# "Green energy in small peripheral regions of Lithuania: governmental strategies and local practices"

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Finland, Joensuu

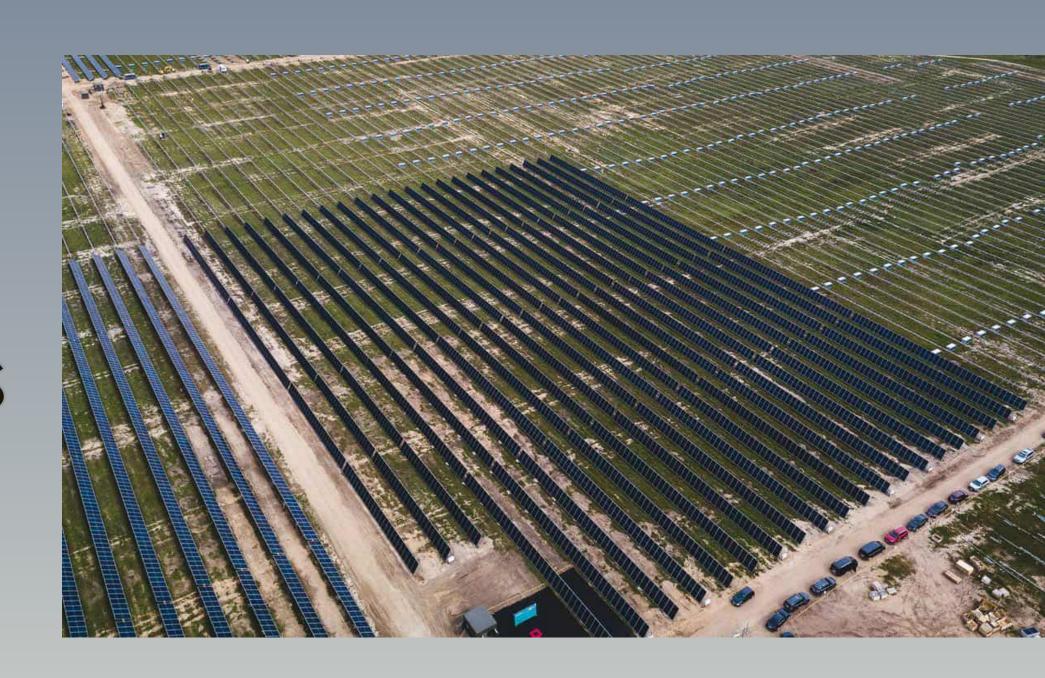




### THE MAIN IDEAS

- THE LONG LASTING SHRINKAGE OF PERIPHERAL PLACES IS RELATED TO <u>PREVAILING</u>

  <u>OUTMIGRATION</u>, INNITIATED BY SHRINKING JOBS IN TRADITIONAL RURAL ECONOMIES.
- NATURAL RESOURCES HAVE ALWAYS BEEN THE MAIN FACTOR ATTRACTING ECONOMIC ACTIVITES AND PEOPLE TO PERIPHERIES
- AGRICULTURE, FORESTRY, FISHERY, TOURISM WERE BASED ON THESE RESOURCES
- GROWING DEMAND FOR GREEN ENERGY TRIGGERS ALTERNATIVE USE OF SPACE.
- HOW ABOUT LOCAL COMMUNITIES: WHAT BENEFITS CAN "JOBLESS" ECONOMIES BRING?





### Polarised developmeemnt in Europe and Baltics

The polarized development of capitalistic countries is perceived as a "natural" outcome of market economy (either because of market imperfections, agglomeration economies or nature of capitalist society (economy) – Hadjimichalis and Hudson, 2014; Rodriguez-Pose, 2018)

Polarized development of former communist countries is extremely evident as changes towards present neo-liberal political and economic system were extremely sharp (LANG et al., 2015; LANG and HAUNSTAIN, 2017)

These processes are even more visible in the Baltics as free market economy effects were accompanied with changing status of their capital cities – former administrative centres of "Pribaltic republics" and cities in CEE bordering agricultural areas had almost no suburbs (LEETMAA & TAMMARU, 2007; SÝKORA & OUŘEDNÍČEK, 2007; TAMMARU ET AL., 2009, LANG et al, 2021, )

### SOCIETY AND SPACE

The most important thing to have in mind while studying regional development processes:

- ALL CHANGES (ECONOMIC, TECHNOLOG, SOCIAL, CULTURAL....) OF SOCIETY WILL INEVITABLY RESULT IN CHANGING SPACE THIS SOCIETY OCCUPIES AND VICE VERSUS. THE CHANGE IN STATE SOCIAL POLICY OR TRANSPORT AND COMMUNICATION TECHNOLOGY OR FASHION WILL HAVE POTENTIAL TO CHANGE RESIDENTIAL, ECONOMIC DISTRIBUTION, ETC.. SO ITS UNDER CONSTANT CHANGE
- MOST OF FUNDAMENTAL CHANGES SO FAR WERE RELATED TO <u>CHANGING</u> <u>TECHNOLOGIES</u>, WHICH FINALLY RESULT IN DIFFERENT DISTRIBUTION OF JOBS, INCOMES, POPULATION, POWER ETC.
- <u>INNOVATIONS</u> HAVE ALWAYS BEEN THE MAIN DRIVER OF REGIONAL CHANGES (<u>STRUCTURAL</u> CHANGES) AND THEREFORE THE ONLY OBVIOUS PREDICTION IS THAT SPATIAL DISTRIBUTION OF SOCIETY WILL BE CHANGING BECAUSE INNOVATIONS WILL NOT STOP





IN OTHER WORDS, THE INVENTION OF A STEAM MACHINE HAS FINALLY RESULTED IN THE REDISTRIBUTION OF ALL HUMAN ACTIVITIES, AS MOSTLY CHEMICAL ENERGY AND MACHINES DO MOST OF THE JOBS (VALUE CREATION) AND WE ARE LESS DEPENDENT ON IMMOBILE RESOURCES

THIS WAS THE MAIN DRIVER OF CHANGE OF PERIPHERAL PLACES, HISTORICALLY DEPENDANT ON THE USE OF IMMOBILE NATURAL RESOURCES (SUCH AS FERTILE SOIL)

- AUTOMOTIZATION OF AGRICULTURAL JOBS - SHRINKING BECAUSE OF TECHNOLOGY CHANGE BECAUSE OF THE SHRINKAGE? DOES AGRICULTURE ALSO WILL LOSE THE ROLE OF JOB PROVIDER?

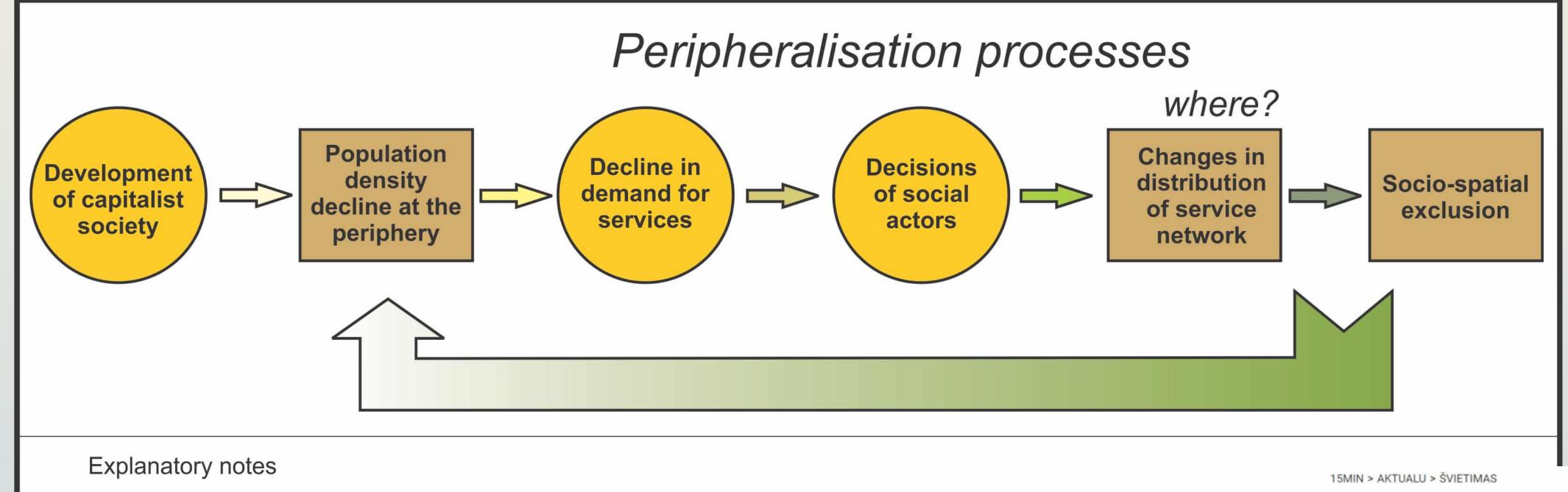
"FOUR ROBOT TRACTORS WERE SUCCESSFULLY CONTROLLED REMOTELY BY A SINGLE OPERATOR... AS ROBOTS CAN WORK 24/7, THIS CREATES THE POTENTIAL FOR A NEW STYLE OF AGRICULTURE. PROFESSOR NOBORU NOGUCHI, HOKKAIDO UNIVERSITY (REUTERS, 2022)



### WHAT REGIONAL DEVELOPMENT THEORY SAYS?

- ABSOLUTE MAJORITY OF VARIOUS REGIONAL DEVELOPMENT THEORIES PREDICT UNEVEN SPATIAL DEVELOPMENT AND TECHNOLOGY-DRIVEN INNOVATIONS RESULT IN INCREASING CENTRIPETAL FORCES CONCENTRATING ECONOMIES AND PEOPLE IN LARGE URBAN AREAS (SO FAR...).
- CENTRIFUGAL EFFECTS ARE OF A LOCAL SCALE, DISPERSING POPULATION AND JOBS IN CLOSE VICINITIES OF METROPOLITAN CITIES (PERIURBAN ZONE)
- PERIPHERIES (OFTEN DEFINED AS "LEFT BEHIND PLACES") ARE LOSING PERMANENT POPULATION SOMETIMES EVEN FASTER THAN DEMAND FOR THE LABOR FORCE SHRINKS

