

REVIEW OF THE ACHIEVEMENTS IN CZECH REPUBLIC



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BARRIERS TAKEN INTO ACCOUNT

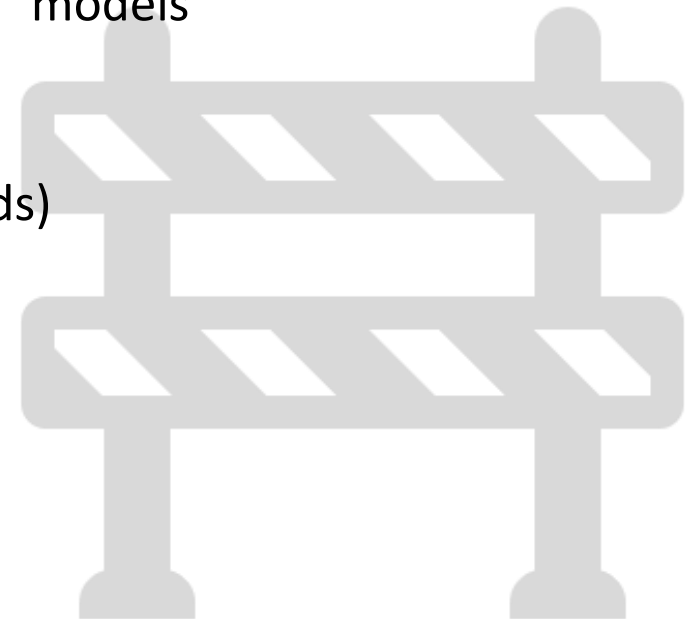
- ❑ National legal Framework & policies
 - Legislative for consumer **protection**
 - **Ownership of technology** – operation and development
 - **Sharing** energy and community ownership principles

- ❑ Ensuring the correct and efficient use of technologies (economic, environmental)
 - Energy **production, storage**
 - Energy **efficiency**
 - Demand response



