



Status-quo Assessment Report

DEX Innovation Centre, PP5
City of Bystřice, PP9

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1. General description of your Region and its Demography

1.1 Land area by type

The town of Bystřice is located in the Central Bohemian Region, Benešov District. It is approximately 50 km southeast of the capital city of Prague. The total area of the town is 6 337 ha and most of the area (89%) is agricultural and forest land. The town lies on the territory of the Benešov and Vlašim Highlands. The highest point of Bystřice is Žebrák Hill with an altitude of 585 m above sea level. The Konopiště brook flows through the village and feeds several ponds. In the vicinity of the ponds we can also find nature parks, which are important for the protection of the local diverse fauna and flora. A number of specially protected species of plants and animals are found here. Thanks to the beautiful nature, the Bystřice area is a popular tourist area with many hiking and cycling trails.

The town is located at a good distance to large towns - 7 km north is the town of Benešov, 16 km east is the town of Vlašim, 19 km west is the town of Sedlčany and 30 km north is the town of Říčany.

At present, the town offers its inhabitants all civic amenities, such as a school and kindergarten, health care and a wide range of services.

1.2 Population density (including population in urban areas/total)

The town of Bystřice covers 10 cadastral areas and has a total of 26 settlements (Bystřice, Božkovice, Radošovice, Tožice, Drachkov, Zahořany, Jinošice, Líštětec, Opřetice, Jírovice, Hůrka, Jarkovice, Semovice, Kobylí, Hlivín, Vojslavice, Líšno, Mokrá Lhota, Nesvačily, Petrovice, Ouběnice, Jeleneč, Jiřín, Strženec, Tvoršovice and Mlýny). Approximately half of the population of Bystřice lives in these settlements (2,120 out of 4,456). Bystřice itself has the largest number of inhabitants, with approximately 2,330 inhabitants, while the smallest settlement, Hůrka, has only 7 inhabitants. The population density in Bystřice is approximately 65 inhabitants/km², compared to an average population density of 134 inhabitants/km² in the Czech Republic.

1.3 Municipalities

The town of Bystřice has only one authority, headed by a mayor, a council and a board. The settlements communicate with the town government through settlement committees, which serve to promote local interests. The municipal authority also includes a number of specialised commissions, such as those for the environment, transport, construction, education, sport and culture, etc.

2. Regional Factors concerning the theme

2.1 Mobility

It is clear from the data presented above regarding the size and fragmentation of the area that transportation between the subdivisions and the nearest major cities is a significant and important role for all age groups of residents in Bystřice and its settlements. In particular, transport to employment, school facilities and services.

It is a priority of the town management to ensure quality public transport, minimise the use of individual passenger transport and bring other alternative passenger transport options closer to the town.

2.1.1 Public network of transport system available in the region

The public transport network can be divided into bus and rail.

Bus transport

Transport services in the Bystřicko area are provided by a total of 5 bus carriers. All existing services are provided on the basis of a direct order from the customer, which is the Central Bohemian Region. The town of Bystřice participates in the order through its contribution and its membership in the voluntary association of municipalities BENE-BUS. This association of municipalities has a contract with the Central Bohemian Region on cooperation in the provision and financing of transport services. Beyond this transport service, there is also a contractual school transport service providing bus connections for transporting children to the primary school in Bystřice.

The routes can be divided into long-distance, regional and local. The long-distance ones provide connections across the ORP (Municipality with extended competence) to important destinations such as Prague and Tábor, or Sedlčany and Příbram. Regional lines connect important destinations within the district or important destinations within a short distance beyond the district (Benešov, Votice and Mladá Vožice or Benešov and Neveklov). Local connections serve mainly the immediate surroundings of Bystřice and the smaller number of connections corresponds to this. The aim is to provide adequate basic transport services for schoolchildren and the elderly without any major ambitions for comprehensive transport services.

The long-distance lines have all-day and all-week service with an interval of 60 minutes. Regional routes are operated on a weekday basis, with a typical interval of 120 minutes on weekdays. Local routes have irregular intervals on weekdays, usually with 4-6 pairs of services depending on the start and end of school hours. At the weekend, the service is only operated with two pairs of services.

