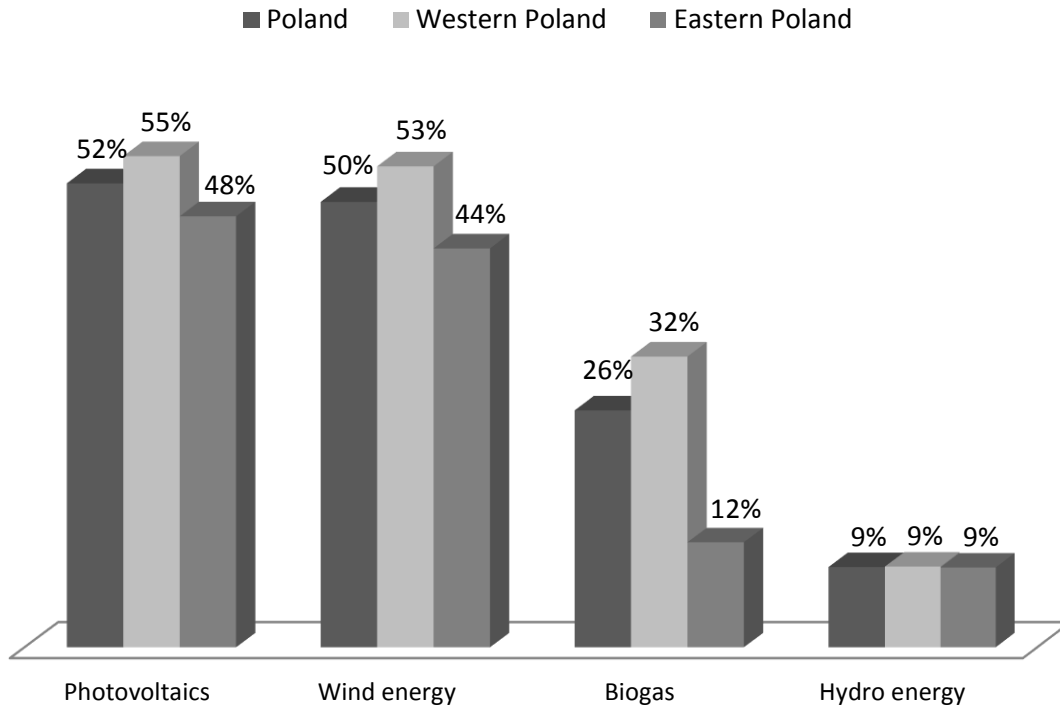
### 1. The state of development of renewable energies in Polish communes

The first two questions concerned the state of development of renewable energies and the planned investment. Noticeable is the significant disparity between development of renewable energies in Eastern and Western Poland. The share of communes in Western Poland in which hydro energy has been developed is almost three times higher than in the East. In the case of wind energy, over 60% more communes in Western Poland already have such installations on their territory. In none of the Eastern communities did a biogas power plant exist.



#### Q1. Are the following renewable sources of energy already developed in your commune?

Seemingly there was also not much interest in investing in new biogas plants in Eastern Poland. In only 12% of the communes were there plans to invest in this technology. Surprising are the results for photovoltaic, currently the least developed technology in Poland. In more than 50% of all the communes, with only small difference between the East and the West, there are plans to invest in this source of energy.



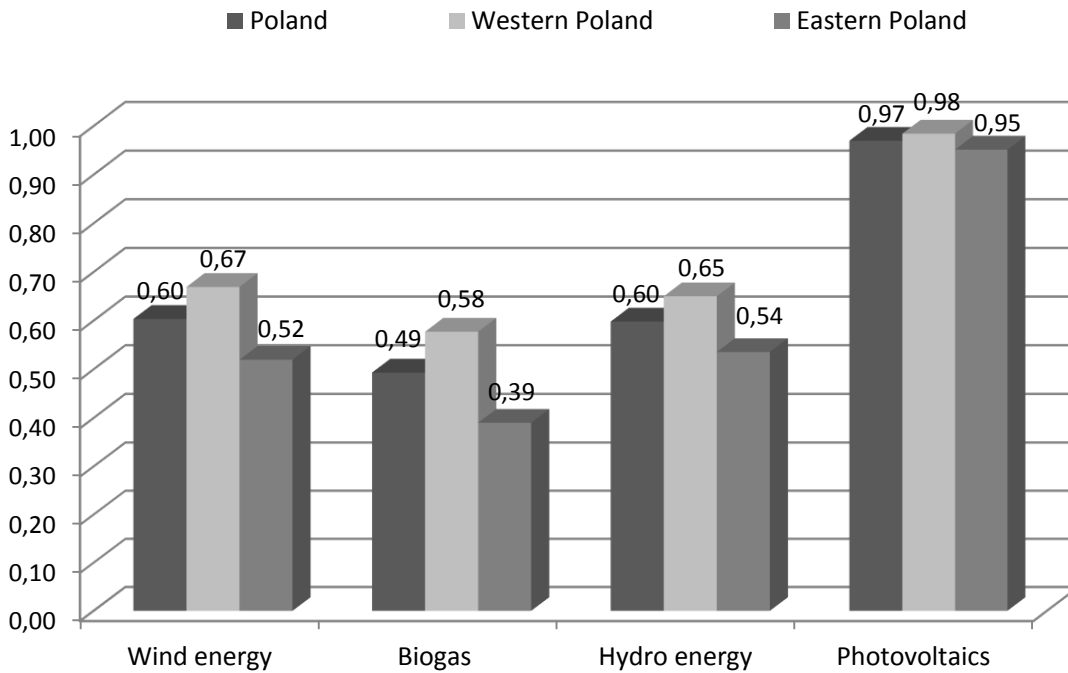
**Q2. Are there proposals to invest in the following renewable energy sources in your commune?**

