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**Why are renewable energy projects receiving resistance in the time of climate change? A study on renewable energy and the resistance that it gets from communities in Nijeveen and Wanneperveen**

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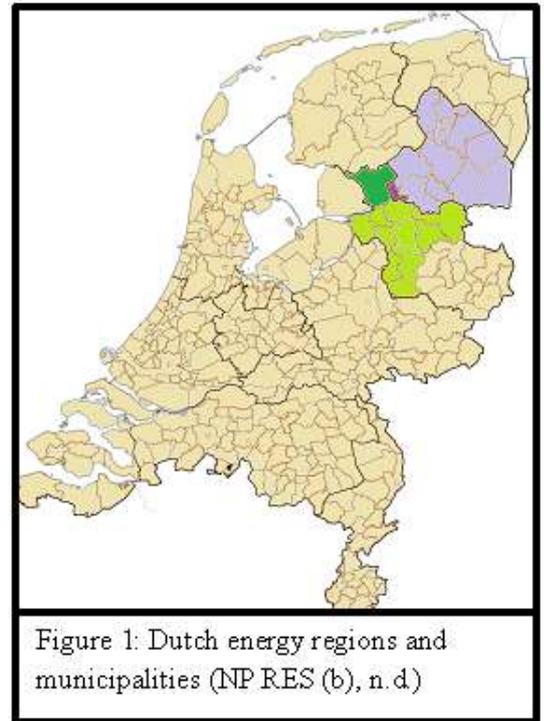
## Summary

In this research, there is looked at the different outcomes of developments of renewable energy. Thereby is looked at local initiatives and commercial set up projects and the difference in resistance. This to see what the determinants are of resistance in both cases and if it differs between the two projects. This research is based on two developments in Nijeveen and Wanneperveen, 2 villages in the northeast of the Netherlands, which are very similar. Through the use of interviews with the stakeholders in the area there is found that due to different policies, different types of projects have occurred. The fact that national park Weerribben-Wieden is located next to the village of Wanneperveen and no environmental developments are placed yet in Nijeveen shows that there is more resistance in Wanneperveen. This has led to the conclusion that further research must be done on the topic in the future.

# 1. Introduction

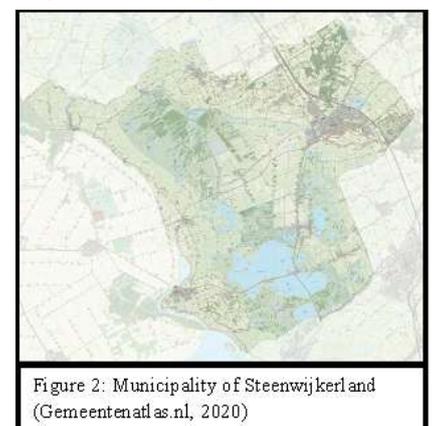
## 1.1. Background

Since the Paris Agreement in 2015, countries have decided to decarbonize their economies to prevent the worst impacts of climate change of happening. Also, the Netherlands has signed the agreement which means that the Netherlands has to lower CO<sub>2</sub> emissions, increase the use of renewable forms of energy and to optimize the use of energy to prevent a rise in global temperatures (UNFCCC, n.d.; Vringer & Carabain, 2020). Although these decisions are made at a global level, they will have an influence on the local level. The Dutch national government (Rijksoverheid, 2019; RES, n.d.) has published a plan in 2019 in which it describes on the basis of a few topics how this will be done. In this research I will focus on the energy transition, which is the transition from fossil fuels to renewable forms (Rijksoverheid, n.d.). Nowadays, the energy system consists out of a few large fossil fuel plants which provided around 80-90% of the country's energy (Eurostat, 2019; EIA, 2016). However this central generation of energy will not be possible with the future resources as it seems now. Therefore the energy system will be more dispersed in the future creating challenges for the whole of the Netherlands. The National Government describes that the generation of power will be distributed over of 30 energy regions, so called 'Regionale Energie Strategie' (RES) regions, which consist out of several municipalities. (RES (a), n.d.; NP RES (b), n.d.). There is chosen for this approach because there is the possibility to adjust the energy transition to the local level. Since, municipalities are the most local level of government in the Netherlands, this approach is planned to lead to the involvement of citizens in the planning and decision-making process (IPO, n.d.; RES (a), n.d.; VNG, 2019). However the way of achievement is different among municipalities because they can fill in this task the way they like it, as long as they complete their given energy goal.