From the point of view of the town as a whole, the settlements of Drachkov, Nesvačily, Jírovice, Opřetice, Jinošice and new Jarkovice have the best transport services. On the other hand, Tvoršovice, old Jarkovice, Ouběnice and Jiřín have significantly weaker services. The transport services in Líšná, Vokov and Mokrá Lhota are very weak and non-conceptual. The transport services of the settlements of Božkovice and Zahořany are not provided at all.

Rail transport

Near the centre of Bystřice there is the only railway stop for regional trains connecting Benešov and Sedlčany. The next nearest stop for the inhabitants of the settlements is in nearby Tomice and Olbramovice.

Planned modernisations in public transport

- introduction of demand-response transport

- increasing the frequency of services and integrating areas without public transport
- shared passenger and cycle transport
- initiating an increase in the number of alternatively powered vehicles

Other transport services are linked to nearby larger towns.

2.1.2 Description and data on current bus fleet (non e-buses) in city/area

Currently, public bus transport is provided by private carriers. The town of Bystřice has very little influence on the selection of the fleet and its propulsion. The management of the town hopes that over the next few years the number of public transport providers will increase and thus the range of services will be expanded. This will create an opportunity to promote the selection of alternative fuel vehicles.

Bus operators mainly use Setra 415 LE business buses, Mercedes Benz Intouro II, Iveco Rosero, Iveco Crossway and SOR. All vehicles are diesel-powered. The average age of individual buses in the local region is around 5 years. The regular renewal and modernisation of the fleet can be influenced by the Central Bohemian Region in contracts with carriers.

2.1.3 Description and data on current private vehicles (non & electric ones) in the city/area

Due to the lack of accurate statistical data on the number of passenger cars in Bystřice, we have to rely on national statistics. Thus, we can estimate that every household owns at least one car, 40% of families with children own cars. People use personal transport either directly to their jobs and school facilities, or they use personal transport to the centre of Bystřice, where they park and continue by public transport. We know from the traffic calming survey that on any weekday at least 489 cars park in the town centre or on the outskirts of the town.

There are a total of four service vehicles available to the City Council, including one police car and one electric vehicle. In the future, it is desirable to replace the internal combustion engine cars with electric vehicles. The announced subsidy opportunities for the purchase of alternative fuel vehicles should help this replacement.

Technical services of Bystřice own 1 passenger car, 7 trucks mostly for waste collection and 2 tractors.

2.1.4 Description and data on other modes of e-mobility in the region (e.g. e-bicycles, e-taxis etc.)

In the Bystřice region we can observe only units of passenger electric cars. However, the exact number is not known. Due to the fact that electric cars are currently still expensive, people are not motivated to buy them. Subsidy opportunities contribute only marginally to increasing the number of EVs, and nationwide, the year-on-year increase in the number of EVs is in the lower units of percentages.

However, the growing trend in the use of electric bicycles and scooters is not to be overlooked.

2.1.5 Description and data on charging infrastructures

Currently, there are no public charging stations in the city, which the city administration wants to change as soon as possible. During the planned reconstruction of public spaces, it is planned to install public charging stations for electric vehicles and electric bicycles, which will be available to citizens and visitors. The city council has only one charging station for personal use.

In the event of the introduction of electric buses to serve the city, it will be necessary to also consider the acquisition of a charging station.

2.2 Energy (VJ)

Renewable energy sources in the Czech Republic are non-fossil natural energy sources, i.e. water, wind, solar radiation, solid biomass and biogas, ambient energy, geothermal energy and liquid biofuel energy.

Within the EU, recent years have seen an increase in the targets for renewables that Member States must reflect in their energy and climate plans. At the beginning of 2020, the Czech government adopted a plan that foresees an increase in the share of renewables in total energy consumption to 22%. In 2020, this share was approximately 15.5%. The plan also foresees an increase in the installed capacity of individual renewable sources. By 2030, the installed capacity is expected to increase:

- For hydropower plants to 1 127 MWe (an increase of approximately 1.5% compared to current output)
- For wind power plants to 970 MWe (an increase of approximately 186% compared to current capacity)
- For photovoltaic power plants to 3 975 MWe (an increase of approximately 92 % compared to current capacity)

Despite a significant increase in the installed capacity of wind power plants, photovoltaic power plants will continue to dominate the renewable energy market.