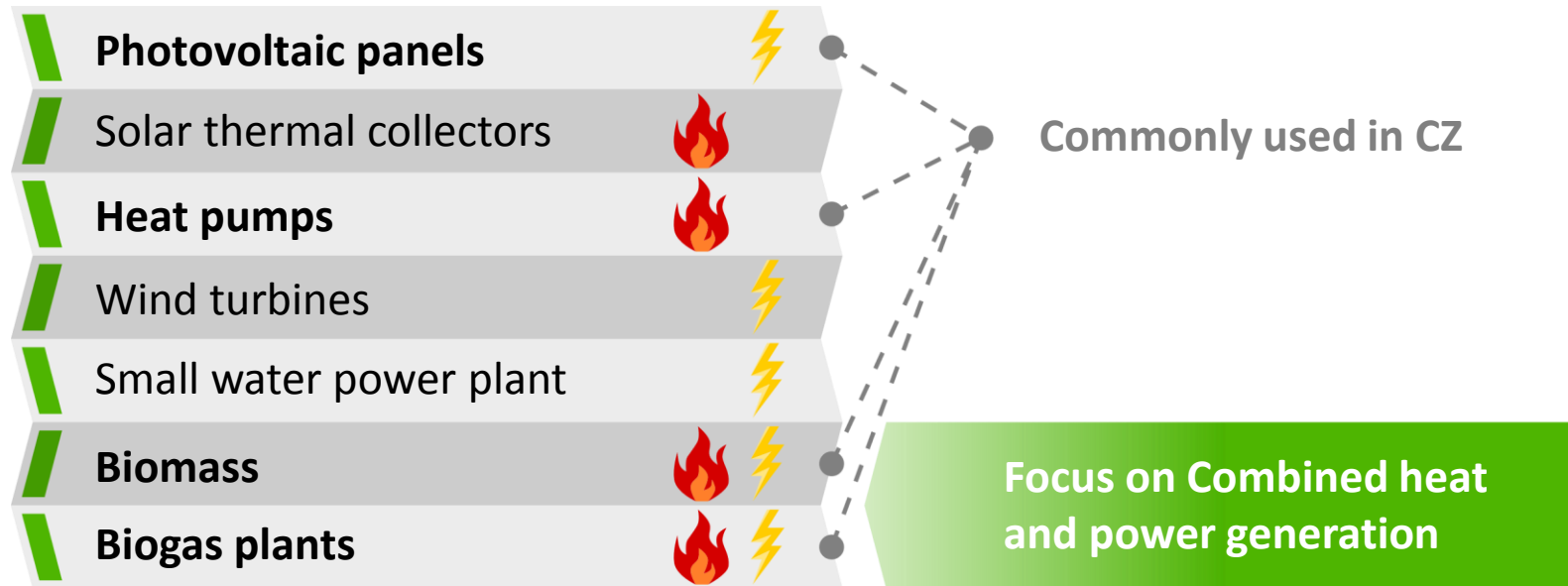
POINTS TO REMOVE NATIONAL BARRIERS

- ❑ Amendment to **legislation only in the form of a proposal**
- ❑ Several working groups established / legislators work underway
- ❑ Major discussions related to:
 - whether to introduce lower distribution tariffs for „Mieterstrom“ models
 - which **stipulations** put **into law** and into **decrees**
 - how to **incorporate new legal entities into electricity market** (which is to be „upgraded“ by central datahub from 2024 onwards)

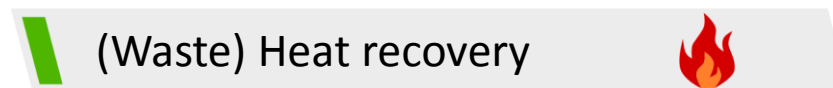


SELECTION OF RENEWABLES

☐ Systems based on renewable energy technology



☐ Other technical solutions:



PERSPECTIVES FROM THE CZECH REPUBLIC

ENERGY COMMUNITY OF PŘEŠTICE



PŘEŠTICE - AT THE START

 Southern Bohemia  Population of 8,000



- Meeting 08/15/2022
- Presentation of the Draft of Feasibility Study for the City
- Getting to know the next steps
- Exchange of necessary information and data

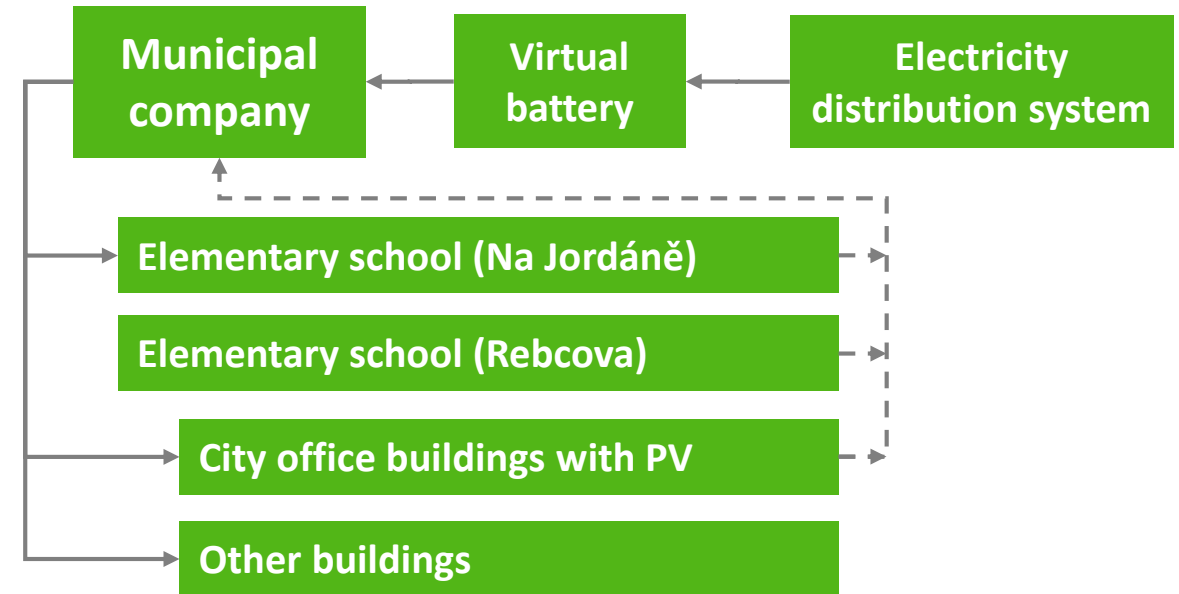


Meeting the mayor and vice-mayor

PRACTICAL EXAMPLES - PŘEŠTICE

The power supply system:

- ❑ The proposed structure of electricity management is assumed to be the same as used in one of the first and pilot projects in the Czech Republic.
- ❑ Two buildings already have PV plants installed
 - Na Jordáně
 - Rebcova
- ❑ Additional objects will be selected