**2. Support for different renewable sources of energy**

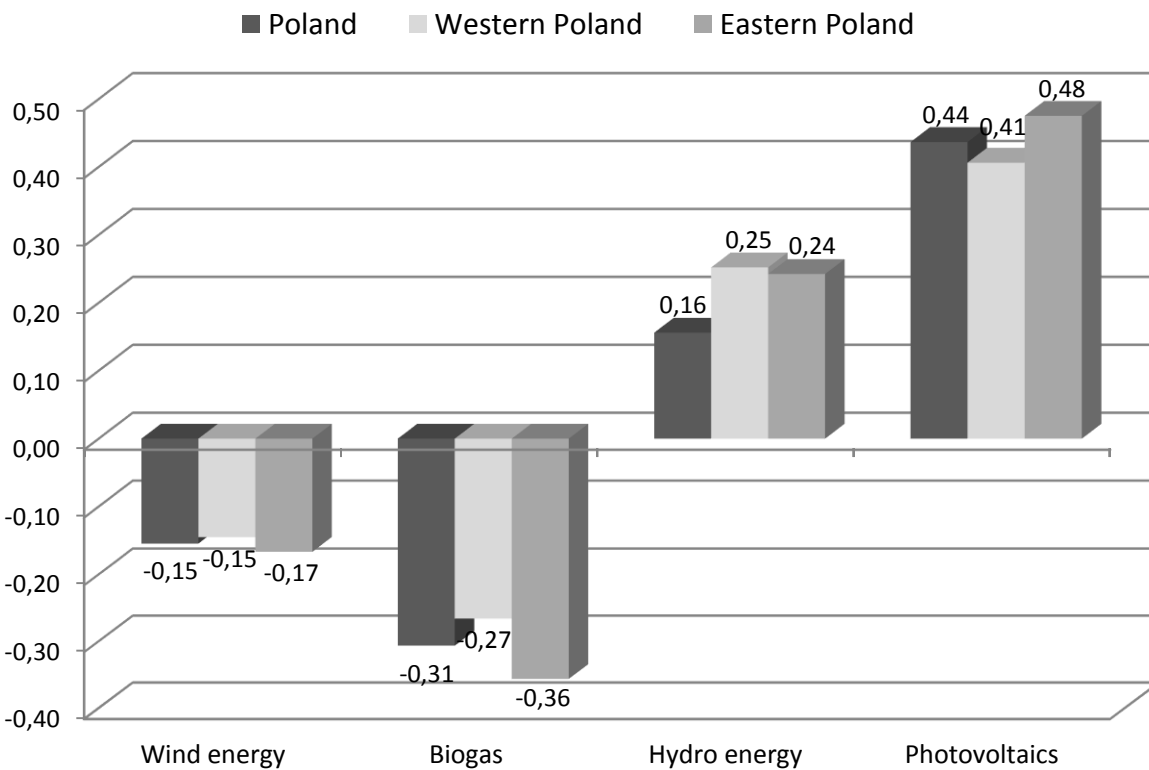
In the communes in which there are no renewable energy installations, the debates concerning new investments often lead to division between the supporters and the opponents against new installations. Often local authorities see themselves forced to withdraw their initial consent for the investment due to strong local opposition. Therefore in our survey we wanted to compare opinions of local authorities with the acceptance for renewable sources of energy in the society. Especially important in this regard is not the real support for such an investment among the local population but the perception of this support among the local authorities, as in many cases the discussion is “captured” by a small group of opponents with the majority remaining ambivalent towards the new investment.

We asked the local authorities whether they were “very positive”, “positive”, “neutral”, “negative” or “very negative” concerning different sources of energy. Subsequently we merged the results by giving different answers a fixed number of points.<sup>4</sup> The results confirmed our initial assumption concerning difference between the support for renewable sources of energy among local authorities and the perceived support among the population.