## 1.2. Case selection and relevance

In this research I will focus on two renewable energy projects in two neighbouring municipalities in a rural area of the Netherlands, namely, the municipality of Steenwijkerland, in the RES-region West-Overijssel, (dark green in figure 1 and also shown in figure 2) and the municipality of Meppel (dark purple in figure 1 and also shown on figure 3), in the RES-region Drenthe. The projects within the two municipalities are in the villages of Wanneperveen, within the municipality of Steenwijkerland (see figure 4) and Nijeveen within the municipality of Meppel (see figure 4). These villages are not bigger than 4000 inhabitants (allecijfers.nl (a), 2020; allecijfers.nl (b), 2020) and have also in other ways similarities to one another. For example, are the villages similar in their origin because they are both 'veenontginningsdorpen' and 'lintdorpen' (Stokvis, 2020). These are villages, which arose due to the excavation of peat to heat



houses. Those were villages consisting of a long road, which was located on higher laying soils in the area, where farms were built next to (Provincie Drenthe, 2009). This is can still be seen today in both places as these villages are still structured this way today. However (small) differences have occurred over time. In the 1960's the village of Nijeveen has undergone land consolidation to improve agricultural yield (Provincie Drenthe, 2009; Gemeente Meppel, 2014). This changed the surrounding landscape as meadows increased in size. This has not happened in Wanneperveen in the 1960's, but happened in the 1980's.

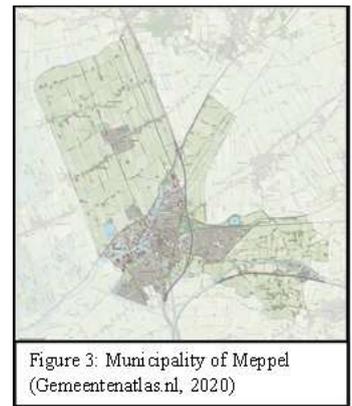


Figure 3: Municipality of Meppel (Gemeentenatlas.nl, 2020)

Moreover, in the 1960's there was a movement for recreational use of the landscape (Rijksdienst Cultureel Erfgoed, n.d.). In addition to this movement, the surrounding landscape of Wanneperveen became also more protected, because pieces of land were bought by 'Natuurmonumenten' an organisation for the protection of nature during the 1960's (van der Haar & Wezenberg, 1985). What led eventually to the national park Weerribben-Wieden. This national park has arisen due to the excavation of peat, which has created a special landscape what is ought to be preserved. Also, is this national park a source of income during the summer months for the village due to tourism it creates (van der Haar & Wezenberg, 1985).



Figure 4: Map of the villages Nijeveen and Wanneperveen (Google Maps, 2020)

The use of the landscape nowadays, protection, contradicts to the idea of the energy transition, what stands for the idea of a changing landscape. Because of the energy transition, a solar park is planned in Wanneperveen. This is done by a developing party with a commercial interest called Powerfield. The developer had planned a solar field at the north side of the village in the past at the edge of the national park. This development had caused a lot of resistance due to the close proximity to the village. Therefore a second development was set up by the company further away at the south side of the village. This development is also causing resistance within the village according to local new papers (Heppenhuis, 2020a; Heppenhuis 2020b; Kleine, 2020).

On the contrary there is the village of Nijeveen, where there is another way of approaching the energy transition. In Nijeveen there is a local initiative called 'Energie Coöperatie Duurzaam Nijeveen' (ECDN) (Smits, 2020). This initiative consists out of inhabitants of the village of Nijeveen and tries to make an inclusive plan for all inhabitants. Until now there is no clear resistance against initiatives from this party.

Although these villages are similar in many ways, they are still located within different municipal, provincial and RES-region borders (RES West-Overijssel, n.d.; RES Drenthe, n.d.). This can be of importance for the policies made because in these regions other stakeholders are important in the decision-making process.

Despite the fact that there are differences in terms of policy, there are also clear similarities. As one of the main goals of municipalities and the RES-regions is to include input of the inhabitants (IPO, n.d.; RES (a), n.d.; VNG, 2019). Therefore looking if it is true that if inhabitants are involved in the process there will be less resistance, is a must. Especially to see if the assumption of when there is participation there will be less resistance is true. Moreover, because the two villages have different type of citizen involvement by the planning and decision-making process they seem very interesting to compare. Also because I have not

found a case study research done on different approaches for developments within the Netherlands on such a local scale yet.

### 1.3. Questions

Therefore in this paper I will try to answer the following questions: *What are the determinants of citizen resistance or participation against renewable energy projects in the villages of Nijeveen and Wanneperveen?*

Thereby I also look at differences and similarities between the villages while these are located in different RES-regions and municipalities which could have different policies. Therefore the question: *What are the differences and the similarities of policies for the renewable energy projects in the villages of Nijeveen and Wanneperveen?*

Furthermore, could there be a difference between a local initiative and a commercial plan for renewable energy. In how people are approached and in the way they react to a plan. To find this out the following question will be used:

*What is the difference in resistance between a project what is set up by local initiative and one which is set up by a commercial firm?*

To find these answers theoretical framework is used to make clear definitions about important aspects of the study. In which will be divided in to the theories of energy injustice, NIMBY, place attachment, communicative planning and technical planning.