2.2.1 Availability of renewable energy in the region

The Czech Republic has very few renewable energy sources. According to Eurostat, the share of renewables in electricity generation in the Czech Republic was 15 percent in 2021, making the Czech Republic the third worst in the EU and well below the average of the EU-27 at 38 percent.

The town of Bystřice is located in the Central Bohemian Region, which is the largest Czech region in terms of area and population. Central Bohemian households rank first in the country in the use of solid fuels, while the use of renewable energy sources and liquid fuels is also above average. The town does not yet have its own energy system, it has only one PV plant with an output of 39.6 KWp, There is a private company in the town which has its own biomass energy production plant.

Financial support for renewable energy in the Czech Republic:

- The Czech Republic has significant funding for new photovoltaic and wind resources by 2030.
- The potential for renewable energy sources is much higher than the current installed capacity.
- European subsidy programmes enable strong development of renewables in the Czech Republic.

Estimated financial support:

- The available EU financial support for the period 2023-2030 could reach about 213 billion CZK.
- This money can be used for investments in new photovoltaic and wind power plants.

2.2.2 Share of renewable energy source in energy production

In the Central Bohemian Region, 30.9% of households use renewable energy sources compared to 25.3% in the Czech Republic, according to a survey by the Czech Statistical Office.

The main technology of electricity sources produced in the Central Bohemian Region is steam power plants with a total installed electrical capacity exceeding 1 795 MWe. These power plants also produce the largest amount of electricity (gross) - 7 377 GWh, i.e. 82% of the total amount of electricity produced in the region.

Hydroelectric power plants with a total installed capacity of 643 MWe are the second largest source of electricity generation in terms of installed capacity. The largest hydroelectric power plant in the Central Bohemia Region is the Orlik Hydroelectric Power Plant with a total installed electrical capacity of 364 MWe.

Photovoltaic power plants, with a total installed capacity of almost 246 MWe, are the third largest source for electricity generation in terms of installed capacity. However, due to the efficiency of this technology and the dependence on meteorological conditions, these plants produced only 251 GWh of electricity per year

In terms of electricity generation from individual fuels, the Central Bohemian Region generated the most electricity from lignite in 2016, and lignite is therefore the main primary fuel for electricity generation.

2.2.3 Regional energy market structure (e.g. energy production, electricity grids, transport of energy, energy delivery to customers, ownership and operation)

The Czech electricity mix currently has two pillars: lignite and nuclear. Today, about one tenth of electricity comes from renewable sources. Of this, about half comes from biogas and biomass, a quarter from the sun and the rest from hydro and wind power plants. European countries have very different energy mixes, with fossil, nuclear and renewables accounting for around a third of the EU's total. In the developing world, electricity generation is increasing rapidly, largely due to the development of coal-fired power. But even there, the role of renewables has been growing noticeably in recent years.

Electricity in the Central Bohemian Region:

- There are various sources of electricity generation in the region, with a total installed capacity of 2 860 MWe.
- Total generation in 2016 reached 8 991 GWh.

Electricity Technology:

- The power plants use different technologies: steam, hydro, photovoltaic, gas, combustion, pumped storage and wind.
-

Electricity grid in the Central Bohemia Region:

- It consists of a transmission network (400 kV, 220 kV, selected 110 kV) and a distribution network (low, high and very high voltage up to 110 kV).
- CEPS, a.s. operates the transmission network in the Czech Republic.
- ČEZ Distribuce, a.s. operates the distribution network in the region.

Transmission network management:

- The county surrounds Prague, which enables the supply of electricity to the city.
- Lines connect nodes in the county and neighbouring counties.

Substations and transformers:

- The Bohemia Centre transformer station in Mochov operates at 400/220/110 kV levels.
- It is connected to other transformer stations and nodes of the transmission network.

Connections with other regions:

- The Výškov transformer station connects regions and energy sources in the Ústí nad Labem region.

Power plants and connections:

- The Mělník III power plant is connected to the Babylon TS in the Liberec region.
- The Mělník I and II power plants are connected to the DS at the 110 kV voltage level..

2.2.4 Description of current state of Energy Communities

The purpose of community energy is to promote the decentralisation and democratisation (increased involvement of smaller players) of the energy sector, increase the participation of renewable energy sources, improve energy efficiency and combat energy poverty, especially at the level of households and SMEs.