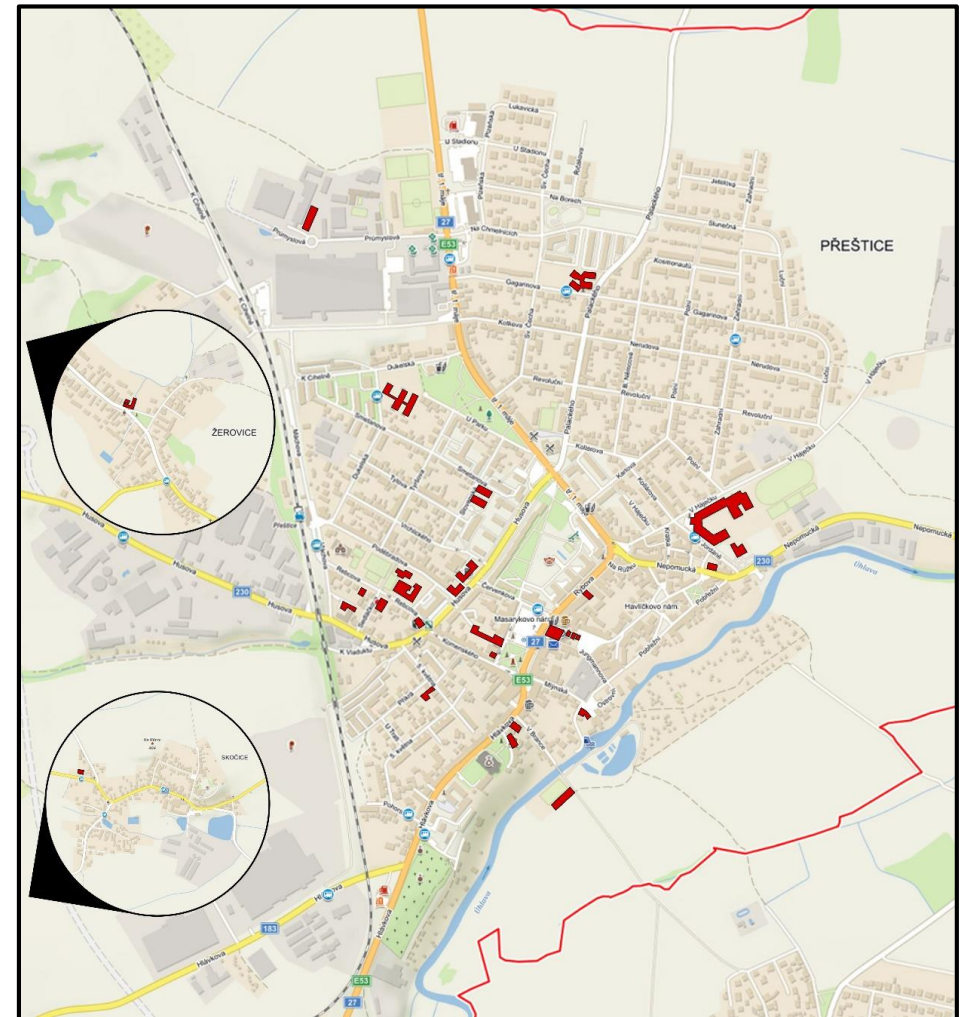


- *The municipality is the founder of a municipal company that produces electricity and supplies it to its customers.*
- *The municipal company is the only supplier of electricity to its customers.*
- *Electricity is produced on site by technologies managed by the municipal company*

FEASIBILITY STUDY - PŘEŠTICE

- ❑ **Objects selected for connection to the energy community**

- ❑ **Verification of the suitability of the object**
 - ❑ Type of object
 - ❑ Energy consumption
 - ❑ potential energy production