### Shrinking – self re-fueling process? The formation model of socio-spatial exclusion



Factors not analysed in the dissertation

Factors analysed in the dissertation



Relationship

Publikuota: 2019 rugpjūčio 22d. 08:57 🔊 🖯 🖨

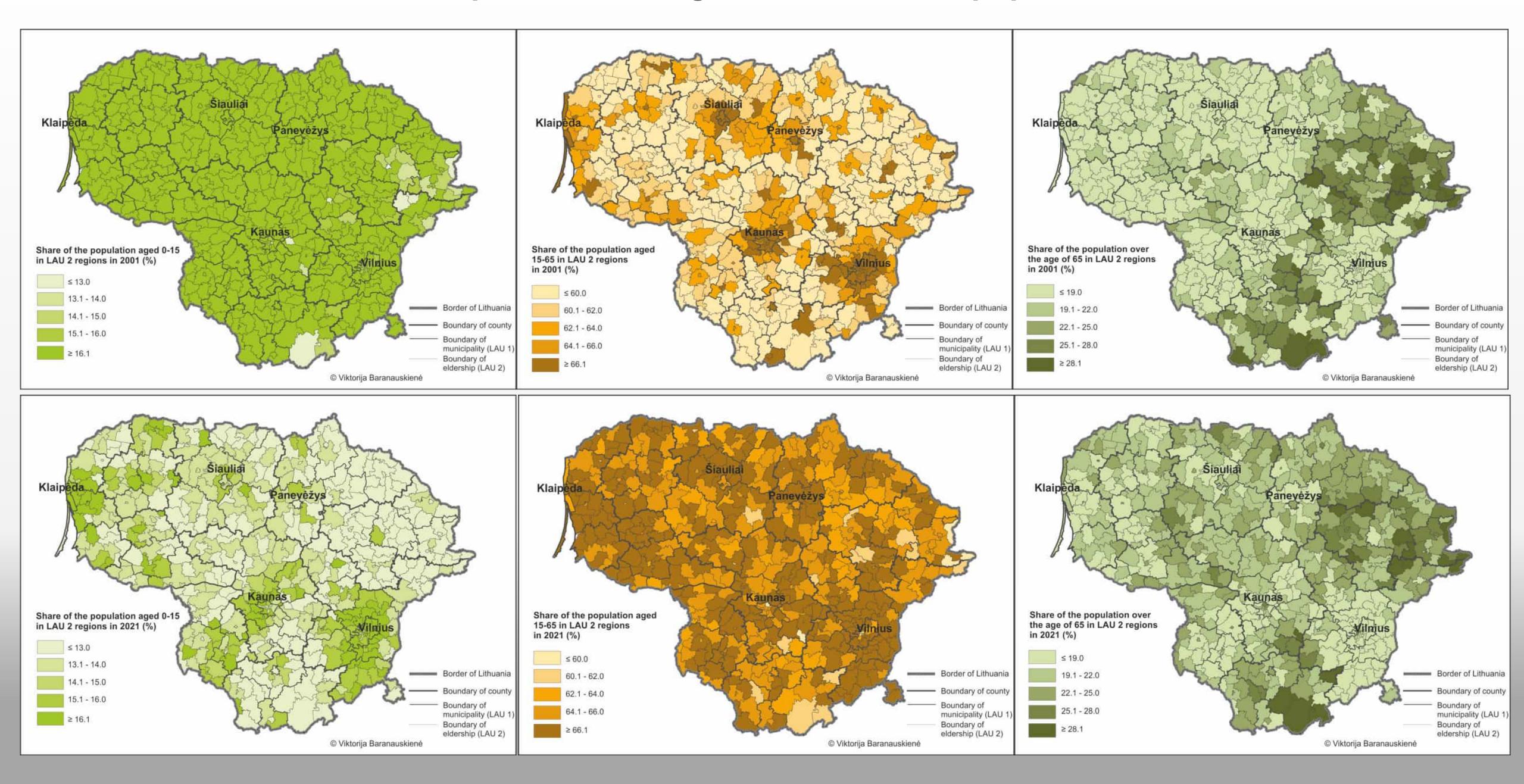
Nepilnų klasių išlaikymui savivaldybės pasiryžusios atseikėti ir po 100, ir po 200 tūkst. eurų

### Principle-based model for the formation of socio-spatial exclusion

(source: compiled by V. Baranauskienė on the basis of Sanderson, 2000; Giddens, 2005; Europos Parlamento Regioninės..., 2008; Daugirdas I Hudson, 2014; Lang ir kt., 2015; Kuhn, 2015; Baranauskienė ir Daugirdas, 2017; Pociūtė-Sereikienė, Baranauskienė ir Daugirdas 2019a, 201



### Results of centripetal trends: Age structure of the population 2001 - 2021



### A BRIEF OVERVIEW OF LITHUANIAN ELECTRIC ENERGY SECTOR

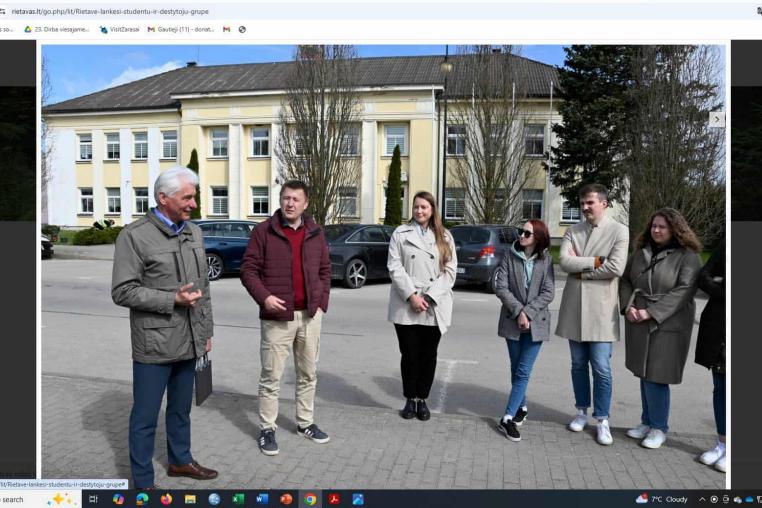
(NORDPLUS CONTEXTUALISED)

PAST: LITHUANIA
DECOMMISSIONS IGNALINA
NUCLEAR POWER PLANT IN
2009 AND BECOMES AN
IMPORTER OF ELECTRICITY

PRESENT: NORDPLUS
2023 GANG MEETS
MAYOR OF RIETAVAS
MUN., WHO
ENTHUSIASTICALLY
SPEAKS ABOUT THE
BENEFFITS OF WIND
FARMS BUILT NEARBY

FUTURE (BRIGHT):
NORDPLUS 20XX BOSS TESTS
FREE ENERGY DRIVEN
MACHINE BAUGHT BY
HAPPY LOCAL COMMUNITY
TO DEAL WITH NEGATVIVE
ELECTRICITY PRICE





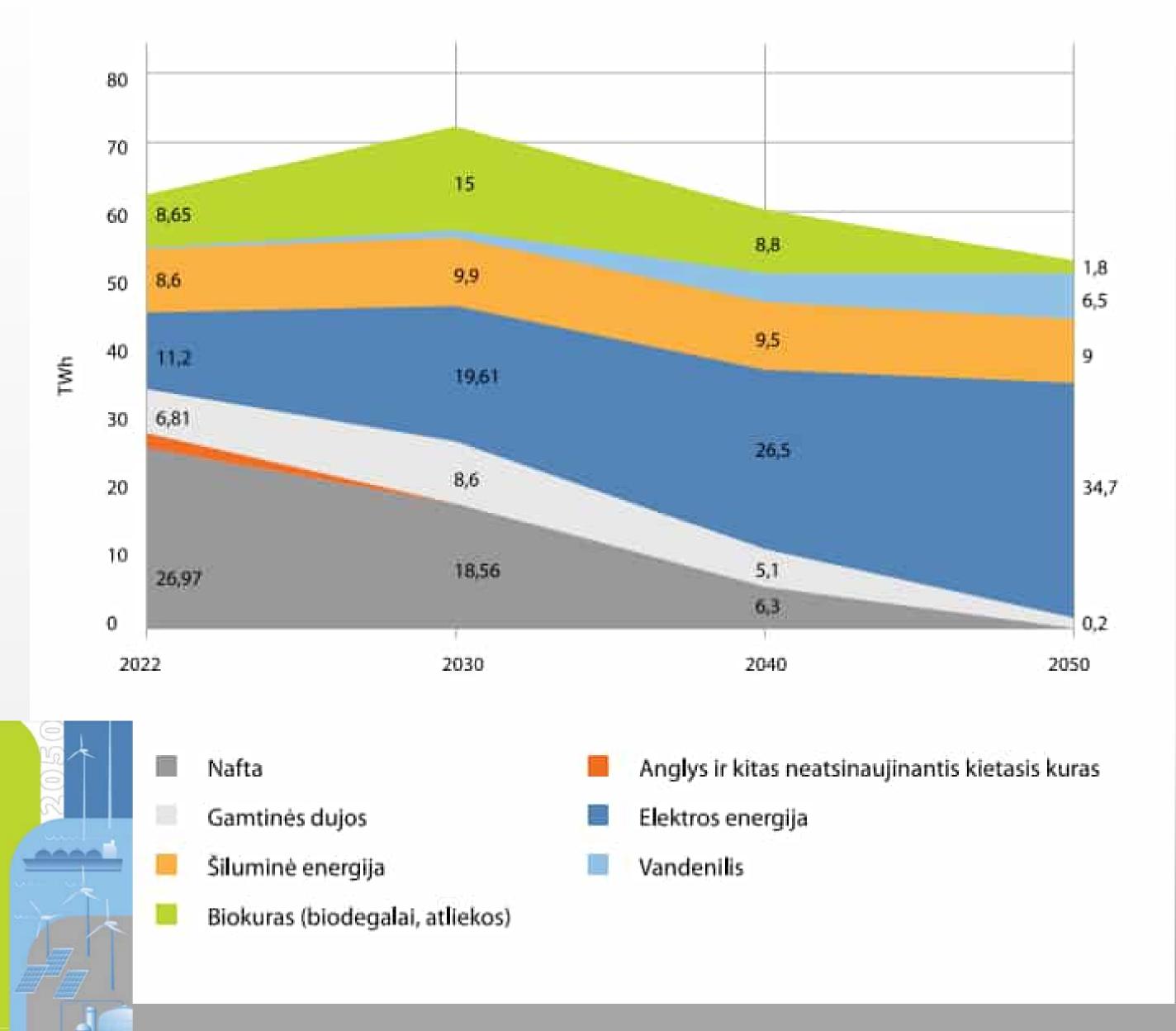
### **NATIONAL STRATEGY**

Forecasted change of final energy consumption: electricity is to become by far the main source of enery

In 2024 national strategy of energetic independence was approved It foresees the fast growth of green energy production but no attention is paid to the role of local communities and municipalities in promotion or development of green energy projects.