<sup>4</sup> Very positive = 2; positive = 1; neutral = 0; negative = -1; very negative = -2



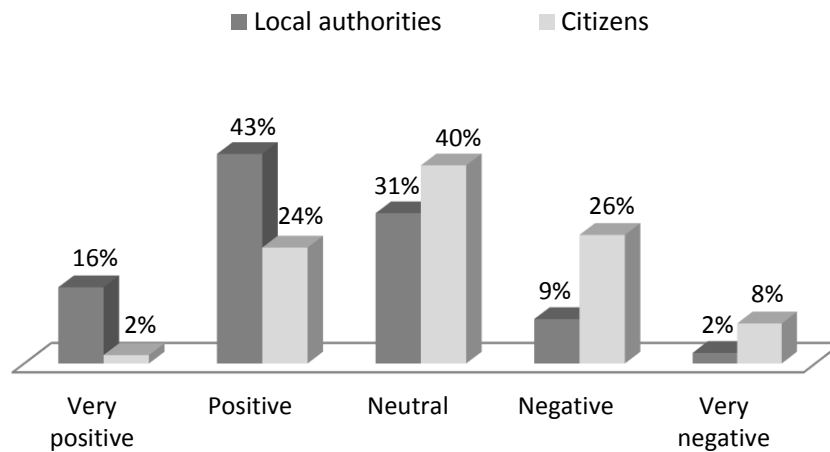
**Q3. What is the approach of the local authorities towards the development of renewable sources of energy on its territory?**



**Q4. What is in your opinion the approach of the local population towards the development of renewable sources of energy on its territory?**

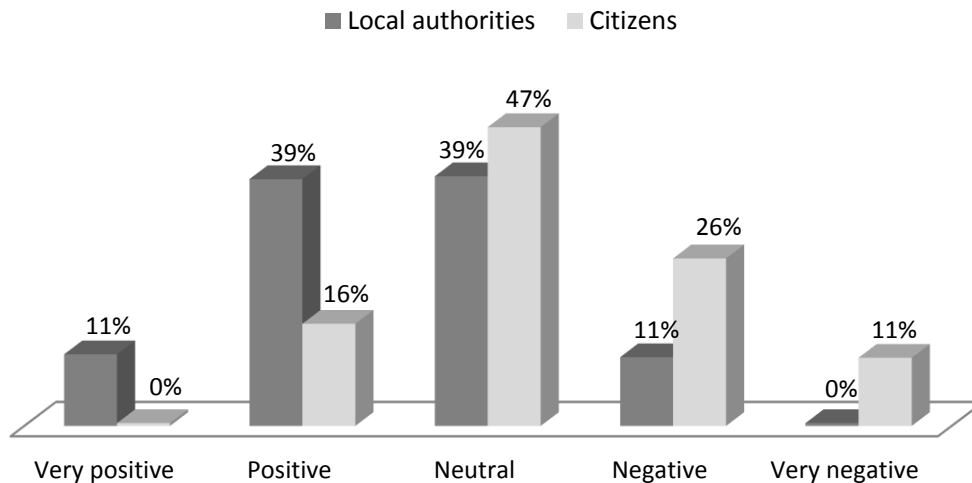
The biggest discrepancy between the opinion of the local authorities and the perceived opinion of the local citizens concerned wind energy and biogas: 0.75 and 0.80 points respectively. Slightly less controversial were possible investments in hydro energy and photovoltaic. Interestingly, the latter was the only source of energy which was more popular in Eastern than in Western Poland.

Almost 60% of local authorities perceive investment in wind energy as positive or very positive whereas only 11% consider it negative or very negative. But in 34% of communes they expect strong or very strong opposition of the local communes.