In the methods section one will find why there is chosen for a comparative study via interviews and how the data is collected. Furthermore, is described in the section what the quality of the data is and what ethical considerations were kept in mind.

In the result section, the results are discussed with consideration of the theory. Where there will be looked into other developments which focus on resistance when implementing renewable forms of energy.

In the conclusion the results will be discussed. If the results are in line with what theory is suggesting. Also, if it is valuable or not and why that is the case. Furthermore there will be discussed if there are recommendations for further research and why this should be done.

## 2. Theoretical framework

### 2.1. Theories

In this research, I will be looking at two different villages in the Netherlands with two different types of participation in the field of energy planning. On the one hand there is a high level of citizen participation which should be used in highly complex issues where communication is the basis to make a plan successful or unsuccessful according to De Roo & Voogd (2019). On the other hand there is little communication needed for more simplistic issues whereby there are a smaller number of stakeholders. It depends where the issue of the energy transition is situated to determine if it is simplistic or a highly complex.

Since, the Paris Agreement was signed the Netherlands has to meet requirements for a global cause. These requirements are to lower the CO<sub>2</sub> emissions, to increase the percentage of renewable energy produced and to improve the use of energy (Vringer & Carabain, 2020). Since the Paris Agreement, the Dutch Government (Rijksoverheid, n.d.) is stating that if the Netherlands wants to make sure that it becomes energy neutral via an energy transition from fossil fuels to renewable forms of energy. Solar parks and windmills have to be realized in big quantities to make it possible to scale down fossil fuel plants. However, this is based on the fact that future energy consumption is equal or more than that the consumption is now.

This suggests that there will be a lot of stakeholders involved making the 'energy transition' a complex to highly complex issue. Therefore, a communicative approach is advised to prevent energy injustice, which is described in Sovacool et al. (2017) as an unfair distribution of the benefits and the drawbacks of energy between people, regions and nations. In the article one sees this unfair distribution of benefits and drawbacks of energy through trade-offs being made and unjust discourses by companies. Whereby is shown that if a decision it is almost never fully creating energy justice. The article gives 10 principles to determine energy (in) justice. From the 10 principles one can see that sustainability, responsibility, intergenerational equity, intersectionality, transparency and resistance are all directly related to the cases of Wanneperveen and Nijeveen. Especially in the case of Wanneperveen, the inhabitants are afraid that their living environment will change by implementation of a renewable energy plant (Heppenhuis, 2020a; Heppenhuis; 2020b; Kleine, 2020; Smits, 2020).

Therefore inhabitants of the village are opposing to these developments. This movement against renewable energy projects in the living environment is designated by the term NIMBY (Not-In-My-Back-Yard) (Komendantova & Battaglini, 2016). Whereby the term living environment can be seen as the landscape. Which is defined by the Council of Europe (2000, cited in Oudes and Stremke, 2018) as '*an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*'. Due to this interaction between people and the environment, place attachment can arise (Scott and Powells, 2020) when humans know the history, the economies and other characteristics of the place. In case changes occur in the landscape people will respond with resistance as they feel attached to it.

This comes also forward in the article by Balest et al. (2018). It shows that in the social domain there are three categories of dimensions of importance, namely the substantial, the procedural and the relational. The substantial dimensions focus on the actions by local population which influence the social domain (e.g. individual choices, cultural background). The procedural dimensions focus on the institutional and socio-political side of the energy transition. Whereby the focus is on decision-making process because this determines if and how much resistance there will be. The relational dimensions look at the relationships between different actors. How better the relationship, how easier acceptance will occur.

When these concepts are combined they create the “conflict management triangle” (see figure 1) . If these are in balance the chances of a succesful energy transition will be increased.



## 2.2.Hypothesis

Because of the different type of approaches taken in Wanneperveen and Nijeveen, I expect that there will be more resistance against the plan in Wanneperveen than in Nijeveen. Because, a commercial party is investing in renewable energy which makes it less likely to meet all or almost all people’s wishes than when is there is a debate between inhabitants from which a plan is presented due to the fact a firm has the goal to be profitable.

Furthermore, I expect that there is more place attachment in Wanneperveen due to the fact that it is located next to a national park of which the landscape is seen a special. Nijeveen does not have a national park next to it. Therefore it is also expected that the NIMBY effects will be greater in Wanneperveen.