There are very few exchamples of local development strategies grounded on green Energy or sustainable development

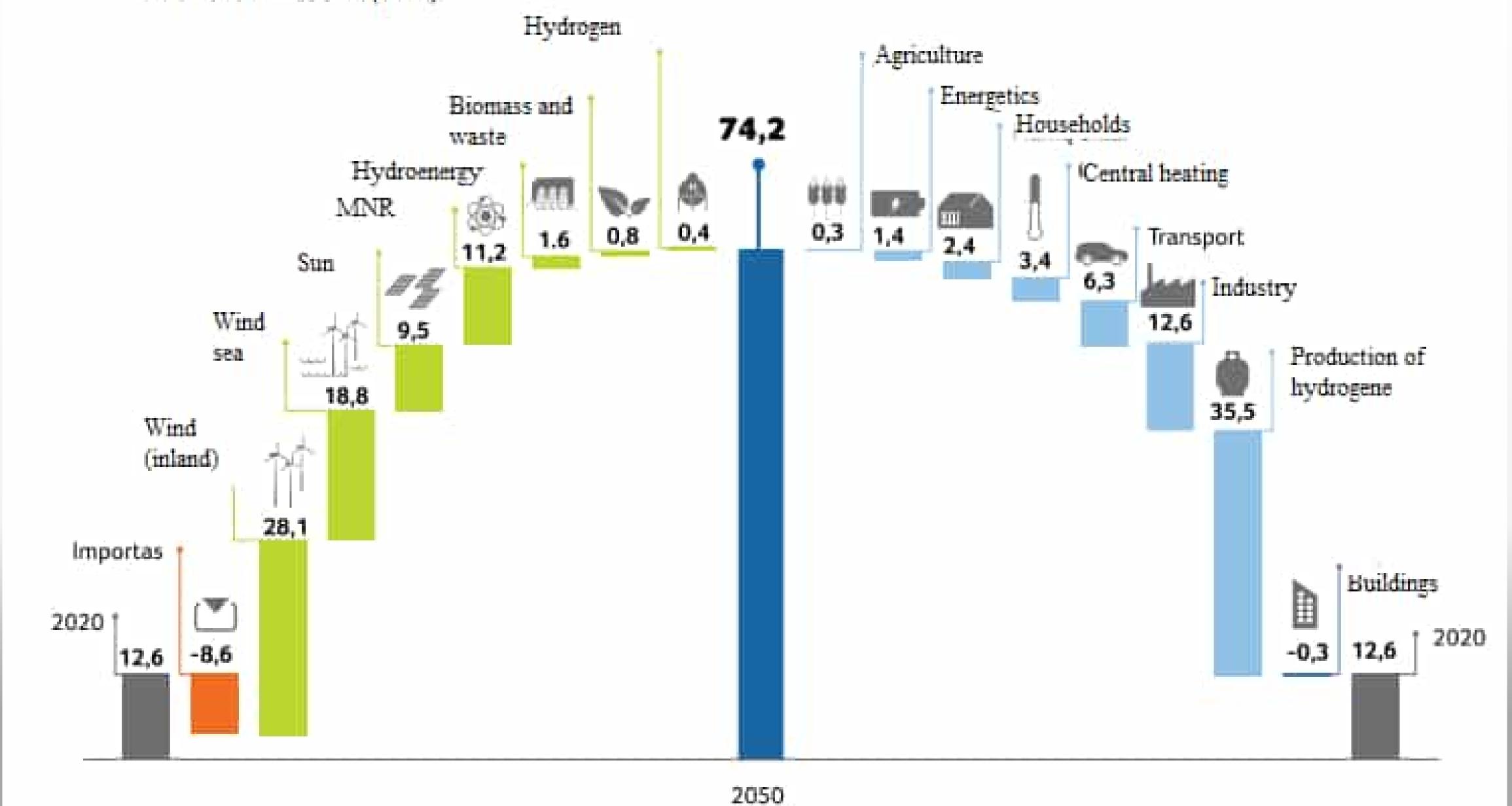
3 pav. Prognozuojamas galutinės energijos suvartojimo pokytis 2022–2050 m. pagal kuro rūšis, TWh



2/3 of electrical energy was produced from renewables in LT in 2024)

### PLANNED ENERGY PRODUCTION AND CONSUMPTION CHANGE UP TO 2050

2 pav. Planuojamas elektros energijos gamybos ir vartojimo pokytis 2050 m. Pateikiamas skirtumas tarp sektorių nuo 2020 iki 2050 m. (TWh).



# UNDER SUCH TRENDS THE EVER-INCREASING USE OF PERIPHERAL RURAL SPACES FOR "GREEN ENERGY" PRODUCTION HAS ALL POTENTIAL TO INCREASE FURTHER

### THE MAIN QUESTIONS:

- What effect the increasing use of rural spaces for energy production organized and owned from metropolitan areas can make locally?
- WHAT ROLE LOCAL LEADERS AND COMMUNITIES (MAIN ACTORS OF CHANGE IN SMALL PERIPHERAL PLACES) CAN HAVE IN DEVELOPMENT OF SUCH ECONOMIES?

# THE PROS AND CONS OF GREEN ENERGY DEVELOPMENT: LOCAL COMMUNITIES POINT OF VIEW

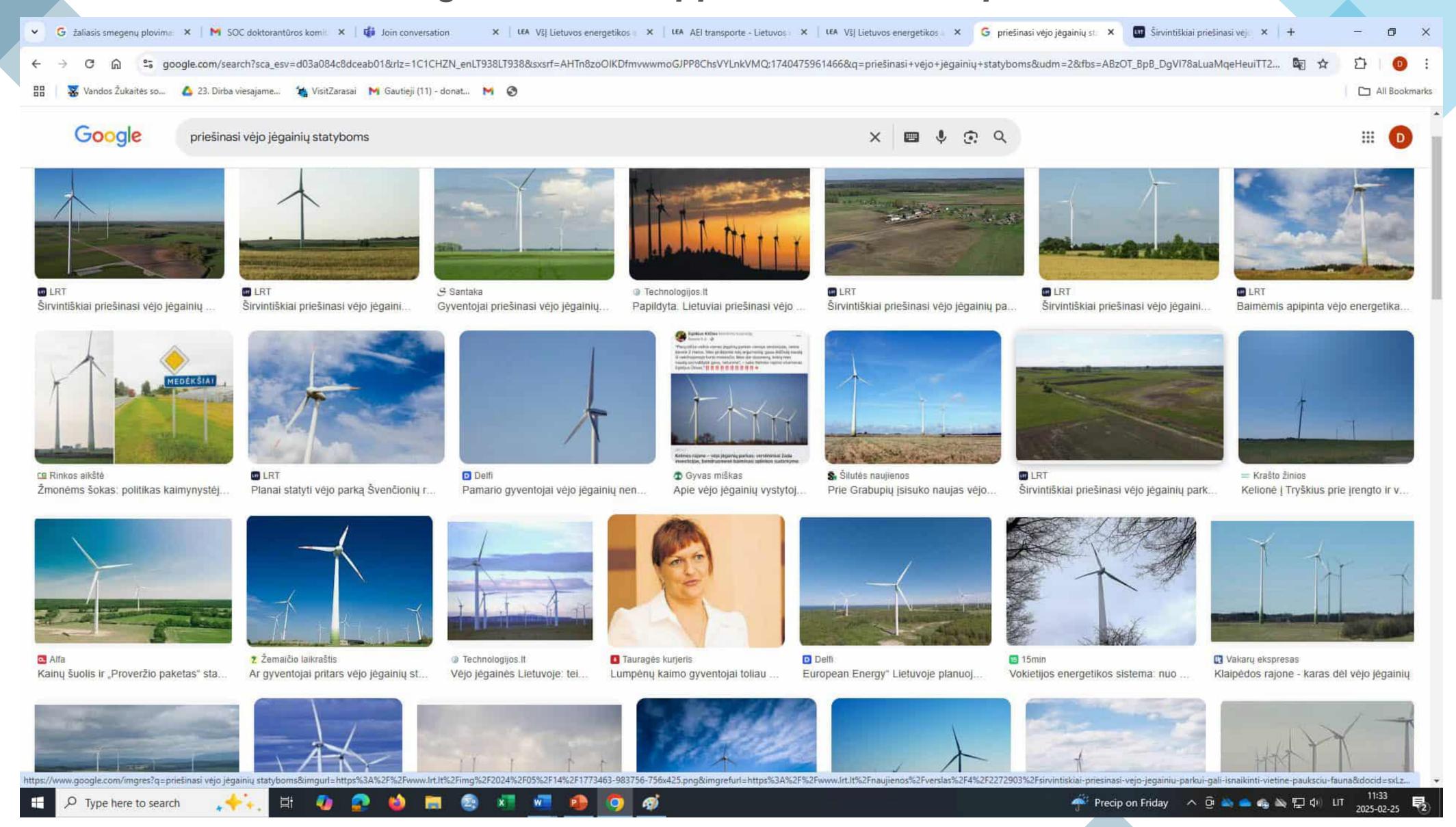
Media source analysis: evidence from 2024-2025

Instead of carrying out costly (time and money) local field research based on qualitative (interviews) or quantitative (surveys) methods, a lazy researcher can employ secondary data available on the Internet media sources...