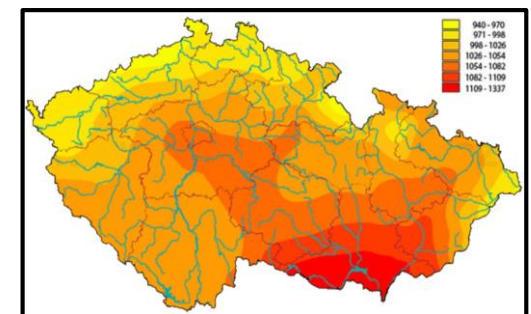
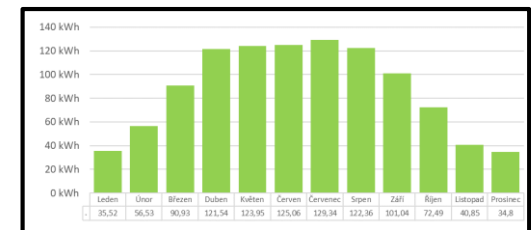
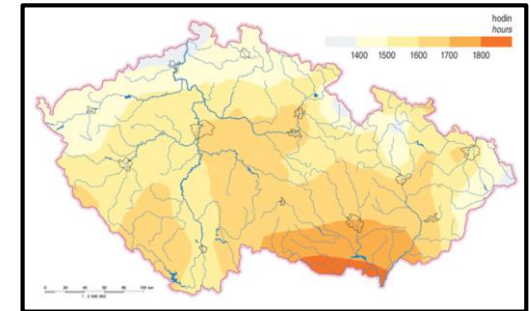


Location diagram of objects in the city:

FEASIBILITY STUDY - PŘEŠTICE

- ❑ Determination of the possibility of PV power production
- ❑ Evaluation of each object
 - ❑ Determination of the usability of the building areas
 - ❑ Orientation
 - ❑ Roof plane slope
- ❑ Considering different types of PV panels
- ❑ Accounting for PV panel efficiency