Legislation to support energy communities and renewable energy communities is based on the requirements of Directives (EU) 2018/2001 on the promotion of the use of energy from renewable sources and (EU) 2019/944 on common rules for the internal market in electricity.

However, the current state of knowledge does not include technical and economic models for the functioning of these communities in the Czech Republic. Also, the legislative anchoring of the issue of communities in the above-mentioned regulations is largely general and requires clarification for the conditions of the Czech Republic.

The adoption of rules for the establishment of energy communities is one of the most anticipated legislative events in the energy sector this year. It underlines the efforts of the Ministry of Industry and Trade to accelerate the decentralisation and decarbonisation of the energy sector in the Czech Republic.

From the point of view of the town of Bystřice, this is a desirable step, as the town itself is already considering the possibilities of community energy and is trying to incorporate this approach into its plans. For the time being, however, the town has renewable energy sources at

its disposal, but their consumption is always linked to a specific building without the possibility of sharing the energy generated among other buildings in the town.

2.3 Infrastructures as potential hubs

2.3.1 Buildings and other premises (public)

There are many buildings owned by the town of Bystřice, some are public, others are used for private purposes.

Town Hall	Before reconstruction
Primary School	After reconstruction
Kindergarten	After reconstruction
Health Centre	After reconstruction
Information Centre	After reconstruction
Library	Before reconstruction
Theatre	Before reconstruction
Community Centre	After reconstruction
Community centres in the settlements - 13	Before reconstruction
Residential houses	Before reconstruction
Station building	Before reconstruction
Airport building	Before reconstruction
Commercial premises - shop	After reconstruction
Kindergarten centre	Before reconstruction
Boiler room	Before reconstruction
Sewage treatment plant	Before reconstruction

Some of the buildings have been renovated, others are still awaiting reconstruction. In order to facilitate the mapping of the energy performance of public buildings and the subsequent planning of renovations and energy saving measures, a Local Energy Concept is now being developed. First, a baseline analysis of the energy situation will be carried out, including an analysis of energy sources and consumption and their balance, then an energy action plan with a pipeline of specific projects and measures will be developed. The Local Energy Concept will be followed by the introduction of energy management, the establishment of an energy manager and the preparation of a SECAP.

Some of the city's buildings have a high potential for rooftop PV.

2.3.2 Buildings and other premises (private)

The location of Bystřice, which allows for a daily commute to the capital, together with the range of amenities and the surrounding rural landscape, create ideal conditions for family life. For this reason, Bystřice and its surroundings are an attractive location for development, both for individuals and developers. For this reason, the town of Bystřice is also trying to establish new sites for residential development.

Construction in the territory of the town of Bystřice and in the settlements is regulated and regulated by the zoning plan, which contains the basic concept of the development of the

territory of the municipality and its area and spatial arrangement. Emphasis is placed on respecting the traditional character of the buildings. The local settlements are characterised by rural development, which includes family houses of a rural type with gardens and farmsteads. In the town of Bystřice itself, the development consists of urban-type family houses, medium-rise apartment buildings (up to 4 storeys) and one high-rise apartment building. The residential development is complemented by civic amenities (primary and kindergarten, health centre, shops, library, etc.) and areas of public space. In recent years, green areas and parks in the town have been gradually restored. In addition, the revitalisation of the area around the main street, which is the longest street in the town, and, above all, the reconstruction of two squares in the town centre are planned.

Bystřice is also home to several larger companies and the nearby settlement of Petrovice is a manufacturing zone with light industry enterprises. Private companies use the roofs of their buildings for the installation of photovoltaic power plants to ensure energy self-sufficiency, among the local ones are Elmoz Czech s.r.o., NAREX BYSTRICE s.r.o. and others. Thanks to financial support from the National Renewal Programme and the Modernisation Fund, an increasing number of photovoltaic power plants can be seen on the roofs of houses in Bystřice. Unfortunately, exact figures are not available. In the near future, the roofs of residential buildings are also expected to be used, which will be made possible by ongoing legislative changes. These remove the need to obtain a licence for sources between 10 and 50 kW and simplify the way individual households can be connected to a common power plant and the distribution network.