This can reveal the position of various actor groups concerning some phenomenon, provided it is interesting enough for a wider audience...

And green energy production is such a phenomenon...

### Google search: "opposition to wind plants"



### The outcomes of Governmental policies

### (found in national media in Internet)

- Municipalities with wind turbines collect almost one million euros in their budgets every
  year from various taxes from each wind farm separately. This year, the financial benefit
  package was supplemented by another incentive the production premium provided for in
  the Law on Renewable Energy Sources, which is allocated to local residents and the
  community from the installed capacity of each power plant.
- According to the developers' calculations, the production contribution of **one power plant** should amount to **at least 15 thousand euros per year**. The arguments of **the opponents** seem to him to be out of hand. For example, "tourism, the construction of hotels and cultural buildings will be restricted".

"How can you limit what does not exist?" – D. Stonkus ironically. Waving harm to <u>health</u>, negative effects on <u>the psyche</u> of the farmer also seems unserious...(<u>www.lrt.lt</u>, national media)

During the construction of wind turbines, compensation is paid to the surrounding residents and communities within a radius of 15 kilometers. It calculates power plants based on the amount of electricity produced.

### Examples of Local resistance (national is very small, due to geopolitical and other reasons...)

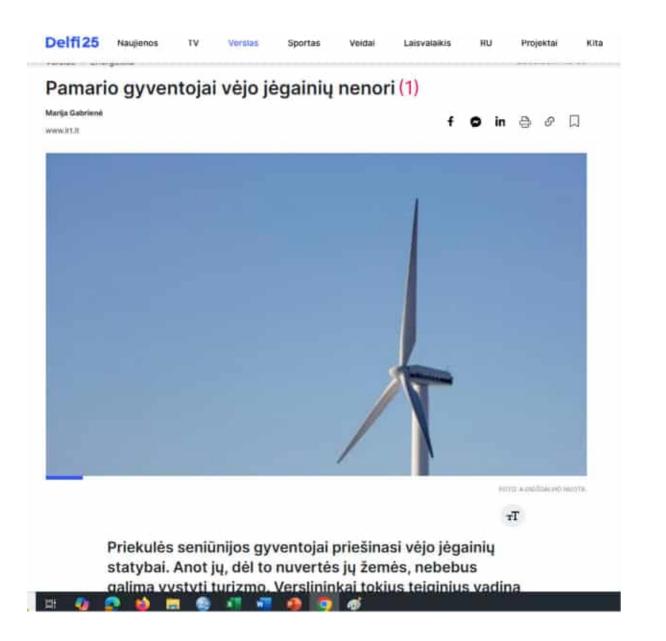
"191 signatures... residents of Žvirgždaičiai who do not approve the construction of the wind farm. However, this is not the only opinion, albeit widely represented, of the community. The other part of the population is unequivocally in favor of construction, and they believe that the protesters' arguments are hypocritical. Vice-Mayor Egidijus Peleckis, who has taken on the role of mediator in this story, also leans in the same direction. He sees that the people of Žvirgždaitis are opposed by two passions that are as old as the world – **jealousy and money**. (www. drg.lt – local media)



"The Šakiai District Municipality does not intend to take such steps. The vicemayor says that he does not see any argument to oppose and hinder private business. It would be the same if something prevented me from growing potatoes because Colorado bugs could come to the neighbors garden... There are things that are inevitable... The municipality is ready to be a conciliatory arbiter and broadcast that positive information," assures E. Peleckis, vice mayor. (drg.ltlocal newspaper)

Residents of Curronian coast don't want wind power plants (national media)

Residents of Lumpenai village keep resisting the construction of wind farms (Regional media)



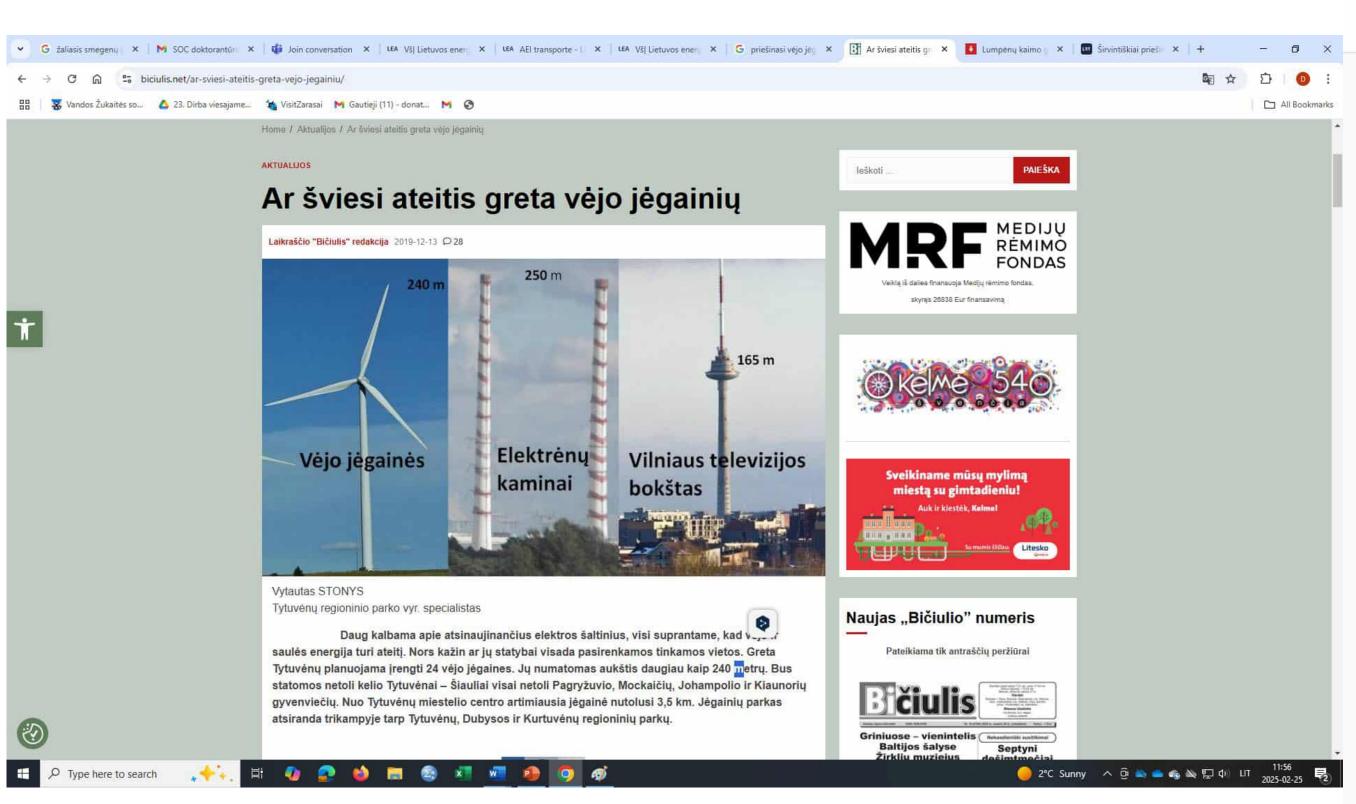


The shock for people: politician rented land for wind farm (Local media)



The negative attitudes towards WPP in mass media

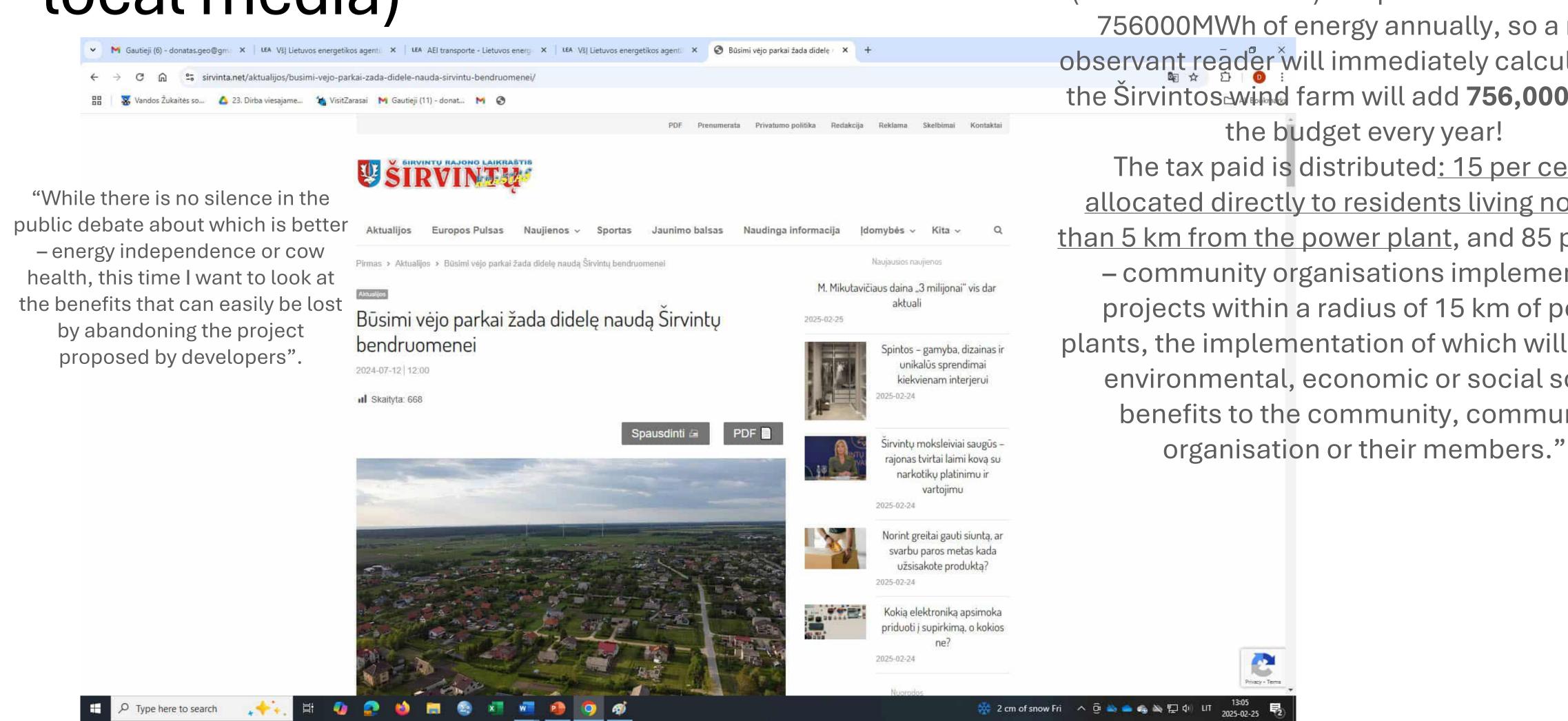
"Is the future bright near wind PP?" (local newspaper in district with the biggest WPP)