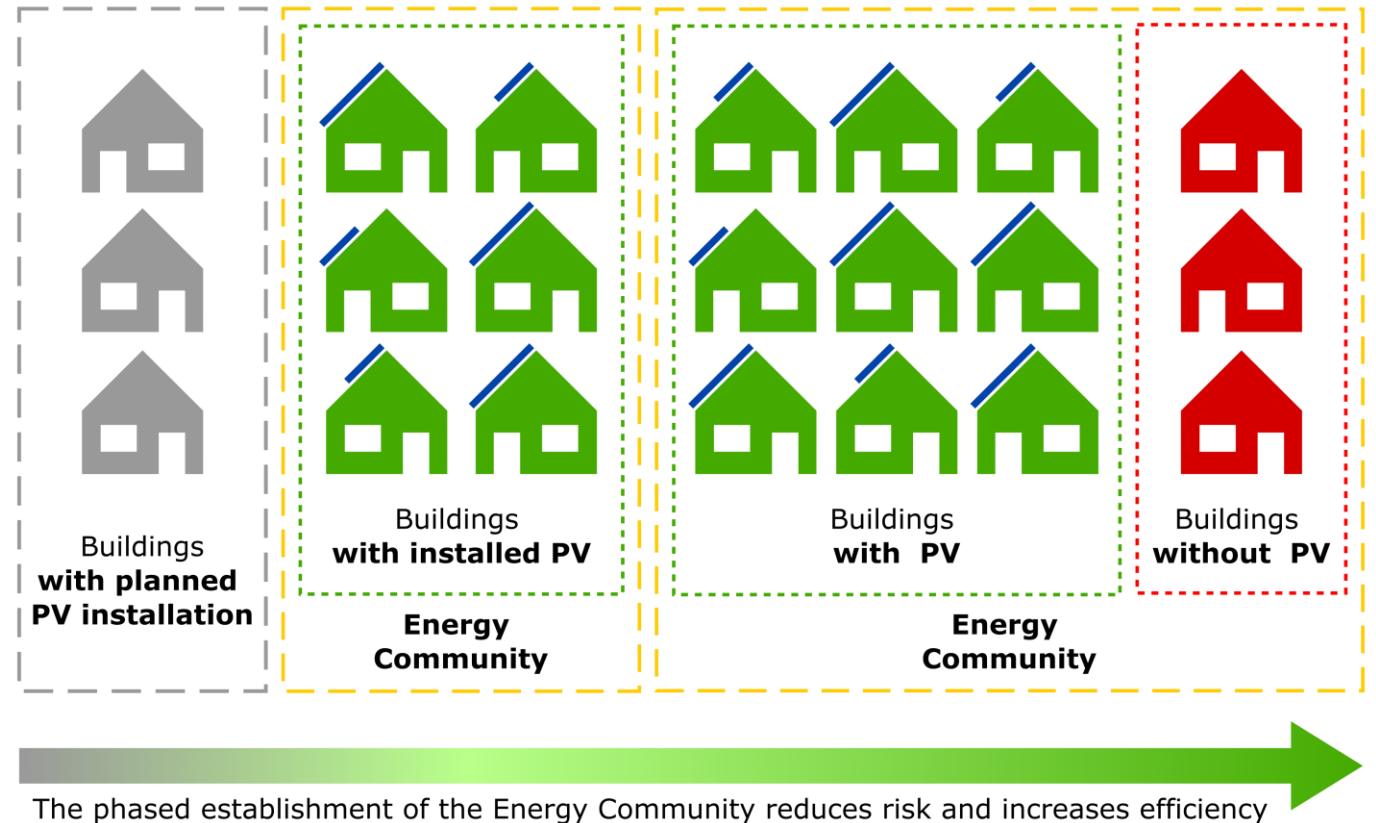
Číslo	Označení objektu	Adresa	kWh/rok pro 1kWp	roční odchylka	kWh/(m2.rok)	MWh/rok
1	Radnice	Masarykovo náměstí 107	1 037	60	1 302	162,75
2	MŠÚ Husova	Husova 465	924	53	1 163	69,78
3	MŠÚ + Krihovna	Husova 1079	1 054	65	1 320	264,00
4	DPS	Máchova 556	1 022	58	1 183	44,95
5	KKC + U Přeška	Masarykovo náměstí 311	900	53	1 134	113,40
6	DHP	Třebitzkého 24	871	43	1 105	8,84
7	Depozitář DHP	Hlávkova 22	970	62	1 216	60,80
8	Středisko volného času Slunečnice	Rebcova 499	938	60	1 179	58,95
9	Hasičská zbrojnice	Mlýnská 1123	1 012	55	1 273	89,11
10	Veřejné WC	Velešlavina 1318	753	40	963	23,11
11	Občanská vybavenost	Žerovice 41	941	58	1 184	59,20
12	KČT	V Brance 1344	1 000	62	1 264	189,60
13	ZŠ Na Jordáně	Na Jordáně 1146	996	65	1 247	187,05
14	ZŠ Rebcova	Rebcova 386	986	56	1 240	155,00
15	Školní jídelna	Na Jordáně 1146	945	47	1 193	298,25
16	ZŠ + MŠ	Školní jídelna	938	60	1 179	141,48
17	MŠ Duk	Škočice 98	1 020	66	1 276	319,00
18	MŠ Gag	Škočice 98	1 050	62	1 316	78,96
19	ZUŠ	Dukelská 959	1 054	65	1 320	1 320,00
20	Dům ob. vybavení	Gagarinova 202	1 054	65	1 320	1 056,00
21	Dům ob. vybavení (zubaři)	Poděbradova 1027	1 054	65	1 320	158,40
22	Dům ob. vybavení (lékaři, záchranná služba)	Masarykovo náměstí 104	1 054	65	1 320	52,80
23	Dům ob. vybavení (lékaři)	Sedláčkova 553	1 054	65	1 320	63,36
24	Dům ob. vybavení (lékaři)	Husova 760	920	58	1 158	46,32
25	Sběrný dvůr	Průmyslová 454	956	59	1 202	72,12
26	Vizhav	Mlýnská 1095	1 016	56	1 276	102,08
27	Prodejna	Mlýnská 1095	927	51	1 171	175,65
28	Pizzeria	Velešlavina 309	1 054	65	1 320	323,40
29	Hostinec Žerovice	Velešlavina 310	753	40	963	28,89
30	Bytový dům + provozovny	Žerovice 127	753	40	963	30,82
31	Bytový dům	Rybova 287	1 039	60	1 303	93,82
32	Bytový dům	Slovenská 1048, 1049	998	62	1 252	140,22
33	Bytový dům	Slovenská 1050, 1051	960	50	1 213	121,30
34	Bytový dům	Nepomucká 294	960	50	1 213	121,30
35	Bytový dům	Nepomucká 294	1 045	62	1 310	98,25
Celkový potenciální výkon [MWh/rok]						6 704,06



Calculation of electricity generation potential:

FEASIBILITY STUDY - PŘEŠTICE

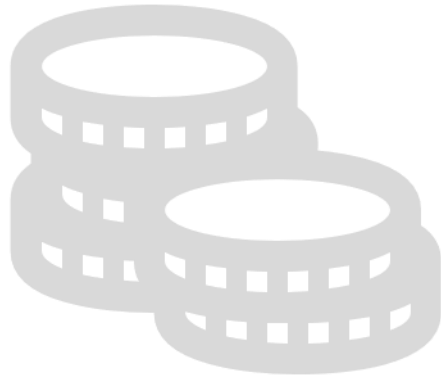
- ❑ Establishing phases for engaging objects in the energy community
- ❑ Phase I
 - ❑ Connection of buildings with installed PV or planned installation of PV
- ❑ Phase II
 - ❑ Connection of buildings without PV
 - ❑ Facilities selected based on community energy balance