Due to the increasing population of Bystřice and its settlements, the town's management is looking for ways of environmentally friendly and sustainable transport, while at the same time trying to address and promote energy independence.

2.3.3 Open areas

Bystřice offers a large number of leisure activities. The free areas in the town are used for these purposes. There are two squares in the centre. The first one serves as a parking area for cars or occasionally as a meeting place for cultural events such as concerts and fairs. The second square is considered more of a park. There are many trees, flowers and grassy areas flanked by benches for residents to relax. There is also a fountain where mothers with children often gather to enjoy coffee from the nearby town café. Nearby is the park by the church, which was created by a unique collaboration of young gardeners as part of a gardening school competition.

The main sports events in Bystřice take place at the football stadium. Apart from the football field, there are facilities for archers, an in-line track, ping-pong tables, a climbing wall, a basketball court, a skate park and more.

The primary school and kindergarten also have their own areas for children to spend their free time. The sports field at the primary school will soon be enriched with an athletic oval, a playground and a traffic area. On hot summer days, residents can use the local swimming pool, which is now functional but is due for a complete renovation.

Each of the settlements has its own public space with a community room, a green area with seating or benches and a bus stop. These public spaces are an important centre of cultural and social activities in the settlement.

Public lighting is an integral part of the public spaces. In connection with the introduction of energy saving measures, energy saving luminaires are being installed in the town and the settlements.

The city management is already preparing investment plans for the reconstruction of public spaces to meet the requirements of blue-green infrastructure. Projects are also planned to create new green spaces and parks to help mitigate the impacts of climate change on the city and its residents.

3. Stakeholders

Name and Surname	Organization	Role
Vojtěch Jíra	DEX Innovation Centre	Member of SG
Kateřina Adamová	city Bytřice	Member of SG
Michal Hoďík	city Bytřice	Member of SG
Daniel Štěpánek	city Bytřice	
Michaela Kaprálková	city Bytřice	Member of SG
Veronika Murzynová	Centre for Transport and Energy	Member of SG
Jan Bízík	Czechinvest	Member of SG
Miroslav Schreier	MPO	Member of SG
Jan Tichý	JINAG	Member of SG
Tomáš Zmuda	Central Bohemian region	Member of SG
Václav Pořmurný	MAS Posázaví	Member of SG
Martin Kadrnořka	city Týnec nad Sázavou	Member of SG
Jan Vachtl	BENEBUS	Member of SG
Michal Bačovský	city Žďár nad Sázavou	Member of SG
Petr Ševíd	Elmoz Czech	Member of SG
Tomáš Semrád	Technical services of Bystřice city	Member of SG
Vojtěch Jíra	DEX Innovation Centre	Member of SG
Kateřina Adamová	city Bytřice	Member of SG

4. Legislative and financial environment in support to renewable energy initiatives

4.1 Legislation, regulations etc.

Three ministries are responsible for the energy sector in the Czech Republic: The Ministry of Industry and Trade of the Czech Republic (MIT CR), the Ministry of Regional Development of the Czech Republic (MMR CR) and the Ministry of the Environment of the Czech Republic (MŽP CR). The Energy Regulatory Office (ERO) is the executive body regulating the energy sector. The ERO issues implementing Decrees, which specify individual provisions of the Act, apply European law or decisions of the Supreme or Constitutional Court in the field of energy. Act No. 458/2000 Coll. - Act on the Conditions of Business and the Exercise of State Administration in the Energy Sectors (Energy Act) - this Act is the key regulation in terms of regulation of mutual relations in the electricity, gas and heating sectors.

The Energy Act entered into force on 1 January 2001.

On 23 January 2023, the Act generally known as LEX RES I was published in the Collection of Laws of the Czech Republic under No. 19/2023 Coll., amending Act No. 458/2000 Coll. This amendment to the Energy Act facilitates the construction and operation of renewable energy sources with a capacity of up to 50 kW without a licence from the ERO. At the same time, these sources now do not require a building permit or a building location permit issued by the relevant building authority. The amendment also newly classifies installations with a capacity of more than 1MW as buildings of public interest.