"Residents of the Sirvintai district don't plan to be silent – they resist to construction of the Wind farm" (National TV chanel LRT)

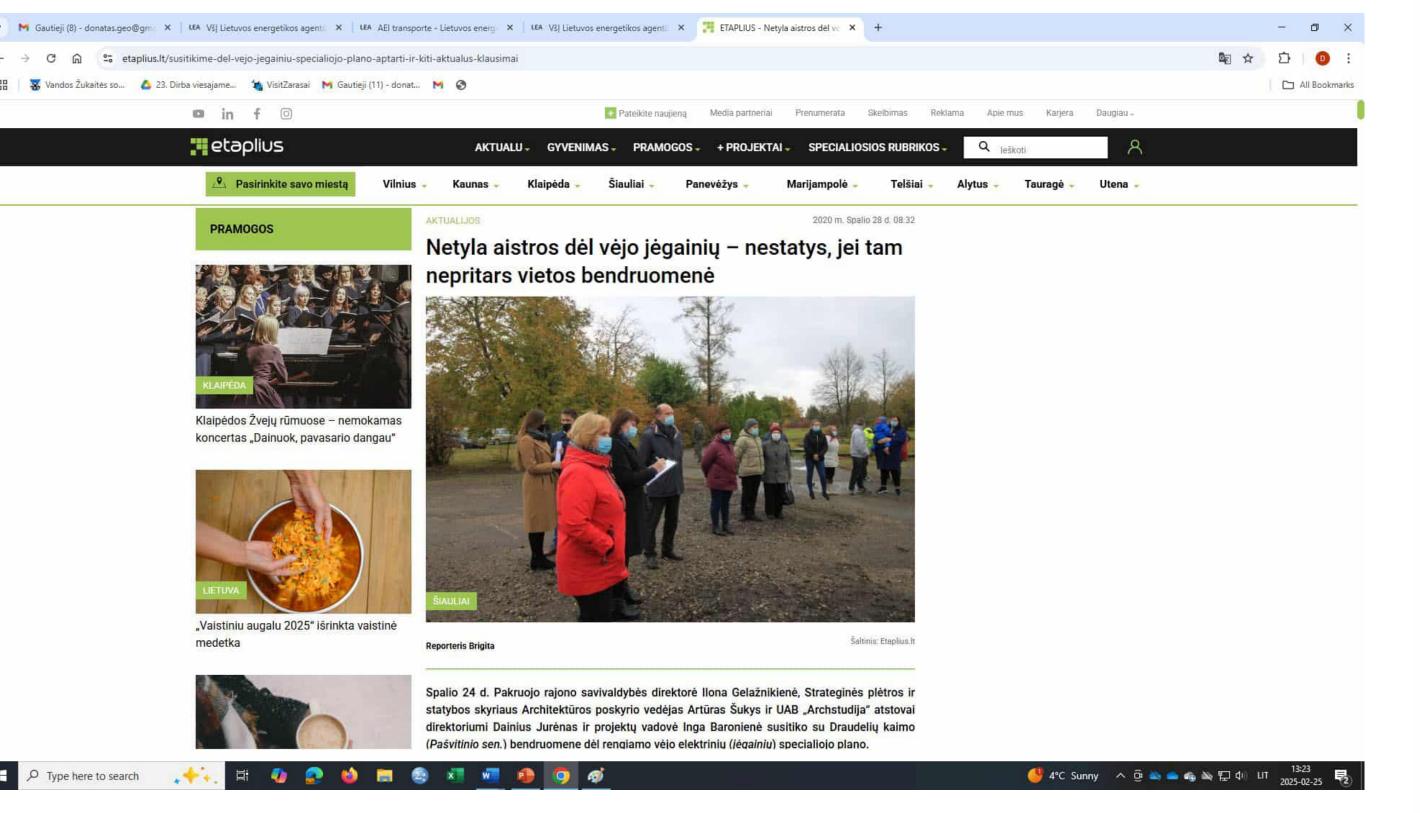


## "The future WF promise big benefits for Širvintai community" (supporting in local media)



"Law on Renewable Energy of the Republic of Lithuania establishes a provision that producers producing electricity in wind farms must pay EUR 0.0010 per 1 kWh of electricity produced every year. The wind farms designed in Sirvintos (30 units of 7.2 MW) will produce an average of 756000MWh of energy annually, so a more observant reader will immediately calculate that the Sirvintos wind farm will add 756,000 EUR to the budget every year! The tax paid is distributed: 15 per cent is allocated directly to residents living no more than 5 km from the power plant, and 85 per cent. community organisations implementing projects within a radius of 15 km of power plants, the implementation of which will provide environmental, economic or social social benefits to the community, community

# WPP will not be built if local community will not approve them (mayor in local newspaper)



The fight with windmills is going on in Tiskunai"... (national media, not Miguel de Cervantes)

### Tęsiasi tiskūniečių kova su vėjo malūnais



Šalia Tiskūnų vėjo jėgaines sumanę įrengti verslininkai šį rudenį vėl sujudo. Siekiama pagaliau realybe paversti kone dešimtmetį bandomą įgyvendinti elektrą gaminsiančių vėjo malūnų parko projektą. O šis stringa ne tik dėl jo galimų netikslumų bei kitų reikalingų atlikti korekcijų, bet ir dėl aktyvaus vietos gyventojų pasipriešinimo.

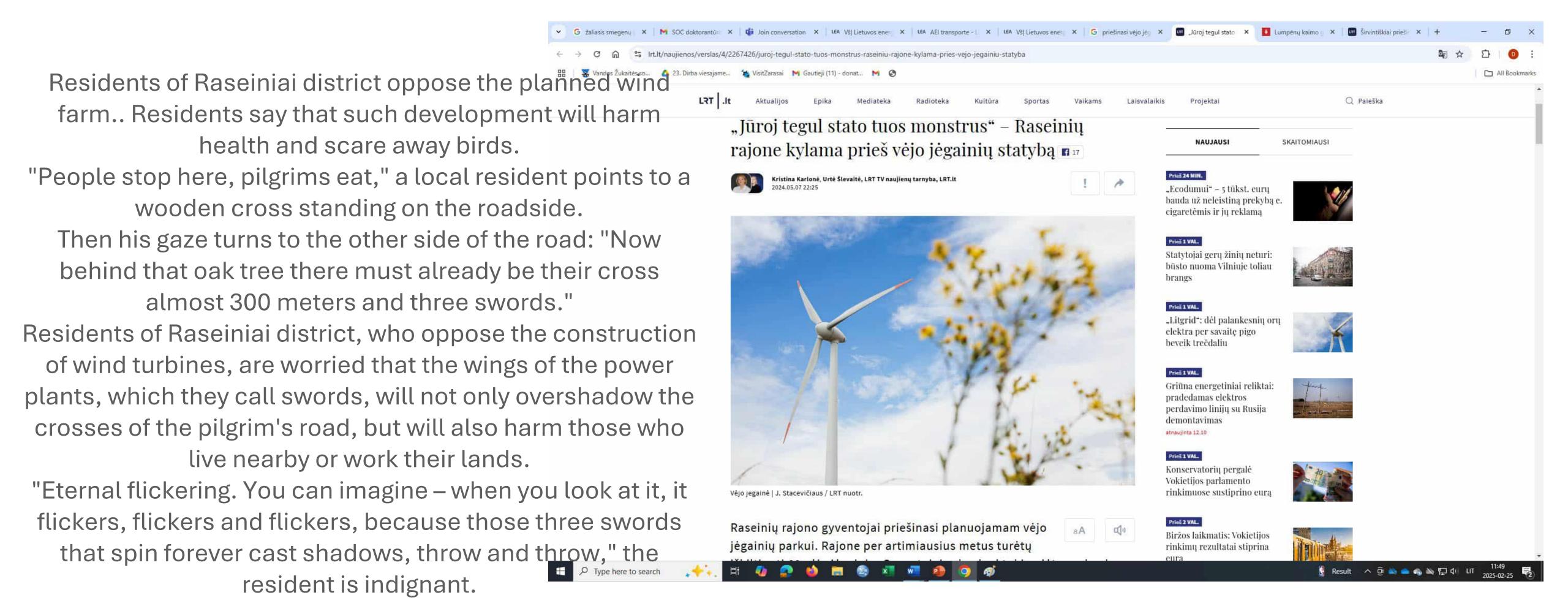
Tiskūniečiai baiminasi, kad atsiradus jėgainių parkui bus daroma nepataisoma žala jų

"There will be no birds, there will be no bees, there are those in Red books, you can see sea eagles – probably the last district (incorrect) where you will see in Lithuania. They will build power plants, nothing will be here" the resident claims

The mayor says that for the time being, he does not see the benefit of the municipality from the wind farm.