FEASIBILITY STUDY - PŘEŠTICE

Study chapters in the process of completion

- Creation of a timetable for the financing of the individual phases of the project
- Determination of the necessary funding for the implementation of cost-saving measures
- Proposed financing
- Determining the use of subsidy titles



Objekt	Druh objektu	Financování				Procento do výnosů	Procento do výnosů	Procento do výnosů	Procento do výnosů	Procento do výnosů	Procento do výnosů	Měsíční parocitní výnosy												Měsíční spotřeba																									
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Fáze 0 Studie proveditelnosti																																																	
Fáze I První vlna zapojení objektů do EK <i>Zapojení objektů se stávající instalací FVE</i>																																																	
Druhá vlna zapojení objektů do EK <i>Instalace objektů na dalších budovách</i> <i>Zapojení objektů se stávající instalací FVE</i>																																																	
Třetí vlna zapojení objektů do EK																																																	
Fáze II																																																	

FEASIBILITY STUDY - PŘEŠTICE

Next steps to complete the feasibility study

- More detailed data has been requested and arranged
 - More detailed energy consumption data can be used to model the energy community more accurately
- Prioritizing buildings for energy community engagement in partnership with the city
- Validate the energy community model using data from existing PV systems

- Presentation of the Feasibility Study to the city representatives

PERSPECTIVES FROM THE CZECH REPUBLIC ENERGY COMMUNITY OF TÁBOR



TÁBOR – 1. STEPS

 Southern Bohemia  Population of 34,000



- ❑ The city deals with the possibilities of energy communities
 - Many surveys and data collections have been carried out
- ❑ List of buildings in the city administration (**210 buildings**) is created
 - Building **evaluation criteria**: suitability of the PV plant installation (location, roof, orientation, possibility to use energy at the place of production)
- ❑ Energy supply organization already exists
 - BYTES s.r.o.

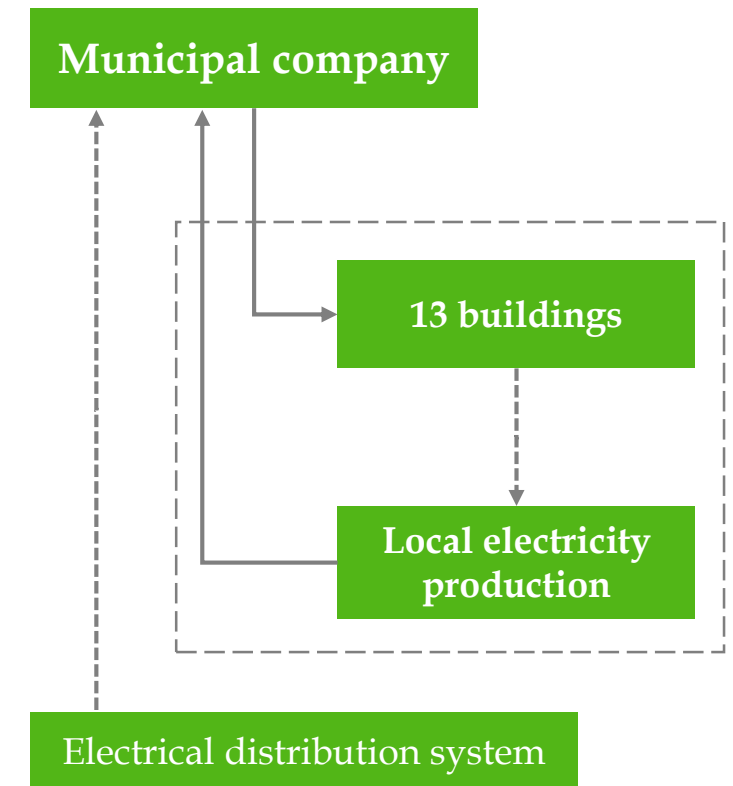


PRACTICAL EXAMPLES – TÁBOR

🌐 Southern Bohemia 🧑 Population of 34,000

- ❑ Meeting 1/13/2022
- ❑ The city has identified 13 Buildings for the installation of PV power plants
 - feasibility studies are in progress for each building
 - grants are expected
- ❑ One of the buildings is an apartment building for social housing
 - A good example for the public