**Q4a. What is the approach of the local authorities and citizens to the development of wind energy in the commune?**

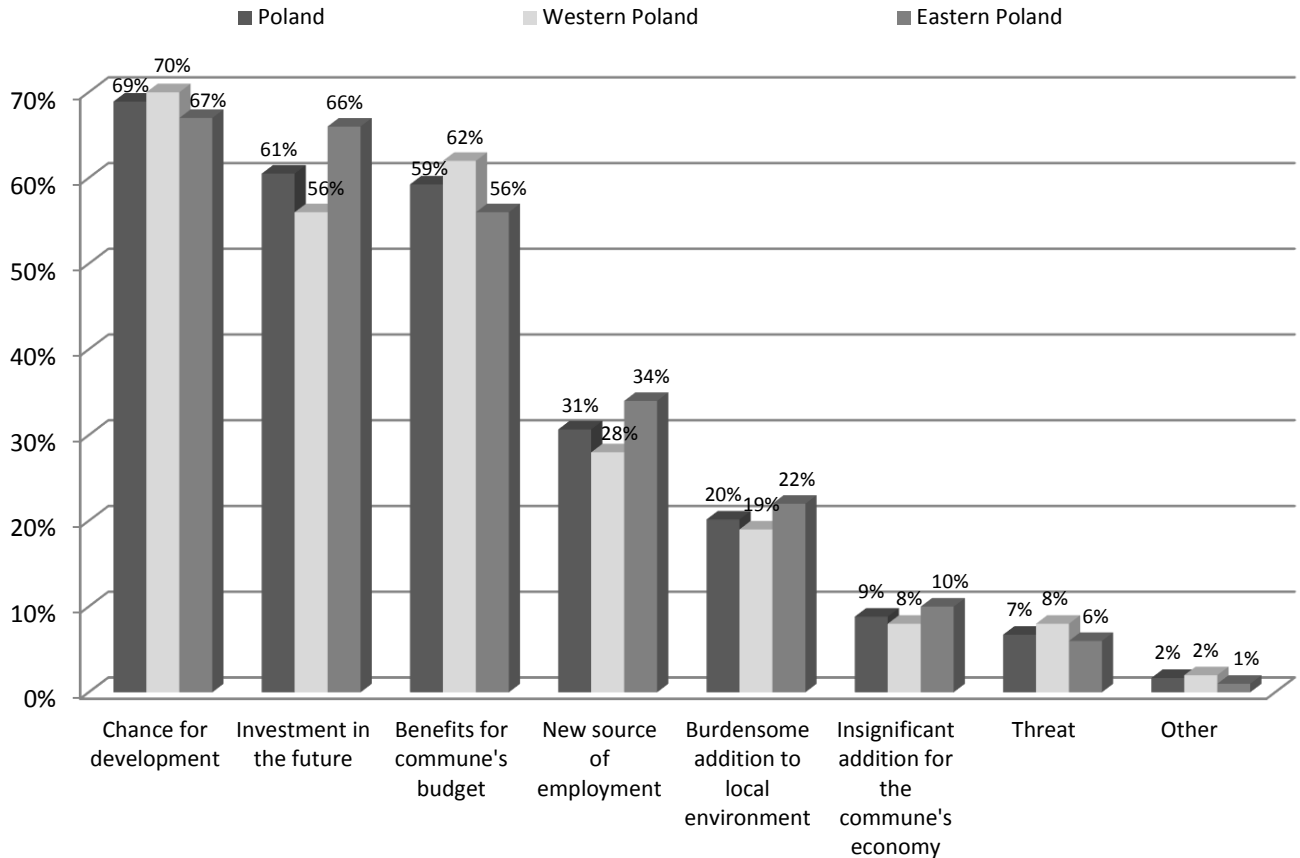
Local authorities expect even less support among their populace in regard to biogas plants. They expect only 16% of the local population to welcome investment in this source of energy. But in comparison to wind energy there is a much bigger percentage of those who are ambivalent to development of this source of energy: 39% of local authorities have neither negative nor positive connotations with this source of energy, 8% more than in the case of wind energy.



**Q4b. What is the approach of the local authorities and citizens to the development of biogas plants in the commune?**



Concerning the role of renewable energies for the commune, a majority of the local authorities consider them to be “a chance for development”, “investment in the future” and a source of income for the local budget. On the other side, for one in every five respondents renewable energies constitute a burdensome addition to local environment and 7% consider them a “threat”. The latter number decreases to 5% in the communes in which there already are some renewable sources of energy.

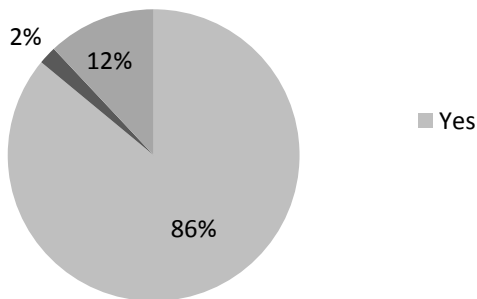


**Q5. Which words best describe the meaning of renewable energies for your commune (Choose between 1 and 3 options).**

### 3. Opinions about Polish energy policy

The construction of new coal fired power plants in Opole, plans to extract lignite in Legnica and Leszno regions and to invest in shale gas as well as the promotion of nuclear energy in the framework of the government sponsored “Learn about the Atom” campaign, contributed to making the topic of energy one of the most hotly debated issues in Poland. In our survey we wanted to find out what was the impact of this debate on those who will be most affected by the decisions made in Warsaw.

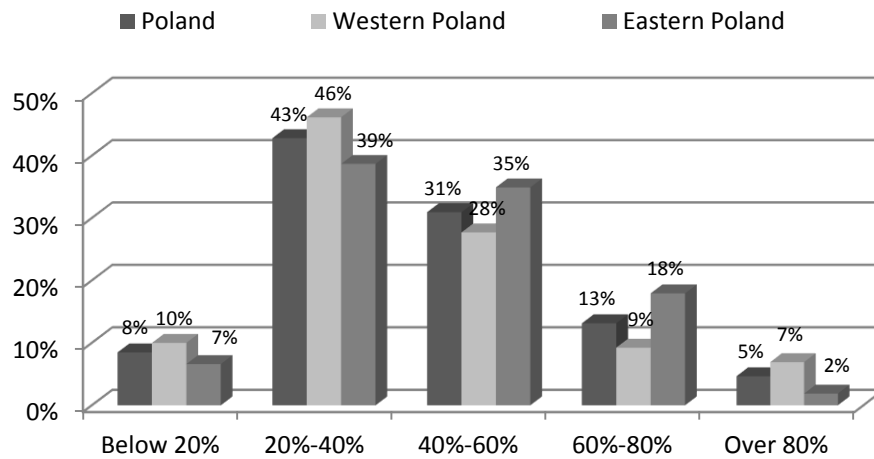
Differently than the government, which tends to perceive development of renewable sources of energy as an obligation imposed on Poland by Brussels, 86% of the local authorities consider it to be important for the Polish economy.