Also, I expect that there will be different policies in the municipalities. For the reason that, there are no solar fields planned in the municipality of Meppel. While on the contrary there are several solar parks planned or placed in the municipality of Steenwijkerland.

### 3. Methodology

#### 3.1. Type of study

First of all, the method used is based on the fact that there are two groups namely Nijeveen and Wanneperveen. These will be looked at in more detail to get an as full as possible understanding of these two places. Because of the deeper understanding the locations, it is called a case study (Punch, 2014). Furthermore, because the cases are different, due to policies and similar in history and landscape, at the same time (Stokvis, 2020), I have chosen to use a comparative case study method (Longhurst, 2016).

Furthermore, I have looked at determinants of behaviour within two villages towards renewable energy projects. A deeper understanding was needed of what people think. This cannot be traced via a quantitative method as a survey. Especially, when asking questions to people about why they are in favour or why they are not in favour of certain developments can lead emotions which are often not well captured on paper. Therefore the use of interviews or focus groups was favourable in this situation. In addition, the interviews were not too planned out because of different reasoning of people. However a non-structured interview is also not favourable, because of the reason that interviews will be done with different parties as I have talked to the municipalities, farmers, Energie Coöperatie Duurzaam Nijeveen (ECDN), Powerfield (developer of solar park) and inhabitants of the two places. It will be of importance that some sort of structure is applied to get certain knowledge. On the contrary there should also be room for questions which will come during the interview. Therefore a semi-structured interview is done (Longhurst, 2016).

The different parties selected are chosen for the reason that they are important players in the area for the energy transition. All respondents can be found in 'Table 1' with the date of response.

First of all, the municipalities of Meppel and Steenwijkerland are of importance due to the fact that the realisation of the energy transition has to be within the borders of these places for the reason that policies of them are influencing developments in a certain direction.

Farmers within the region are also of importance to see how willing they are to cooperate and what them moves to cooperate. Because as the Dutch Government (Rijksoverheid, n.d.) said one has to realize large quantities of solar parks and windmills. These developments often happen on agricultural soils (Van der Zee et al, 2019).

Furthermore, ECDN is important for the village of Nijeveen because it is a citizen initiative which tries to make Nijeveen more sustainable in several ways. One of their topics is the realisation of renewable energy within in Nijeveen. Because ECDN is an association with members it is acting on their behalf. Therefore, making it an interesting group to interview.

On the other hand, there is Powerfield active in Wanneperveen. This is a commercial party which tries to realize a solar park outside the village. It is interesting to see what reasons the company has to locate at certain locations and why not? Also, the company has produced several solar parks in the Netherlands and will probably have encountered resistance during a few of them. These experiences can be of interest because they will have given the company a glance of what the main reason for resistance is.

At last the inhabitants of the villages are important while they can express their feelings about future developments and why they would resist or participate because the main developments will be in the outer regions of the places. These people who live there will be affected the most by the developments. Therefore in this research I focus on that group of inhabitants.

Table of respondents		
Respondent	Village	Date of interview
Municipality of Steenwijkerland	Wanneperveen	November 26 <sup>th</sup> 2020
Municipality of Meppel	Nijeveen	November 20 <sup>th</sup> 2020
Powerfield Netherlands	Wanneperveen	November 9 <sup>th</sup> 2020
Energie Coöperatie Duurzaam Nijeveen	Nijeveen	November 2 <sup>nd</sup> 2020
Inhabitant 1	Wanneperveen	October 29 <sup>th</sup> 2020
Inhabitant 2	Wanneperveen	October 31 <sup>st</sup> 2020
Inhabitant 3	Wanneperveen	October 31 <sup>st</sup> 2020
Inhabitant 4	Wanneperveen	November 2 <sup>nd</sup> 2020
Inhabitant 1	Nijeveen	October 28 <sup>th</sup> 2020
Inhabitant 2	Nijeveen	October 31 <sup>st</sup> 2020
Inhabitant 3	Nijeveen	November 3 <sup>rd</sup> 2020
Inhabitant 4	Nijeveen	November 3 <sup>rd</sup> 2020
Farmer 1	Wanneperveen	December 2 <sup>nd</sup> 2020
Farmer 1	Nijeveen	October 29 <sup>th</sup> 2020
Farmer 2	Nijeveen	October 30 <sup>th</sup> 2020

Table 1: Table of respondents (author, 2021)

### 3.2. Data analysis

The data was analysed during the transcription process. While during listening and transcribing the interview notes were made about the most interesting points. Thereby the focus was on the following topics: ‘place attachment’, ‘policies’, ‘resistance’ and ‘type of development’. I looked into the place attachment in terms of place in society and to the surrounding landscape to see if there are differences for people and between people. Furthermore resistance was an important pillar for the research in terms of type of resistance and how fiercely the resistance was. One of the research questions focused on policies to see how differences can come around. In the analysis I looked into the different choices made by municipalities and what for influence these decisions have on the outcome of type of development and if this was of influence for resistance.