"There may be damage if heavy loads are transported, the maintenance of that power plant, then, of course, the road infrastructure will suffer, and the residents themselves will probably suffer," comments A. Nekrošius (mayor of the district). (National media, www.lrt.lt)

"Let they build those monsters in the sea!..



"We are not against wind energy, but let it be built where it would not interfere with people's lives. Power plants are only useful to those who build, but what is the benefit to society? We are left with only damaged health, devalued land and homes. In European countries, power plants are moving away from home, because their impact is negative - in terms of noise, electromagnetic field, shading of the wings, etc. And in our country, on the contrary, they are built as close to home as possible. If power plants are delivered here, where will the city of Gargždai expand?

The most worrying thing is that no one from the institutions comes to the site, does not look at what will be built and where... So who to trust, who will control what will be built here and how will it affect all of us?" - R. Bartkus was indignant.

However, residents, especially on the seaside, actively oppose the neighborhood of power plants, because they believe that power plants pose a danger to health, nature, quality of life and devaluation of real estate.

Meanwhile, the local government is caught between a hammer and an anvil...

"We moved to the village to live quietly, but there is no peace here. Power plants that have not yet been built are already harmful to health, it is possible to get sick from the nervous tension that they will appear in the neighborhood and ruin life," Robertas Bartkus, the chairman of the Ežaičiai community.

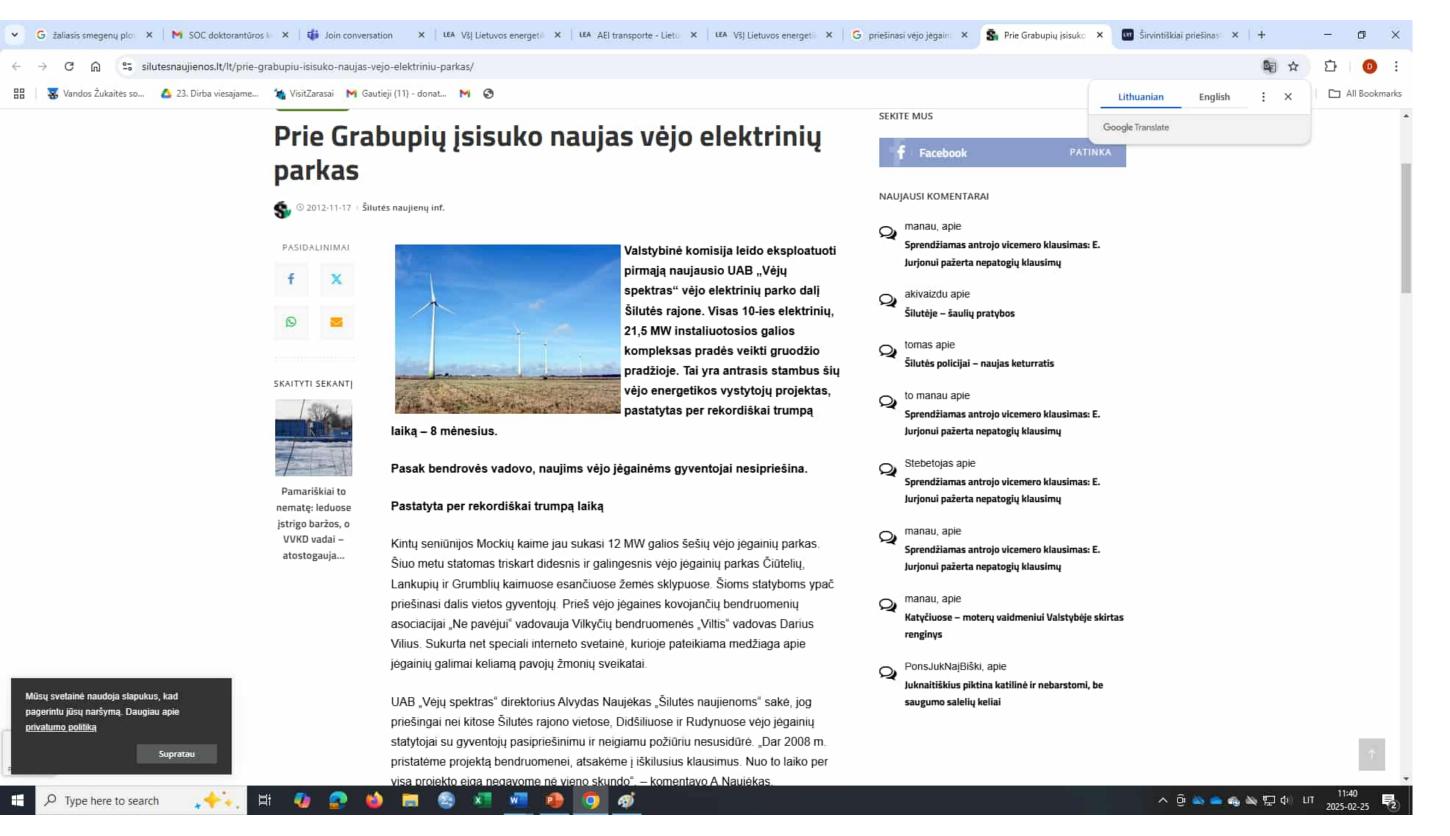
"In Klaipeda district - The war for WPP" (<u>www.ve.lt</u> (regional media))



# Back in 2010. Klaipeda district mun. www.ve.lt (regional media)

- At the last meeting of the Klaipėda District Municipal Council, it was decided to oblige the director of the municipal administration to start preparing a special plan for the development of alternative energy sources wind turbines (individual, group, park) in the district.
- Wind turbines are a real headache for the local government.
- "It is envisaged that Lithuania must produce 500 megawatts of alternative energy, but this does not mean that all sources of that energy must be provided in the Klaipėda district," said the mayor of the district Vaclovas Dačkauskas.
- And the number of people who want to build power plants in the district is increasing ...

## "A new wind farm spins near Grabupiai" (evidence from 2012... local media)



### Power plant builders support residents

Entrepreneurs who build and operate wind farms near Mockiai and Vilkyčiai – UAB "Iverneta" are obliged to transfer 0,3 Euro for each megawatt hour (MWh) of electricity produced and sold in wind farms to a special Municipal Support Fund. According to the concluded agreement, the support funds are provided for the needs of the eldership, in the territory of which the wind turbine is located, its residents and communities.

At a meeting of the heads of the municipality and Iverneta, which took place in September, the distribution of support was discussed.

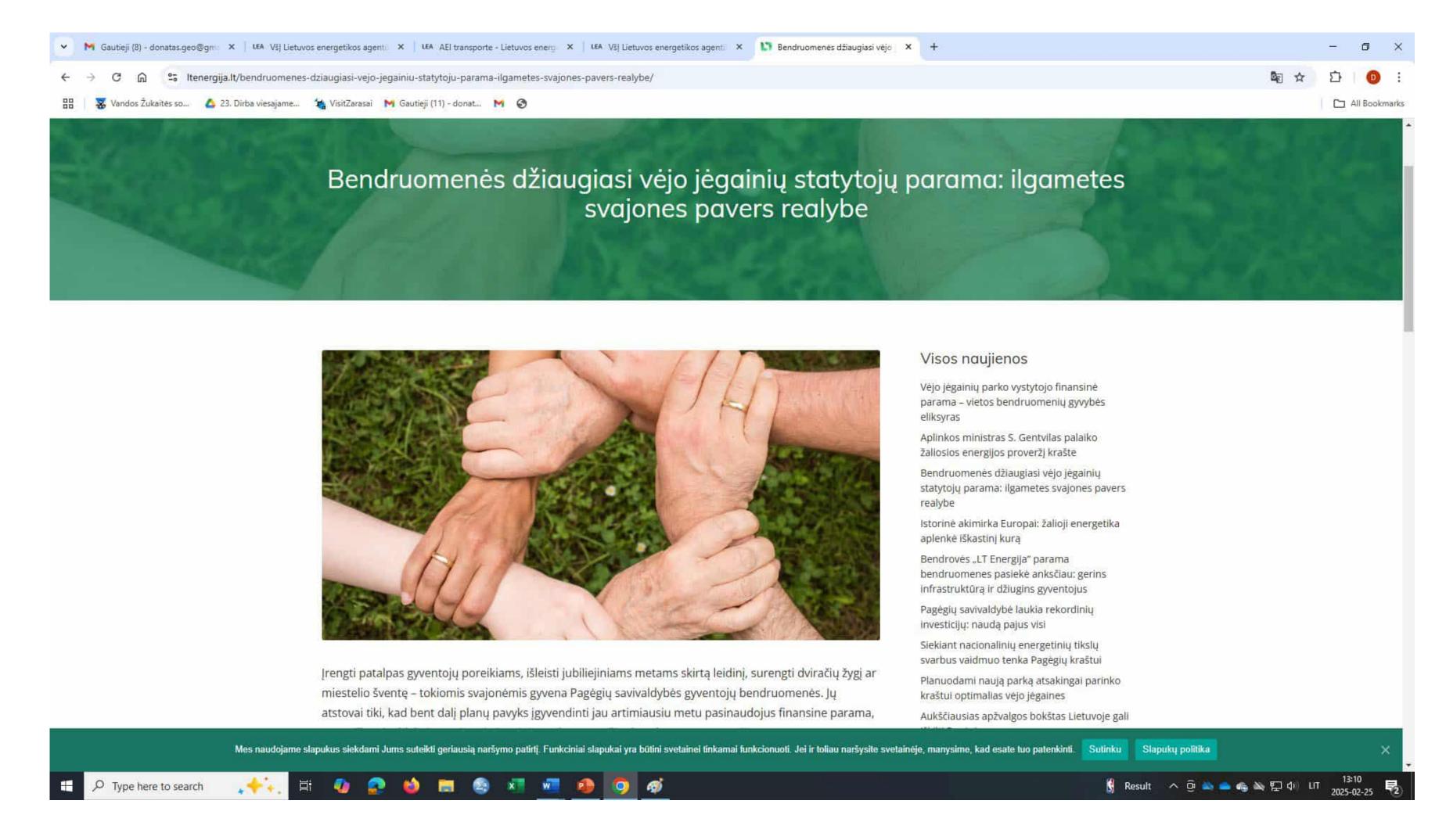
....It was decided to contribute to the organization of the Kintai Community Lagoon Festival, to support the repair of the premises of Kintai Secondary School and the purchase of the necessary equipment. It is also planned to partially finance the repair of the roof of the Kintai Evangelical Lutheran Church, to help the Kintai eldership by purchasing snow removal equipment.