Design of power supply system:

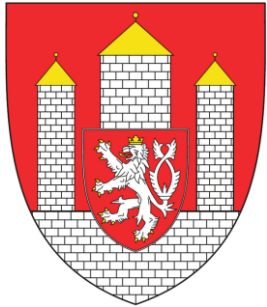


PERSPECTIVES FROM THE CZECH REPUBLIC

ENERGY COMMUNITY OF ČESKÉ BUDĚJOVICE



ČESKÉ BUDĚJOVICE - THE EPC PROJECT IN PROGRESS



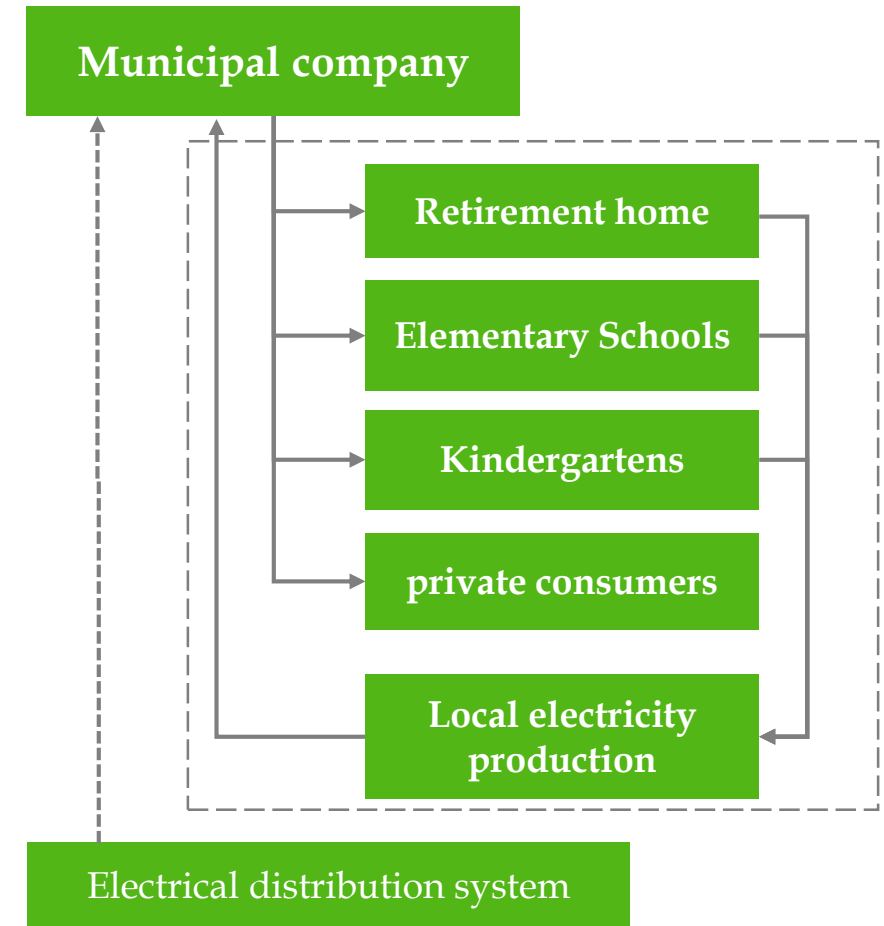
- ❑ 10 areas
 - 6 elementary schools
 - 2 kindergartens
 - 2 retirement homes
- ❑ EPC
 - comprehensive energy measures
 - **All 10 buildings with the PV installation**
- ❑ PV power plants installation
 - Installed power 1 126 kWp
 - Expected production 1063MWh
 - Own consumption 491 MWh*