#### Q6. Are RES important for the Polish economy?

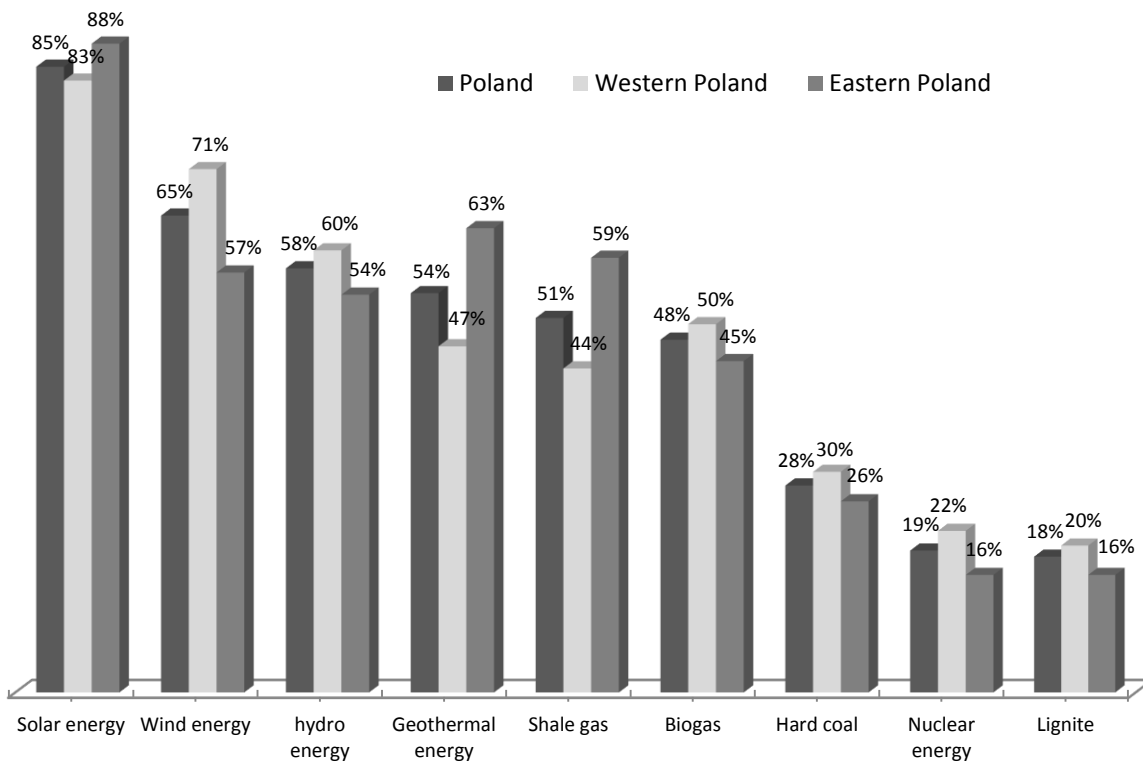
We have also asked what the share of energy from renewable sources should be in the Polish energy mix until 2050. Over 70% of the respondents replied that it should be somewhere between 20% and 60%. According to 18% of the local authorities over 60% of energy consumed in Poland in 2050 should be coming from renewable sources. Interestingly the share of respondents who would like to see the share of energy from renewable sources to be below 40% was 10% higher in Western than in Eastern Poland. The share of local authorities according to whom the share of energy from renewable sources should be above 60% was 4% higher in Eastern than in Western Poland.

Taking into consideration the government’s energy priorities, namely development of coal, nuclear energy and shale gas, answers to question about which sources of energy should be developed in Poland provided a few surprises. The biggest share of support was enjoyed by the sources of energy least promoted by the government, namely photovoltaic. According to 85% of the local authorities this source of energy should be granted more support. Support for wind was 20% lower. There was however an interesting difference between Eastern and Western Poland in this regard. Whereas solar energy was slightly more popular in the east than in the west, for wind energy the situation was exactly opposite: 14% more local authorities in Western Poland wished more support for wind energy than in Eastern Poland.



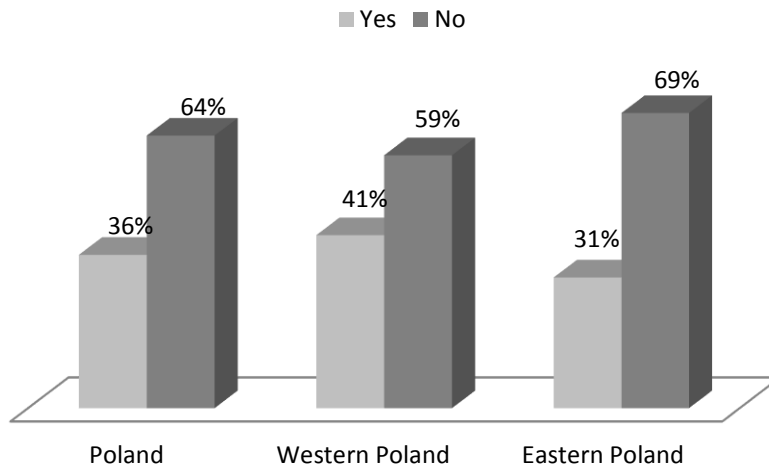
### Q7. What should be the share of energy from renewable sources in 2050?