However, the topics were not used as codes but rather used to structure beliefs of the respondents. The beliefs were structured to get a comprehensible answer on the research questions. This was done by triangulating the data gathered, the academic literature and reports on the two cases. Thereby bringing the pieces together as can be read in the following section.

## 4. Results

### 4.1. Introduction to the results

In this research one wants to determine if there are differences of determinants in participation and resistance in renewable energy projects in the villages of Nijeveen and Wanneperveen. These two places are interesting because they are quite similar, but also differ from one another when it comes to the energy transition.

Whereby in Nijeveen the transition is being done by a local cooperation and in Wanneperveen it is done by a commercial party. Because of that reason, I have looked at several factors what can be of importance to certain choices and outcomes. Therefore, one of my research questions was to find the differences and similarities of policies for renewable energy projects and at the difference in resistance when a project is set up locally or commercially.

When looking to policies one has focused on municipalities and their policies. While these are the lowest governmental body in the Netherlands, which are influenced by higher governmental bodies.

To find out the difference between resistances in the two different formats, one has interviewed citizens of both villages and the parties which are in important for the transition in these places.

The outcomes will be situated in this part whereby there is looked at the answers in the light of the theoretical framework.

### 4.2. Policy differences and similarities

Firstly, I will look into the policies because these have an influence on which developments are possible and which not. In the interview with Powerfield there came forward that every municipality has his own goals and targets. Whereby the municipality of Steenwijkerland has the goal realising 125 hectares of solar parks (personal communication, November 9, 2020). Besides, the company says that if there is no clear 'no' from the municipality for realisation of a solar park, they will do further research to see if it is possible for developing a solar park (personal communication, November 9, 2020). This means that only in municipalities who give space for such commercial developers plans will be made by the market. As Powerfield suggests this is the case in the municipality of Steenwijkerland.

This came also forward in the interview with the municipality of Steenwijkerland and in a rapport shown by the municipality to me. In the rapport 'Beleidskader voor zonnepanelen op (Steenwijker)land' it is said that such developments are possible for a maximum term of 25 years whereby the developer has to contribute €1000 per megawatt generated per year for at least 15 years (Steenwijkerland, 2019). This needs to be invested into the local community. However, in same rapport is noted that the municipality has other preferences than solar parks. The spokesman of the municipality of Steenwijkerland said the following:

*"We must eventually get to energy neutral and that is all in stated in here [rapport] by the way. How we want to get to it, but also the different steps. How we want to do it?[ reading the rapport] Build-up area on roofs. In green environment on building surfaces. Step 2, Build area on business parks. Step 3, Additional in green areas, not being nature. That does the solar ladder say." (Personal communication, November 26, 2020)*

This shows that there is preference for the realisation of solar panels on rooftops first and in build-up areas. However due to the policy it is possible for developers to develop solar parks on land. Important in this is that always the inhabitants need to benefit of such developments and not only have the burdens. Therefore the preference is to realise renewable forms of

energy with the local community. The municipality said: *“An important part of ‘how?’ is involving the inhabitants and the other interested parties by the plan making.”* (Personal communication, November 26, 2020). This means that it would rather have plans made by local initiatives to make sure the local interests are safeguarded. This shows that it is a highly complex issue because there are so many stakeholders. In Steenwijkerland, it is even more complex because there is stakeholder which earns money by the production of energy. Therefore there are contradicting interests in Wanneperveen making it extra complicated.

The municipality of Meppel on the other hand has a policy to not develop large scale solar parks at this moment in time. As the municipality does not want to affect the landscape as the stated in letter by the Alderman (van der Haar, 2020). It rather has other types of developments as a spokesman of the municipality says in the interview:

*“And we try to realize these mainly with solar on roofs and that is thus indeed putting solar panels on top of roofs of big industries and all. And then you are probably not there yet. What we are then missing, we want to supplement with wind energy so to say. Well, at this moment, no solar fields like Powerfields, so to say.”* (Personal communication, November 20, 2020)

This policy has as a consequence that commercial developers are currently banned, paving the way for local initiatives. The municipality even encourages these types of developments. As came forward in talks with ‘Energie Coöperatie Duurzaam Nijeveen’ and with inhabitant 4 of the place who was in the local “Dorpsvereniging”, an association of the village, at the time. Also the municipality of Meppel says that the energy transition needs to be done by all of us. Therefore they are making a communication plan for energy.