In June this year, the Government of the Czech Republic approved and submitted to the Chamber of Deputies of the Parliament of the Czech Republic for discussion another amendment to the Energy Act called LEX RES II. The exact paragraph wording of the amendment is not yet known, but the amendment would primarily concern the introduction of so-called Community Energy, i.e. the production and sharing of energy within Renewable Energy Communities. Unfortunately, until the final paragraph wording of the amendment is approved and signed by the President of the Czech Republic, it will not be clear exactly how municipalities will be able, for example, to generate energy using PV on the roofs of buildings and land owned by municipalities, with subsequent use for heating, lighting or powering public transport vehicles. Unfortunately, there is a certain amount of uncertainty on this part for the time being in the Czech Republic, but the legislative process has begun and the results may be ready within the next year.

4.2 Financial incentives etc.

The main financial instrument for the implementation of renewable energy plans, the use of renewable energy not only in transport, but also in public and private buildings with the aim of reducing emissions, should be a combination of EU funding and municipal own funds, or funds obtained through savings after the construction of renewable energy sources and setting up a system of distribution and use of the energy thus obtained. EU funding can be obtained in the Czech Republic, for example, through the Integrated Regional Operational Programme (IROP) for the period 2021-2027. This is one of the operational programmes through which money from EU funds, specifically the European Regional Development Fund (ERDF), is distributed in the Czech Republic.

All ministries also announce subsidy calls that distribute funds from the Czech budget. In some cases, it is also possible to use funds from subsidy titles announced in individual regions for co-financing.

For developed areas, which include the town of Bystřice, it is possible to obtain up to 70% of the funds for the implementation of measures from IROP, or 85%, or exceptionally up to 100%, from national subsidy calls distributing funds from the state budget, and possibly units of one percent for co-financing from the regional budget.

Other possibilities are the implementation of projects in this area together with the private sector in the form of PPP projects (Public Private Partnership) or with the help of EPC projects (Energy Performance Contracting) financed from the achieved energy savings.

5. S.W.O.T Analysis

STRENGTHS	WEAKNESSES
preserved environment with a high level of protection and natural parks (1.1)	low population density (less than 50% of the usual size in the Czech Republic) (1.2)
direct management - the authority has direct influence in the territory (1.3)	the distance between individual parts of the city
support for mobility solutions enshrined in the Strategic Plan for the development of the city to 2030 (2.1)	area of land
cooperation of municipalities in mobility solutions - support of mass transport in the territory (2.1.1)	absence or minimal number of public transport lines in some parts of the city
location of the city between two ORPs at a minimum distance	concentration of bus and rail mass transport in one of the 26 parts of the city
increase in the number of installed RES (mainly PV) by private owners	a large share of personal individual transport by passenger cars with an internal combustion engine
support of the city management for the implementation of measures to reduce energy consumption and introduction of energy production from RES	minimal representation of electric cars
introduction of the position of energy manager of the city with the authority to propose investment actions with the aim of reducing energy consumption and introducing energy production from RES	the absence of charging stations directly in parts of the city
cooperation with stakeholders in the territory and within the CR	absence or minimal amount of PV and other RES in property and buildings owned by the city
investments of stakeholders - specifically large enterprises in renewable energy in the territory	CZT built to burn brown coal in a central boiler room near the city center
high ability to draw subsidies from EU / CR funds	lack / limited amount of funds for EU / CR co-financing of subsidies and projects
high level of sharing and adoption of good practice of other cities in the Czech Republic / EU	inexperience with the use of project financing in the form of PPP or EPC
investment in the flue gas filtration system from the CZT central boiler room in recent years	
OPPORTUNITIES	THREATS
all bus/train connections are ordered by the region and the city pays extra for them	high acquisition costs for vehicles with alternative drive / electric cars
the age of the buses + they are all powered by a diesel engine	minimal or no support for the purchase of vehicles with an alternative drive in the form of a subsidy from the state
the state's commitment to increase the share of RES in total energy production from 15% to at least 22% in the coming years. For FVE even by 92% compared to the current state	a sharp increase in the purchase price of PV and in general other energy production solutions from RES due to the extreme increase in demand
The record increase in energy prices as a result of the war in Ukraine reduces the return on investment to RES	shortage of PV/RES components due to higher installation support from the state and generally increased market demand
amendment of the Energy Act LEX OZE I. and especially the upcoming LEX OZE II bringing solutions in the field of so-called community energy	the energy mix of the Czech Republic is based dominantly on burning coal
current offer of subsidized titles from EU / CR funds (IROP, state, region...) with the possibility of obtaining 70% to 100% for implementing measures not only in energy and transport	unclear resulting paragraph wording of the amendment to the Energy Act, the so-called LEX OZE II. After the completion of the legislative process (currently approved by the government and going to parliament)
	unclear amount and options for drawing subsidies after the end of the subsidy period 2021 - 2027