Interestingly the sources of energy promoted by the government enjoyed the lowest support among the communes. Public support for lignite and nuclear was desired by only 19% and 18% of respondents. In Eastern Poland support for both sources of energy lay at 16%.



### Q8. What sources of energy should be supported in Poland?

Keeping in mind the government’s declarations that the Polish nuclear program will be developed even without public support, we have also asked local communities if they would support development of nuclear energy in Poland if that was to be the case. But also if the construction of the nuclear power plant was to be conducted without state involvement almost two-thirds of local authorities would be against it. The opposition was 10% higher in Eastern than in Western Poland.

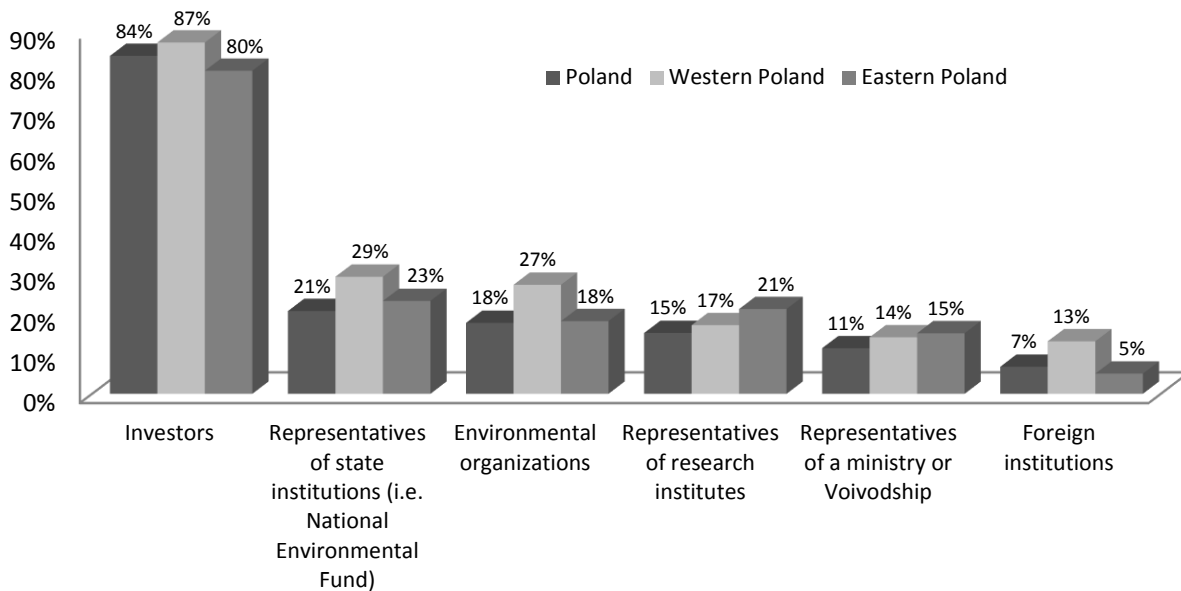


### Q9. Do you support development of nuclear energy in Poland?

The main reasons for opposition towards nuclear energy were the costs and the security. According to one respondent: “None of the units using renewable sources of energy (wind, water, sun radiation) will in case of an accident cause so much destruction as nuclear energy.” A representative of another commune pointed out that instead of building a nuclear power plant, Poland should “modernize transmission lines and existing power plants whose efficiency lies at 33-45%”. On the other side a support of nuclear energy stressed that nuclear energy is a “stable source of energy” and its utilization could also have side benefits in the form of developing new medicine and nuclear weapons. The latter would be “the best guarantee of Poland’s independence and security”.

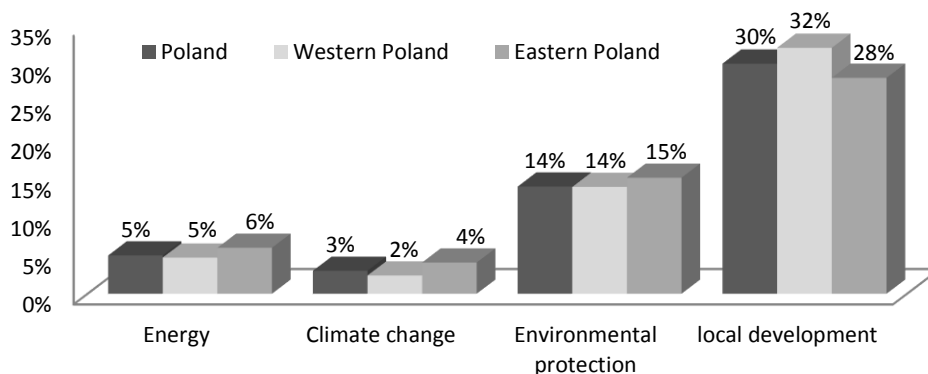
## 4. Cooperation with other organizations and institutions

According to the survey, almost all communes, especially in Western Poland, were contacted by potential investors. Also representatives of environmental organizations and foreign institutions were much more active in the west.