*“Yes. Actually, we are busy creating a communication plan focussed on energy. Like: How are we actually going to do this together?”*(Personal communication, November 20, 2020)

This shows the importance of local interests for the municipality in developing renewable energy projects. Looking into theory, renewable energy plan making is seen as a highly complex issue (de Roo & Voogd, 2019). As there are many stakeholders that need to be taken into account. Thereby it is of importance that there needs to be a plan for the distribution of benefits and burdens in which everyone can have their say according to the municipality of Meppel and ECDN (personal communication, November 2a, 2020; personal communication, November 20, 2020).

#### 4.3. Similarities and Differences Between the Villages

The similarities and differences in resistance between the two villages can be looked at through several factors. Because there are different components important for resistance to arise. In this part, there will be focused on the substantial dimensions mainly because the procedural dimensions is already discussed in the text above and the relational dimensions is partly touched up on however will further be elaborated on (Balest, 2018).

Since, location and the attachment to that place is of importance for resistance (Scott & Powells, 2019), there will be looked at the location first.

The projects planned by Powerfield and ECDN are both in rural areas, which are seen as important for the energy transition because of the surface area and the potential of agricultural lands (van der Zee et al., 2019). Where Powerfield is trying to realise this on land, ECDN had the plan for implementing solar panels on rooftops of farmers (personal communication, November 9, 2020; personal communication, November 2, 2020). However the plan of ECDN could not proceed because of the lack of capacity on the power network of ENEXIS (November 2, 2020). Due to the fact that one has to invest first in solar panels before ENEXIS

will improve the network made it to risk full for ECDN (November 2, 2020). Because they have to make a loan for it, with no certainty of being able to pay it back. If that had not been the case ECDN had 20 farmers who were willing to make their rooftops available for the realisation of solar parks.

On the other hand, Powerfield can invest that money because they have built up reserves over the last projects to invest in such a network (November 9, 2020). Therefore they can more easily realise a solar field. In addition they have to deal with fewer stakeholders because they are doing business with one farmer. On the contrary, they have to invest more time in getting out to the inhabitants and securing them they will benefit from the solar field as well. Furthermore the changes are more likely to get NIMBY effects in their case (Heppenhuis, 2020a; Heppenhuis, 2020b; Kleine, 2020; Komendantova & Battaglini, 2016) As they are not locals of the place they have to get trust of the people.

Powerfield says that how closer they get to the living environment the more resistance there is (November 9, 2020). For that reason, they have moved their solar park to a more rural part of the village where there are fewer stakeholders. Where in the first place it was located closely to village. This resistance came also forward in interviews from the people living in Wanneperveen. Inhabitant 1 said: *“Yes but there came a lot of resistance and mainly people living closest to it were not keen on having it. Because of the scale. Really, because of the scale.”* (Personal communication, October 29, 2020) This shows that the size of the solar park is the main point of resistance because it affected the living environment a lot of people. In the case of Wanneperveen this living environment is close to national park Weerribben-Wieden. A large scale development did not fit in the surrounding area of reetlands and meadows according to the surrounding inhabitants (October 29, 2020). This way of reasoning did not change when the developer moved the solar park. As inhabitant 1 said:

*“... Yes after that, [Farmer] has come and from what I understood in the village is that there is also resistance. However it is further away from the village so people are less fierce...”* (personal communication, October 29, 2020) This shows that when it moved, people were still against it. However it was less strong due to the distance between the first and the second place. Therefore it can be said that place attachment is important because when people interact with the environment, they tend to appreciate it more and will be more resistant against changes (Scott & Powells, 2019). Also the replacement shows that because it is further away less NIMBY effects are playing a role for people (Komendantova & Battaglini, 2016) .

This way of reasoning is not only the case in Wanneperveen, also in Nijeveen, place attachment can be seen. Were people don't like to see change in front or back of their houses when asked. People born and raised in the villages have more trouble with it than people who came living their later on. This can be seen in a statement made by an inhabitant of Nijeveen: *“There are many pieces of land where nothing can be done with, put them over there. Create along highways screens of solar panels instead of using meadows to place them.”* (personal communication, October 28, 2020) This shows that there is an interaction with the surroundings. Whereby there are place seen as useful and other as disturbing. On the other hand there are inhabitants not born within the village. Where there is a different view on the placement of renewable energy. Inhabitant 3 said: *“Yes if one says we want renewable energy one has to make a choice at a certain point...And I cannot believe that there is no place in the municipality of Meppel where a windmill can be located.”* (November 3, 2020).

This brings up the idea that when one is less attached to the place one will be less likely resistant to renewable forms of energy within the own region (Scott & Powells, 2019).