6. READINESS MODEL INDICATOR RESULTS (VJ)

Summary of data and information plus considerations on present status (summary table of indicators by semaphoric color) to support in quantitative terms the contents in 4. above

6.1 Legislation

Community energy works on the principle of communities. The community, whose members can be, for example, a community of unit owners, households, municipalities, schools, authorities or entire small businesses, has the task of generating, sharing and supplying electricity, but not for profit.

Although, according to the European Union, community energy should have been included in the legislation of the member states three years ago, in the Czech Republic this has only happened now, and according to the current legislative changes, it should be possible to share electricity from 1 July 2024.

Current status from the point of view of selected indicators (based on national data)

- In the city environment, we are based on national legislation, and therefore on rules that apply equally to all municipalities in the Czech Republic. Legislative amendments are currently underway that will enable Czech citizens, companies and municipalities to use energy sharing options. However, the final approval was not carried out as of 8/17/2023.
- For that reason, we do not yet know the conditions of the licensing processes and their form. The exact definitions of the conditions, as well as their time-consuming nature, are currently not possible to assess.
- Investment incentives are also at the same stage, which cannot yet be evaluated without a functioning system
- Due to the funding of projects from various subsidy titles, the city often finds itself in a situation where it has to expand its plans to include various activities just to have a better chance of obtaining funding from operational programs. This also leads to the concern that community energy is not affected by similar factors that would force the city to invest even where it does not consider it important from its point of view.

6.2 2. Behavioural / Organisational

The decentralization of energy, to which community energy will contribute, will give the public the opportunity to produce electricity in their own factories using renewable energy sources and then consume it at the local level. In the coming years, ideally, the decentralized energy sector should complement the existing centralized one, the principle of which is the production of energy from large central sources and its subsequent consumption by a wide range of consumers throughout the Czech Republic and abroad.

Current status from the point of view of selected indicators (based on national data)

- In the Czech Republic, there are currently only units of existing communities, because for the functioning of energy communities, without legislation that has not yet been approved, it is necessary to build own distribution networks.

- The Ministry of the Environment, as well as the Ministry of the Interior, has already prepared a list of recommendations that will help cities and municipalities in basic orientation on the topic of community energy. The document is prepared for representatives of cities, municipalities and micro-regions who want to take advantage of existing state incentives and actively participate in the energy sector.
- Communication and awareness-raising is already underway by selected non-profit organizations that are trying to start the topic of community energy in the Czech Republic, however, preparations for the law that will regulate this issue are still ongoing and therefore it is not yet possible to provide complete information because it is not clear whether the current proposal will pass without legislative changes.
- Due to unapproved legislation, it is not yet possible to assess how the processes for connecting to the network will work. However, currently the lead time for new units is 6 months or more. It therefore depends on whether it will be necessary to create new systems or whether it will be possible to share energy on existing devices.
- The city of Bystřice is currently preparing its own energy concept and at the same time became a member of the Covenant of Mayors, thanks to which it will have awareness of important inputs that influence future development and possibilities for the introduction of energy communities.
- City representatives have a high motivation to look for new effective solutions not only from the point of view of energy and transport
 - High motivation to invest in public space
 - High motivation for the municipality's energy self-sufficiency
 - Great interest in fulfilling all sustainable development goals (if this is possible from the point of view of the municipality)
 - The city is interested in involvement in environmental activities and initiatives.
- On the other hand, it still runs into two major complications
 - Daily high mobility of citizens of the city and individual settlements for work
 - The fragmentation of the municipality into 26 settlements and their complex connectivity

6.3 3. Economic

The adoption of the rules for the establishment of energy communities is among the most anticipated legislative events in the field of energy this year. It underlines the efforts of the Ministry of Industry and Trade to accelerate the decentralization and decarbonization of energy in the Czech Republic.