### Q12. Have you been contacted by the following institutions concerning development of renewable energies in your commune?

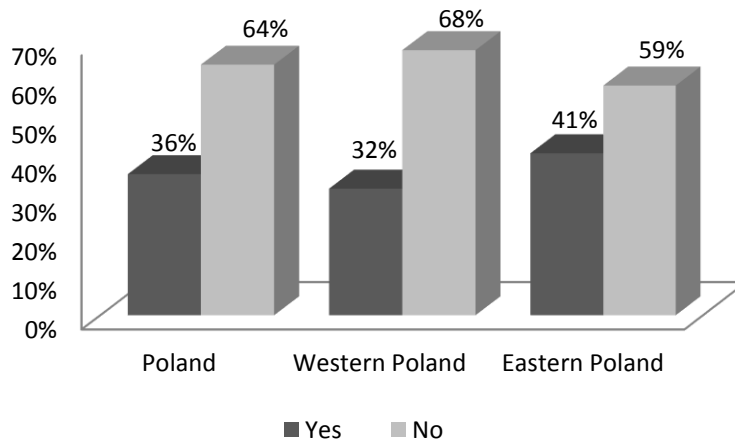
Striking is the low level of international cooperation in the area of climate and energy policy. Only 2% of communes in Western Poland cooperate with foreign institutions in this regard. Much more active is the cooperation in the area of local development: on average 30% of all communes participated in this kind of cooperation.



### Q13. Is your commune participating in international cooperation of regions concerning one of the following subjects

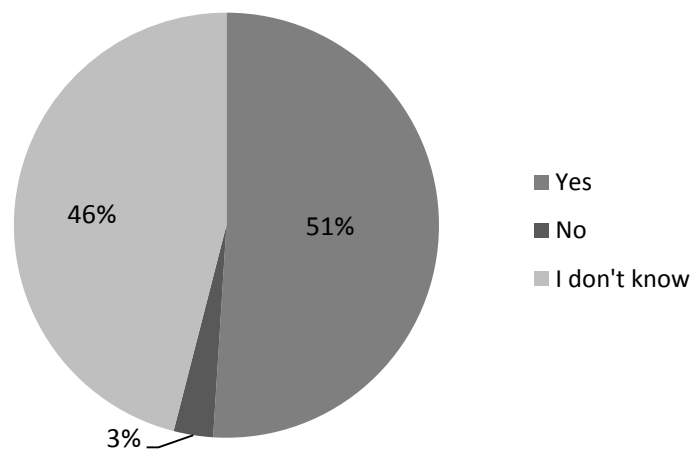
## 5. Energy transformation in Germany

The energy transformation in Germany is one of the most important elements influencing Polish and European energy policy. In Poland its most visible aspect is the decision to switch off nuclear power plants and development of wind and solar sources of energy. In our survey we wanted to find out if and how much local authorities know about energy transition taking place just across the western border.



### Q14. Have you heard about energy transition in Germany?

The results of the survey were surprising for two reasons. First of all almost two-thirds Poles have not heard about energy transition in Germany. Secondly, the share of those who knew about the development across Poland’s western border was 9% higher in the east than in the west. This leads to the conclusion that geographic proximity is not necessarily a decisive factor contributing to the spread of information.



### Q15. Can Poland follow the German example in developing distributed, local renewable sources of energy?

Not knowing about the level of information about energy transition in Germany we have also asked if Poland can learn from German experiences. Despite the discussion about the increased energy prices in Germany blamed on development of renewable sources of energy, only 3% of respondents replied that Poland cannot learn from the experiences of Poland's Western neighbor.

Keeping in mind Polish plans to develop nuclear energy, we also asked about the opinions of the local authorities about German decision to phase out nuclear energy. The large majority of answers referred to the catastrophes in Chernobyl and Fukushima. Also the unsolved issue of nuclear waste disposal was often mentioned as possible reason behind the German decision. Further, social opposition towards nuclear energy and broadly understood environmental protection were mentioned. A few respondents stressed the high costs of nuclear energy, the lack of own resources of uranium in Germany and the desire to keep existing jobs in the coal sector.

When talking about the other aspects of the German energy transition some respondents mentioned the benefits of developing renewable sources of energy:

*Germans resign from nuclear energy because they support renewable sources of energy. They understand that fossil fuels are running out and want to be prepared for the time when it happens.*