Although this difference between people, there is also a similarity. People of both villages prefer a local party devolving for renewable energy. Because there is the feeling that there is

more room for input of inhabitants. As inhabitant 3 from the village of Wanneperveen stated:

*“I think that if it is a initiative from the village that it would carried better. Because a lot of people weren’t happy about it. They did not agree and there was quite a bit of fuss about it. I believe that if it comes from the village itself, that more people will stand behind it. That there is more room for consultation and opinions.”* (personal communication, October 31<sup>st</sup>, 2020)

This means that people want to have influence on there surroundings. As said before there is an interaction between people and their surroundings which leads to values ( Scott & Powells, 2019). Local initiatives consist out of people from the village. These people share values with other inhabitants and therefore this creates trust. Therefore, the preference for local initiatives is logical.

Nevertheless are inhabitants not the only important stakeholders in the development of renewable energy. Farmers are key players in this as well. As agricultural lands are important for the energy transition because of the surface area (van der Zee et al., 2019). The opinion and the willingness of farmers are important for making the energy transition successful. What came forward from interviews with farmers in the region was that they rather use the land for the agricultural purposes then for some sort of renewable energy generation. The main reason according to the farmers is that the land is valuable.

Moreover, renewable forms of energy in the landscape are seen as a disturbance, this is relatable to the theory by Scott & Powells (2019). As farmers are not only entrepreneurs but also inhabitants of the place. They may even have the most interaction with the surroundings because they earn money from it.

That is not the only point made by the farmers. One even said that he want to see, what the effects are of solar panels and windmills on the environment in terms of resources and whether it can be recycled in the future (personal communication, December 2, 2020). This also shows that farmers are thinking about the future and what the effects might be later on.

Although this looks like that farmers are against renewable energy generation, this is not the case. There are a few occasions in which renewable energy generation would be seen as an option for them on their lands. Namely, when there is no successor for the company; when there is a much higher price given per square kilometre land; or if it is not profitable to be a farmer anymore. ( personal communication, October 29, 2020; October 30, 2020; December 2, 2020). This shows that the motives of farmers are mainly based on economical prosperity rather than other things.

## 5. Conclusions

The research started of with the question ‘What are the determinants of citizen resistance or participation against renewable energy projects in the villages of Nijeveen and Wanneperveen?’ with the idea that there would be a difference between the 2 projects. This difference in resistance would come through the different aspects being policies, type of project and place attachment.

After the interviews, it became clear that policies, place attachment and the type of project are of importance for citizen resistance. As one has seen in the results, there are different policies in the municipalities when it comes to renewable energy realisation. This has led to the different types of developments planned in the villages. The choice of policies in the procedural dimension (Balest et al., 2018) has an influence on what is possible to develop. Therefore one sees that a commercial firm is able to invest in Steenwijkerland but not in Meppel. Because the municipality of Steenwijkerland has not forbidden commercial parties to develop solar fields. However Steenwijkerland prefers local initiatives. In the case of Meppel is the municipality not allowing commercial firms to invest in solar fields within the municipal borders. Therefore the municipality creates a narrative for local initiatives like ECDN.

The reason that municipalities want to make use of local initiatives is that these have certain advantages, so are there already relationships between citizens which creates trust. This is important for plan making because when there is trust there will be likely less resistance (Balest et al., 2018; De Roo & Voogd, 2019). This came also forward in the interviews where inhabitants tend to have a more positive attitude towards local initiatives. Because they have the feeling that there is more room for input. This shows that people want to be involved. This confirms the point Sovacool et al. (2017) about unfair distributions. Where, people have the feeling that there are more drawbacks than benefits from a renewable energy development set up by a commercial firm. In table 2 this is shown on the basis of the villages of Wanneperveen and Nijeveen. Where in the Dutch case ‘availability’, ‘affordability’, ‘due processes’ and ‘intragenerational equity’ are of less importance while the current energy system is of high quality and serves everyone. The other aspects in Table 2 explain the differences and similarities between the two different projects.

<u>Principles of Sovacool et al.</u>	<u>Wanneperveen</u>	<u>Nijeveen</u>
Availability	This is the case.	This is the case.
Affordability	This is the case.	This is the case.
Due Process	This is the case.	This is the case.
Transparency and Accountability	There are information evenings held for the inhabitants by Powerfield to make sure that the inhabitants are informed with the plans.	The development of energy plants is in consultation with residents. Therefore information is shared through the whole process with everyone.
Sustainability	The generation of energy is in consideration with the savings, community development and precaution. Powerfield must pay part of the profit to the municipality for the development of the community. However not all will be invested in the village again.	Because the plans are made in consideration with the inhabitants, there is thought about the development of the community, savings and precaution.