This company was also a sponsor of the municipal community's social-cultural project "Fish Soups Cooking Championship".

# "The voice of developers"

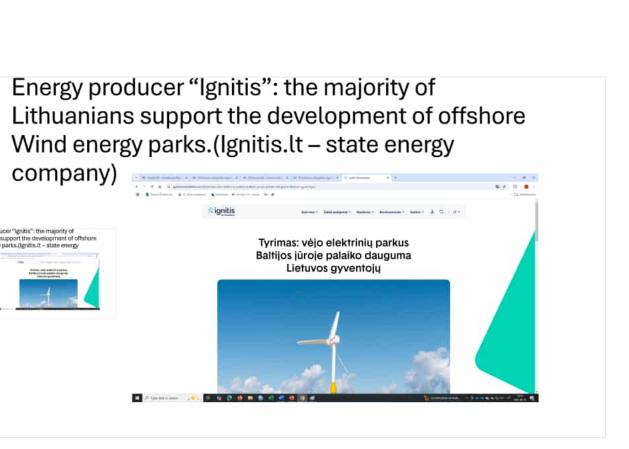
"We have been developing the wind turbine project in Pagėgiai municipality since 2016, and we signed support agreements with seven local communities last autumn. ...", says Mindaugas Juodis, Director of UAB LT Energija. The company allocated a total of 29 thousand euros to the communities of Kentriai, Lumpėnai, Natkiškiai, Pagėgiai, Piktupėnai and Vilkyškiai before last Christmas.

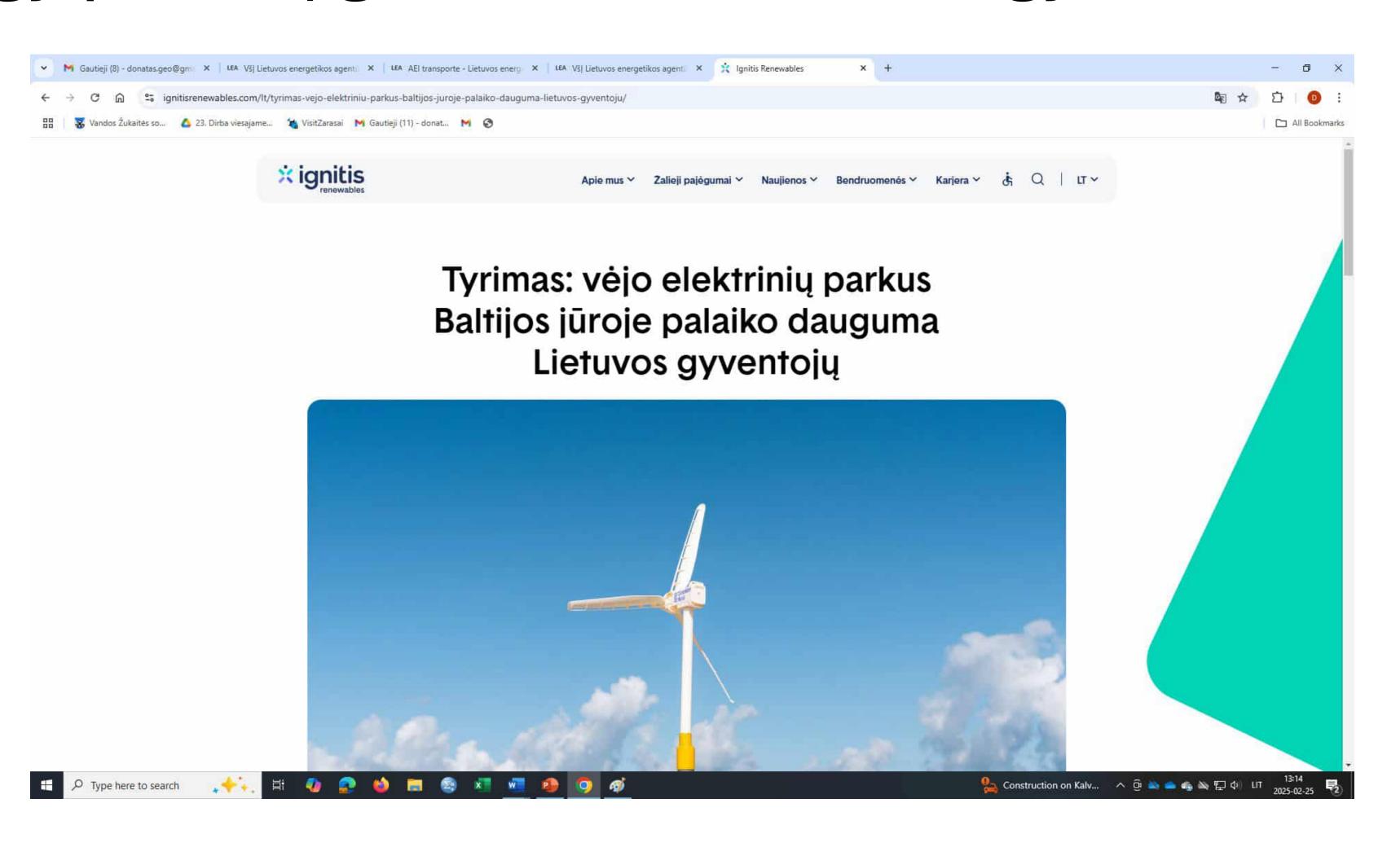
"Communities rejoice the support of wind PP builders: longlasting dreams will become reality (Pagėgiai municipality news)" (www.ltenergija.lt, webpage of private investment company...)



Energy producer "Ignitis": the majority of Lithuanians support the development of offshore Wind energy parks.(Ignitis.lt – state energy

company)





# Threats are imagined and benefits are real? At least from the point of view of investors... (state energy provider)

There are almost no public local community-related complaints against already existing Wind PP.

- "When a wind farm appears nearby, it can become not only a source of electricity, but also an opportunity for communities to implement their ideas: renovating roads and lighting, creating new community houses, installing sports grounds, organizing cultural events. Over the past year, we have seen how wind energy is changing the lives of communities today it is not only about electricity, but also about better living conditions for local residents," says Emilija Musteikytė, Head of the Ignitis Renewables community team.
- What do communities that live near wind farms get? In many Lithuanian cities and towns, wind farms have become a symbol not only of electricity production, but also of positive changes. To date, more than 900 thousand euros have already been distributed to local communities. support for important projects. These funds were used by communities for public infrastructure, culture and education. The amount of funds allocated in 2024 was twice as high as in previous years, reflecting not only the growing volume of cooperation, but also the expanding wind power sector. The supported projects are diverse and respond to the different needs of communities. For example, in the Vydmantai gymnasium in Kretinga district, an outdoor classroom-dome was financed, and in Butkiškė village in Kelmė district the renovation of the community gathering space, where residents can not only spend time together, but also participate in educational activities.

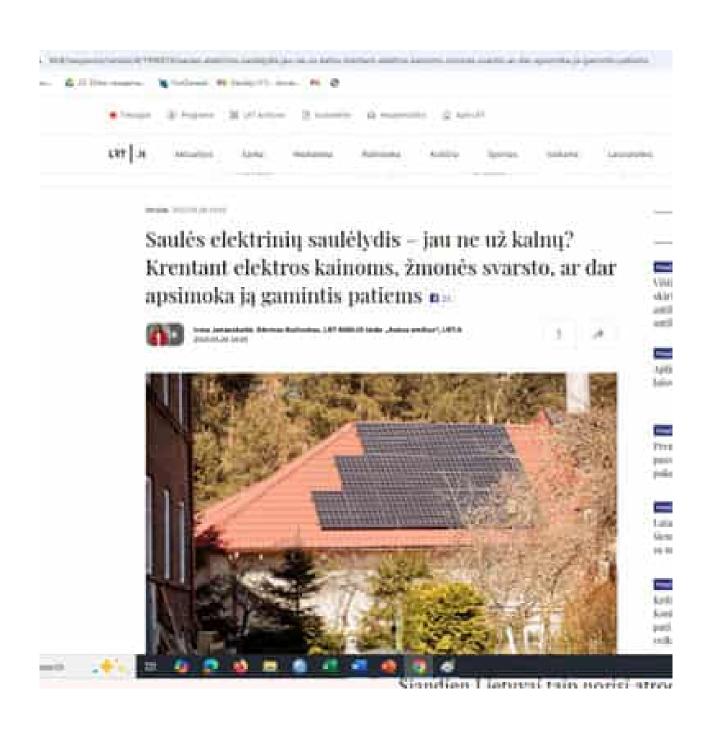
geresnę aplinką bei stiprinti ryšius. Tarptautinė žaliosios energetikos įmonė "Ignitis renewables" aktyviai siekia kurti šviesią kaimynystę su vietos gyventojais, prie kurių gyvenviečių statomi vėjo parkai, skirdama jiems finansinę paramą bei prisidėdama prie socialinės gerovės.



Mažeikių rajone šalia "Ignitis renewables" vėjo parko esanti Pikelių bendruomenė / "Ignitis renewables" nur salia-ignitis-renewables-veio-parko-esanti-pikeliu-bendruomene-67f666d9be4c8.ipg







Mass media critics towards **Solar energy parks**: a few doubt related to biodiversity and landscape (national media)

- "These power plants, especially large-scale solar parks, can change the appearance of the landscape. Flat solar panels and their installation structures can be seen from a distance, especially if they are installed in open, unused areas of land or large plots of land. This can lead to visual contradictions and alter the aesthetics of the landscape. Large-scale solar power plants often require large areas of land that can be separated from other land uses, such as agriculture or natural ecosystems, and this change in land use can affect local ecosystems and biodiversity
- Large solar parks can replace natural habitats, and some animals and plants can be forced to migrate or lose their habitat

The newest concerns: the **competition for farmland** between farmers and energy producers, who offer much higher rent prices for land plots. Would be a normal market, but sectors are heavily subsidised...