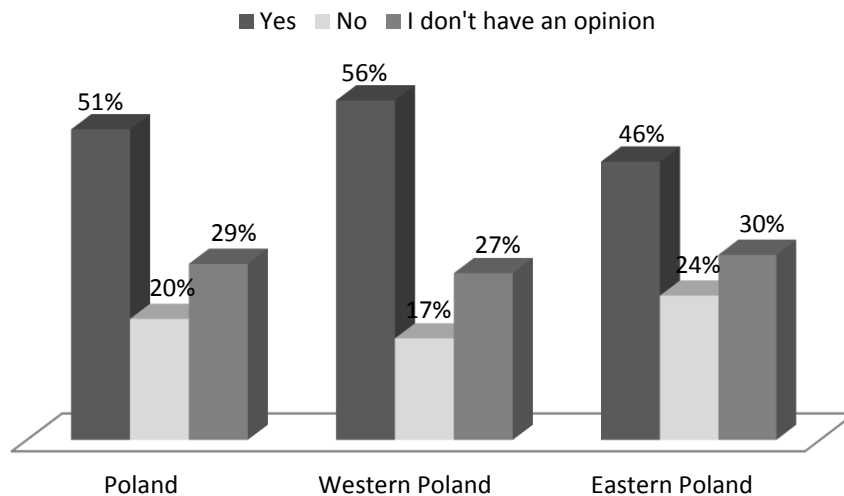
*Subsidies for new sectors of the economy such as renewable energies. Benefits resulting from diversification of energy sources.*

*Investment in renewable energies is the biggest infrastructural project of post-war Germany. It strengthens economies and creates new jobs.*

As pointed out by some respondents, the transition towards alternative sources of energy is an expensive process for which the economy needs to be prepared. According to them, Germany “can afford transformation of the power system”.

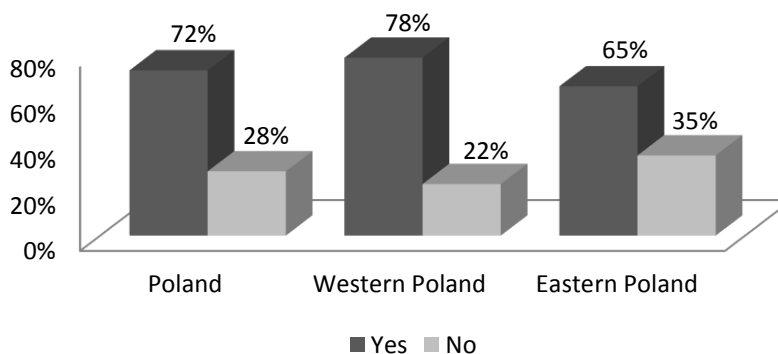
## 6. Polish communes and the issue of climate change

Taking into consideration the lack of willingness to take action against climate change at the national level, we wanted to find out what the opinion of local authorities concerning this issue is. Around half of the respondents consider this to be an important issue for Poland: 10% more in Western than in Eastern Poland.



### Q16. Do you consider climate change to be an important issue for Poland?

Interestingly, even though 49% of the respondents either replied that climate change is not an issue for Poland or had no opinion on this topic, according to 72% of them Poland should take action against it even if it would lead to additional costs (i.e. higher energy prices). This discrepancy between the number of those who consider climate change to be an issue and those ready to take action against it could be explained by the fact that even if some don't expect significant negative impacts of a changing climate in Poland, taking action is necessary due to disastrous consequences of global warming in other regions.



### Q14. Should Poland take action lowering the threat of climate change even if it will lead to higher costs?



## CONCLUSIONS

There is considerable potential and willingness at the local level to develop distributed, renewable sources of energy in Poland. So to answer the question asked in the title of the report, yes, local could mean renewable provided there is an adequate legal and financing framework that takes into consideration the specific character of renewable sources of energy: high upfront costs and almost no costs afterwards. As mentioned by one of the survey participants:

***Could you influence the policy makers to create legislation that's simple and unambiguous for those wanting to invest in renewable energies.***

The most important conclusions resulting from the survey:

- *There is considerable interest among local authorities to invest in renewable sources of energy, especially solar energy. At the same time due to lack of political will and an unfavorable legal framework, only few projects can be realized.*
- *Development of renewable sources of energy can contribute to the economic development of the poorer rural regions in Poland. Tax revenues and additional employment can be an important economic boost for many communes.*
- *According to the majority of the local authorities, RES can be an important element of Polish economy and one of the pillars of the Polish power sector in the future. Since this opinion is in line with a number of other polls and so shared by a large majority of the Polish society, the question is not whether energy transformation in Poland is necessary but how to conduct it in the most effective and efficient way.*
- *The preferences of the local authorities seem to be almost exactly opposite to the support granted to different sources of energy by the government. Hard coal, lignite and nuclear, perceived by the government as the sources of energy that should be developed in the future, are the least popular sources of energy among the local authorities.*
- *Despite significant amounts of money spent by the Ministry of Economy on promoting nuclear energy in the society, local authorities are rather skeptical concerning the future of this source of energy in Poland. The risks resulting from this technology, its high costs and issues with nuclear waste contribute to little support for nuclear energy. An important factor is also the fact that a very limited number of communes would benefit from the construction of a nuclear power plant in the form of taxes and job creation.*
- *There is a surprisingly low level of knowledge about the energy transition taking place in Germany. Still a large number of local authorities argue that Poland could learn from German experiences. This illustrates a huge potential for cooperation between local authorities in these two countries.*
- *Local authorities are conscious of the dangers resulting from climate change and almost three-quarters of them would like to take action against it even if this would lead to additional costs*