Intragenerational equity	This is the case.	This is the case .
Intergenerational equity	This what is tried now by the devolpment of a solar park in the village so that more sustainable energy is available. However most houses are heated still by gass at this moment.	This what ECDN wants but is not happening right now no real plans developed yet for energy generation. However the initiative is busy with implementing measures to make people more aware of the energy consumption and to lower it. In addition most houses are still heated by gass which is still a fossil fuel.
Responsibility	The responsibility for the environment is for the company Powerfield as they develop the solar park. They have to make sure that it does not affect the environment.	The responsibility for the environment should be guaranteed be all actors in the villages. This can be thought of while making the plans. One of the plans of ECD, where they wanted to place solar panels on roofs has guaranteed this. Because the landscape was not affected. However the future has to proof it still
Resistance	Powerfield has to compensate people according to the plans of the municipality. However not everybody agrees with the plans still. Due to the national park Weerribben-Wieden which is located near. Furthermore, there is resistance due to the scale of the project.	Everbody, is included in the plan and decision making process. What has as a goal to be inclusive for all inhabitants. This to lower chances of resistance.
Intersectionality	There is some sort of power relation between Powerfield and residents economically and politically. As the company eventually decides. Thereby are race and class differences not of importance in the village. On the other hand it is expected that the environment in terms of non humans can benefit from this development.	Because everyone has an influence in someway, there is an opportunity that all these components can be realized positively.
<i>Table 2: Ten points of Sovacool (2017) on the villages of Wanneperveen and Nijeveen.</i>		

The even distrubition of benefits and drawbacks is also named by the municipalities as one of the reasons to make use of local initiaves. As this there is already some sort of trust. Furthermore, when there is made use of a local initiative the renewable energy plants are likely owned locally. Therefore, it is easier to make agreements and have influence on what will happen as a municipality and as an inhabitant. Than when a commercial party develops a plan.

What became clear in terms of the differences in resistance between the two projects is that the local initiative is having less resistance than the commercial one. This is parly because of the difference in size of the projects. Where the commerical party is developing a project of 30-35 hecaters, the local initiative is operating smaller projects. This is also given as argument

by some of the interviewees. In the village of Wanneperveen this has led to NIMBY effects in the past (Komendantova & Battaglini, 2016).

Moreover there are several other reasons given by interviewees for resistance. Whereby, the location of the project in Wanneperveen was the main concern to the inhabitants because it was located next to national park Weerribben-Wieden. The industrial look was ought to be not fitting in with the surrounding landscape of reetlands and meadows. In addition the size of the solar park is disturbing according to the inhabitants. All in all is this factor important for the resistance in Wanneperveen. It shows the importance of the natural values of the area that people have.

In Nijeveen the reasons are also focussed on the industrial look of solar panels in the surrounding landscape if that would be planned. People would rather have them on roof tops. Also came forward that not all people think that it is necessary to switch to sustainable forms of energy. Although these opinions I cannot conclude that there is much resistance because there are no big projects planned in the village which will influence the surroundings. However plans developed that failed were positively embraced by the inhabitants of the village in the past. However due to the fact that it did not really intervene in the landscape no conclusions can be made on this point.

All in all, there is expectation that there is a difference between the two types of projects but this cannot be determined from the place one stands now. As there is an intervention planned in the landscape of Wanneperveen and there is no intervention in the landscape of the village of Nijeveen. Therefore there should first be a development in the living environment of Nijeveen to see how people will react. For that reason there is a suspicion that there might be a difference. However this needs to be determined over a longer period of time. When projects from local initiatives will become clear and enter a next phase of development.

## 6. Discussion

This research was done in the living environment of the researcher himself. The advantage of this was that the researcher could more easily make contact with the inhabitants of the villages. This had also the advantage that people were perhaps more willing to give answers on the questions because of this connection.

This connection has a weakness that the interviewer has a more close relationship to the area itself and will have values about it too. In this research, I have tried to distance myself from these values of the area and tried to let the interviewees make up their own ideas. However sometimes due to the difference in knowledge one had to explain concepts which can have had an influence on the research.

What I have seen in these cases is that there is being tried to make sure that there is no energy injustice. This is done via policies to protect the inhabitants today. However arguably there is a chance that there are still injustices between areas and over time. While measures taken today will have an influence on those of tomorrow. As the energy transition is still in the startup phase, time will tell how quickly it will be completed and have influence on the environment now in the Netherlands and the world and in the future.

Therefore it is advised to come back to these cases when the projects are in a further stadium. Then it is better to make statements about the processes because these projects are in the beginning phase. While if plans become clear in Nijeveen, one will better see if this is created less resistance or not than in Wanneperveen. Also, such a comparing study can be done in another place to see if outcomes are equivalent.

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