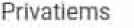
One could agree, that the real benefit of solar plant depends on difference of produced value in the plant and value of alternative use (agriculture). The unused spaces or poor soils should be a priority for subsidised production... But fertile lowlands have more sunshine in LT

"Solar plants appear in fertile lands more and more frequently: Government should interfere" (national TV chanel)

Derlingose žemėse vis dažniau dygsta saulės elektrinės: "Čia turėjo valdžia įsikišti" 🖪 🛚 Vyriausybė pritaria darbuotoju iš užsien atvykimo išmokoms neribotam laikui Pries 28 MIN. Ukrainos dronų atak Rusijoje sutrikdė šin skrydžių Šadžius: savivaldybė nustatant NT mokes ieškoma saugiklių atnaujinta 13.12 Biržos laikmatis: Kir skatina ekonomika, skelbs sprendima de

"Politicians' proposals
to restrict the
construction of solar
power plants on fertile
lands are called
populist by business.
Farmers estimate that
the price of land rent
for solar energy in some
regions has increased
several times."

Parliament suggests a ban of Solar PP in fertile lands (allowed up to 35 points, 39,6 – Lithuanian average) in 2025



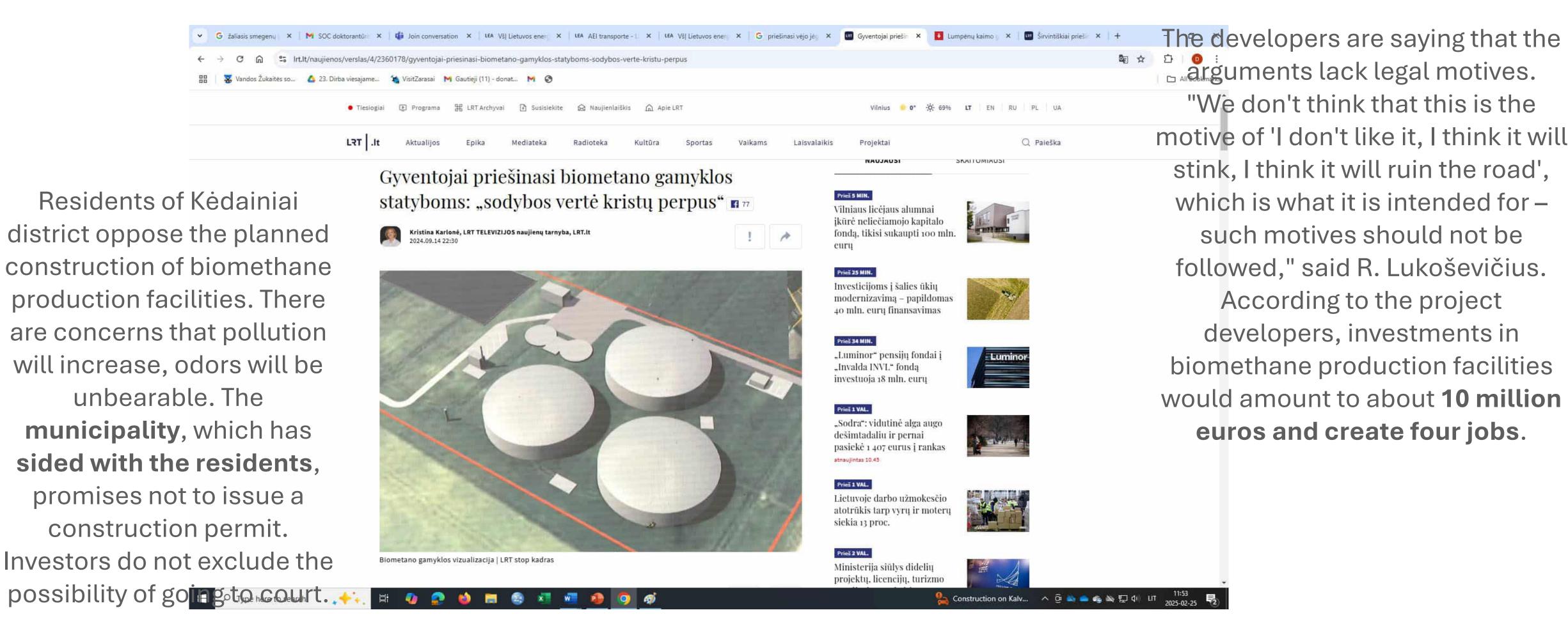
### Not only benefits

- Over 100 thous. Euro was paid as compensation for SPP owners in 2022 due to bad weather (snow, wind, hails, lightning...)
- BUT: "Looking to the future, it will no longer be just a question of rising energy prices. It is simply that people will increasingly begin to value independence from external factors. We are all becoming more sustainable, we want to be independent, so the issue of solar power plants is becoming more relevant to more and more people."

### Saulės elektrines niokoja stichinės nelaimės – ką gyventojai turėtų daryti kitaip

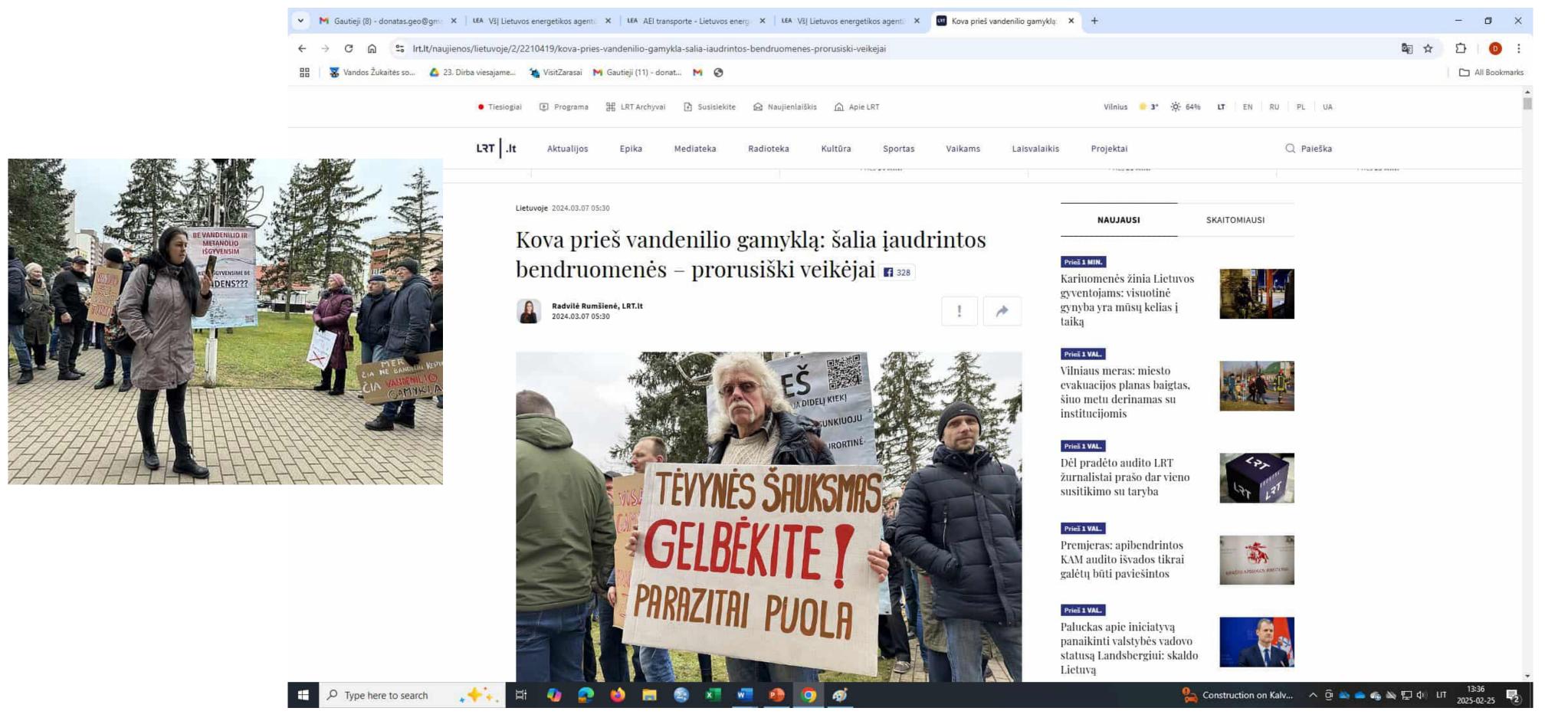


# Opposition to other "green energy" production (<u>www.lrt.lt</u> (national media)



. Experts are already comparing the processes gaining momentum with the famous story of Žygaičiai and emphasize that part of the population is genuinely concerned about the industrial plans, but the loudest is coordinated intimidation and incitement of distrust of the state – with the message of unfriendly states.

# Geopolitical dimensions are visible as well



"The fight against hydrogen factory: pro-Russian activists stay close to the angry community" (national media)

"The motherland shouts – Help! Parasites attack!"

### SOME CONCLUDING REMARKS..

- Green energy development is growing fast but it in not going without resistance from local communities, who still are concerned with the possible negative consequences of new ways of use of rural spaces.
- Investors, mostly originating from metropolitan spaces of Lithuania or abroad, on the other hand see only positive outcomes both for them and local communities.
- Obviously the new green energy related economies give some benefits for rural settlements but they do not pribng new jobs and wont help to diminish problem of population shrinkage.
   Some damage for landscape (in case of windmills) can make certain spaces less atractive for newcommers or second-homers.
- The development of green energy projects are being affected not only by economic rationality but very often have some hidden political issues both on local and national levels.

And go green, buy electric
Hummer! Its good
for country ride...
(.. And just 4.5
tons...)



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