Community energy can significantly reduce the negative impacts of energy on the environment thanks to the more significant use of renewable resources. However, what is no less important from the point of view of municipalities, companies and citizens is that Community Energy will make it possible to reduce energy expenses and also strengthen the energy independence of individuals and, at the same time, the entire society.

Current status from the point of view of selected indicators (based on national data)

Due to the non-existent practice based on the almost zero existence of individual energy communities, most of the indicators falling under the economic area appear to be non-functional yet. It is specifically these indicators:

- Complexity and understanding of the ES concept
- Finding the appropriate energy community
- Information about the network area of the ES location

- One-stop access for administrative tasks
- Available financing and financing entities willing to take risks
- Clear procedural requirements for distribution system operators to facilitate energy sharing

However, it should be noted that the issue has recently gained importance on the part of the Czech government, and it can be expected that many of these indicators will be fulfilled from next year. Without the necessary changes, it will not really be possible to use community energy effectively.

6.4 4. Technological

The technological readiness of the Czech Republic for community energy is currently in a phase of gradual development. There are already organizations dedicated to this issue, but they are primarily focused on pilot projects in limited areas of the Czech Republic. Work is currently underway to prepare the IT infrastructure for the Energy Reserve of the Czech Republic (ERC), which will play a pivotal role in efficient and sustainable energy management.

However, it is important to note that we currently have almost no platforms for sharing and trading electrical power within communities. This is a crucial area that requires further development and innovation. Creating an environment where communities can share and trade surplus energy will play a key role in a sustainable energy economy in the future.

Pilot projects provide us with valuable insights and experiences that will be essential for future planning and implementation of community energy throughout the Czech Republic. The expansion of these projects is in line with the law and will play a significant role in the future energy development of the country. It is important to keep in mind that despite current successes, our energy infrastructure is currently at its capacity limit. Therefore, it is crucial to invest in further development and modernization to be prepared for the new challenges and opportunities that community energy brings.

6.5 5. Operation scope and environment. Other features

The majority of the population of the Czech Republic is concentrated in cities, and commuting to cities for work is also a picture of the current era. Transport emitting hazardous substances and noise from the point of view of the environment and health is, in the current technical design, currently the main limiting factor in improving the quality of life of residents, especially in cities, where the majority of the population is concentrated.

Emissions of hazardous substances from transport (from diesel and gasoline engines) significantly affect the adverse air pollution situation in large and medium-sized cities, and even in entire regions. Immission limits for substances harmful to health are also frequently exceeded.

From the point of view of the city of Bystrice, a significant negative phenomenon of the current development is the increase in commuting for work and education, as well as for services and shopping. In connection with this, the number of cars and at the same time demands for parking areas are increasing. It is transport that is a key issue in the development of the territory. In the future, emphasis should be placed primarily on the interconnectedness of timetables, unification of transport conditions (e.g. mutual recognition of tickets), minimization of transfer distances and common information systems.

Current status from the point of view of selected indicators (based on national data)

- Public road transport (% of electricity from the total number) – electromobility is on the rise in the Czech Republic, but it is still a small percentage of the total number of vehicles in the Czech Republic. The municipality itself owns an electric car and plans to buy more vehicles.
- Electric bicycles (% electric of the total number) – Electric bicycles are a big trend in the Czech Republic, as evidenced by statistics stating that every fourth bicycle sold in the Czech Republic was an electric bicycle in the past year. There are probably already more than a quarter of a million of these vehicles on Czech roads.
- Scooters (% electric from the total number) – smaller percentages
- Number of prepared projects – the city has prepared several projects that relate not only to the support of electromobility, but also to green energy, and is thus prepared for possible subsidy calls that would make it possible to realize these plans.
- Number of public charging stations in the territory of the municipality – the municipality does not yet have a public charging station, however, this is one of the planned project plans
- Over-limit emissions: CO – In the region, over-limit values are only in units of days
- Over-limit emissions: NO₂ - In the region, over-limit values are only in units of days
- Over-limit emissions: PM₁₀ - In the region, the over-limit values are only within the permitted values
- Over-limit emissions: NMVOC - In the region, over-limit values are only in units of days
- Solar - the city produces solar energy on some public buildings