THE FOLLOW UP STEPS

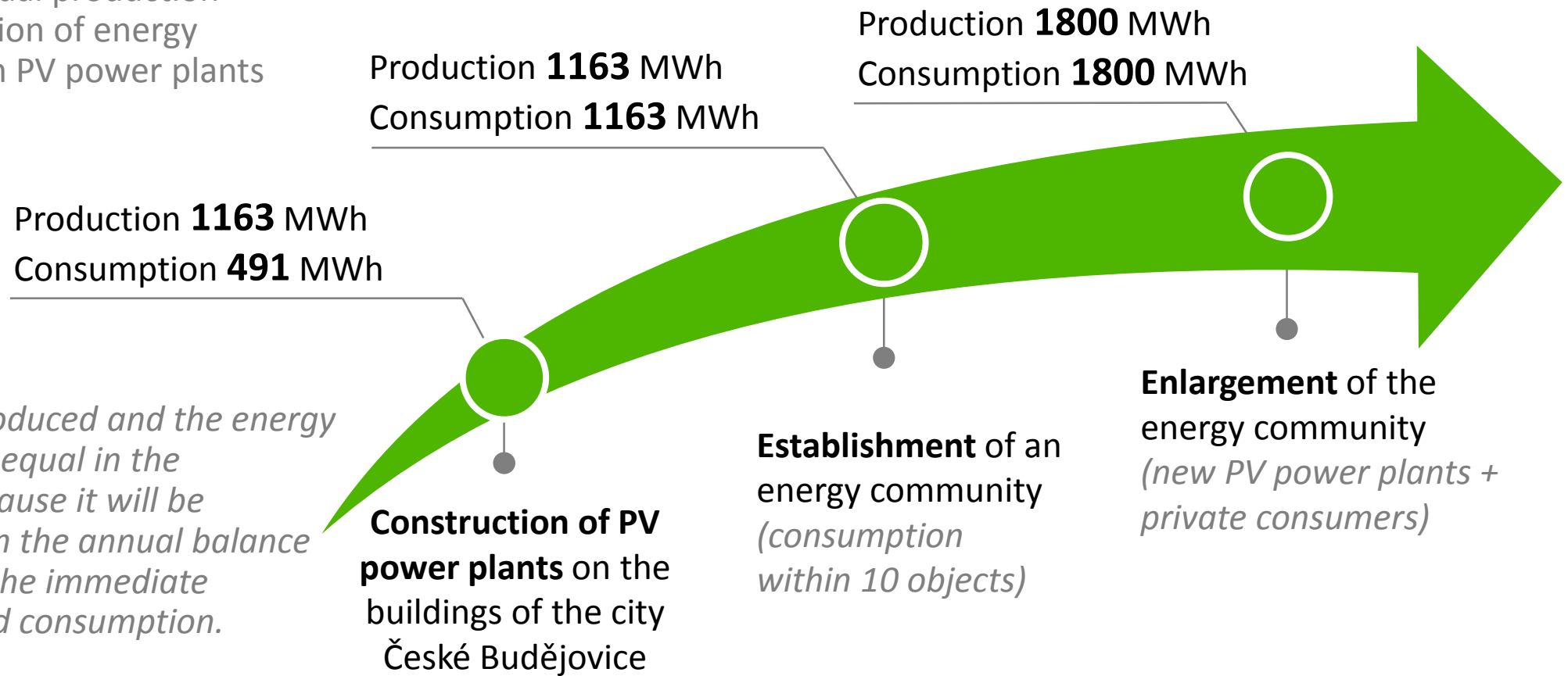
- ❑ PV plant installation – **2024**
- ❑ Creating an energy community within these 10 buildings
 - municipal contributory organization for energy management – **2025**
- ❑ Extension of the energy community
 - Involvement of private consumers in the energy economy - **2026**
 - Installation of new PV power plants - **2026**

Design of power supply system:



LONG-TERM VISION OF ECS CONCEPT IN ČESKÉ BUDĚJOVICE

Estimated annual production and consumption of energy produced from PV power plants



The energy produced and the energy consumed are equal in the estimates, because it will be evaluated from the annual balance and not from the immediate production and consumption.

Construction of PV power plants on the buildings of the city České Budějovice

Establishment of an energy community (consumption within 10 objects)

Enlargement of the energy community (new PV power plants + private consumers)

PERSPECTIVES FROM THE CZECH REPUBLIC

CURRENT EVENTS IN LEGISLATION



AMENDING ENERGY ACT

- ❑ Pressure to react on current events including boosting energy communities
- ❑ More amendment threads ongoing
- ❑ **Ministry of Industry and Trade** proposes to increase the limit for PVE without license
- ❑ **Energy Regulation Office** aims to codify conditions for energy communities (details not known yet)
- ❑ Directives 2018/2001 RES and 2019/944 RED II not transposed so far

<10 kW

<50 kW



THANK YOU FOR YOUR ATTENTION

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