

# BIPV – part of the renewable energy system in Vienna

Stefan Sattler – City of Vienna



# Cities are key

#DECARB  
#PARIS  
#CLIMATEPROTECTION

**2%** of the earth's surface is occupied by cities

**53%** of the world's population lives in cities

**75%** of CO<sub>2</sub> emissions are produced by cities

climate targets  cities



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# Smart City Framework Strategy



## Resource Conservation:

Vienna lowers local greenhouse gas emissions per capita by 50 percent by 2030 and by 85 percent by 2050 compared to the base year 2005.

Vienna lowers local final energy consumption per capita by 30 percent by 2030 and by 50 percent by 2050 compared to the base year 2005.

## Quality of Life:

Vienna is the metropolis that offers the highest quality of life and life satisfaction in the world.

## Innovation:

Vienna will be an innovation leader by 2030.



# Vienna's energy consumption illustrated

1,500 kWh/person electricity demand

20,343 kWh/person (incl. Heating, mobility etc.)

14% Local energy

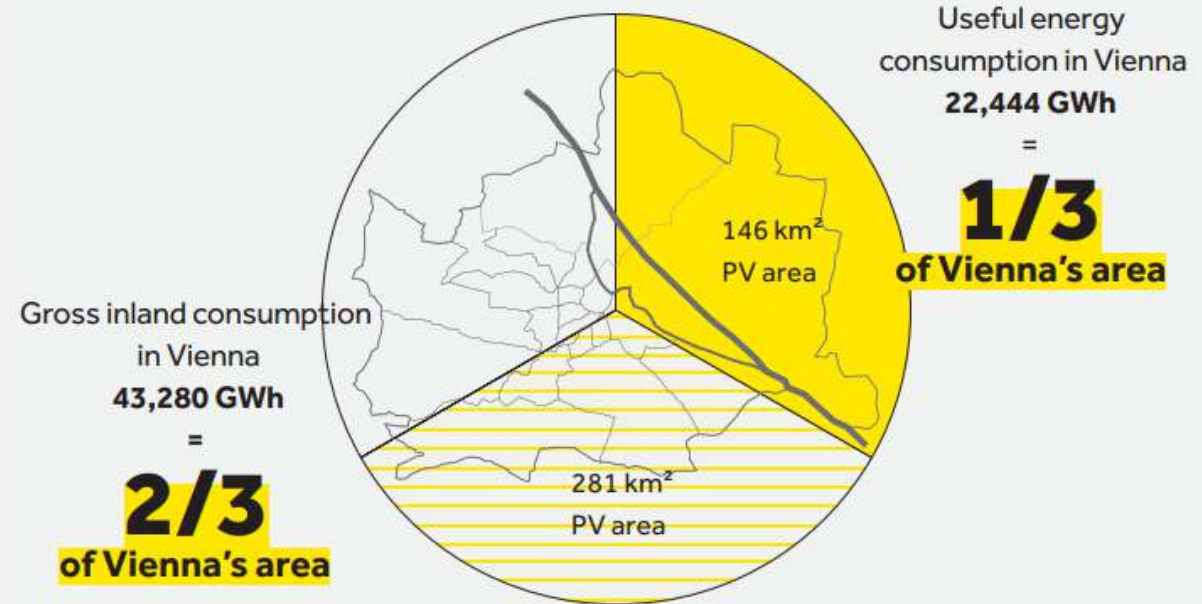
88% Import

2% Export

## Energy consumption in photovoltaic surface area



## The energy flow chart in PV surface area



we can only use half of this energy, the rest is lost

# Renewable sources within the city

Deep geothermal energy

Geothermal energy

Solar energy

Waste heat



Quelle: Stadt Wien

# Mandatory use of solar energy

Vienna building code - 2014

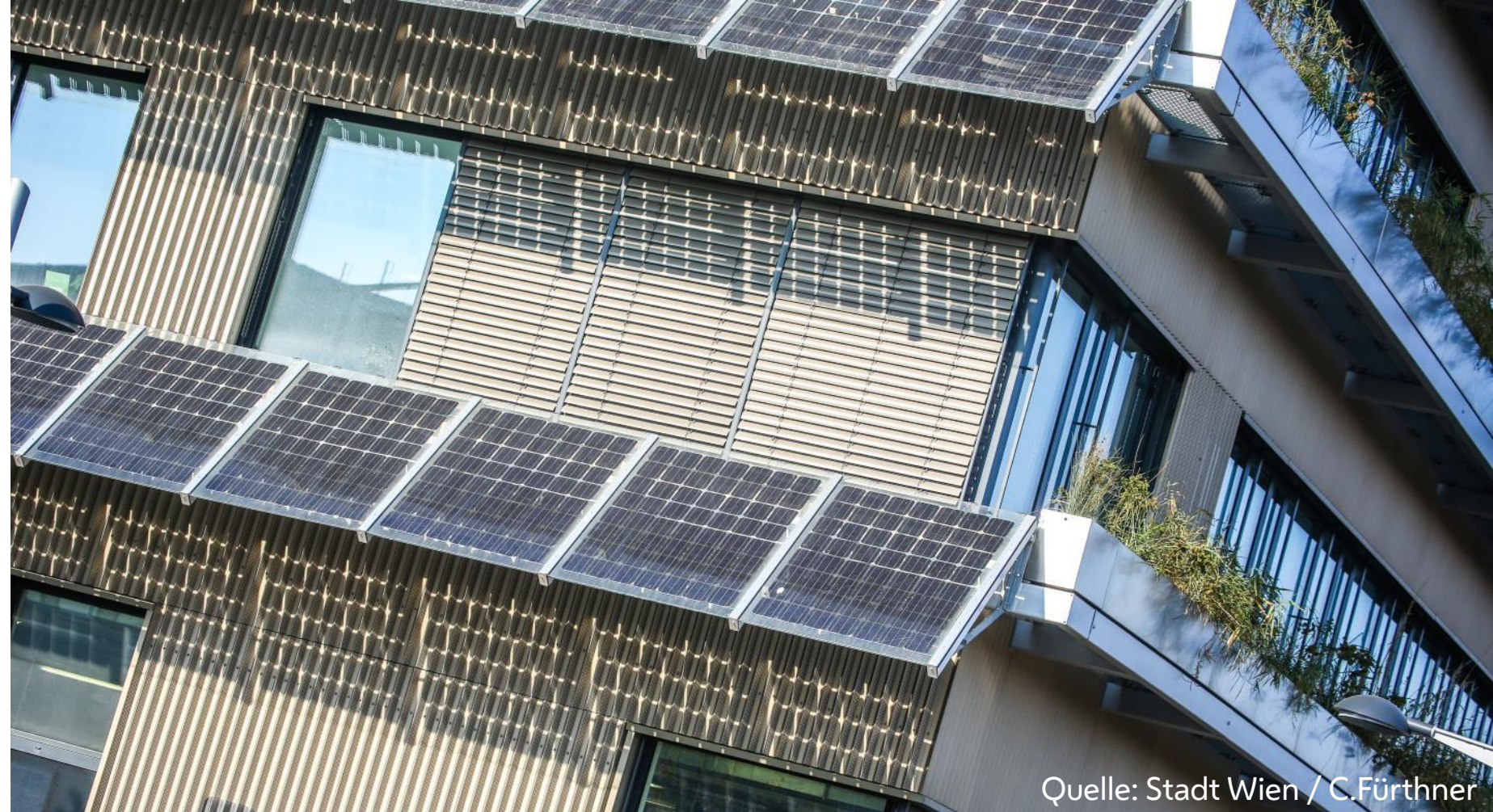
§ 118 Abs. 3b building code Vienna applies to non-residential buildings and is at least **1 kWp output per 100 m<sup>2</sup> of conditioned gross floor area.**

**2020 also for residential buildings**

About **1 kWp for every 300 m<sup>2</sup> of conditioned gross floor area**

(depending on the characteristic length of the building )

Impetus for larger systems



Quelle: Stadt Wien / C.Fürthner

## Vienna goals

development targets for renewable energies  
& decarbonization

+600 MW PV until 2030

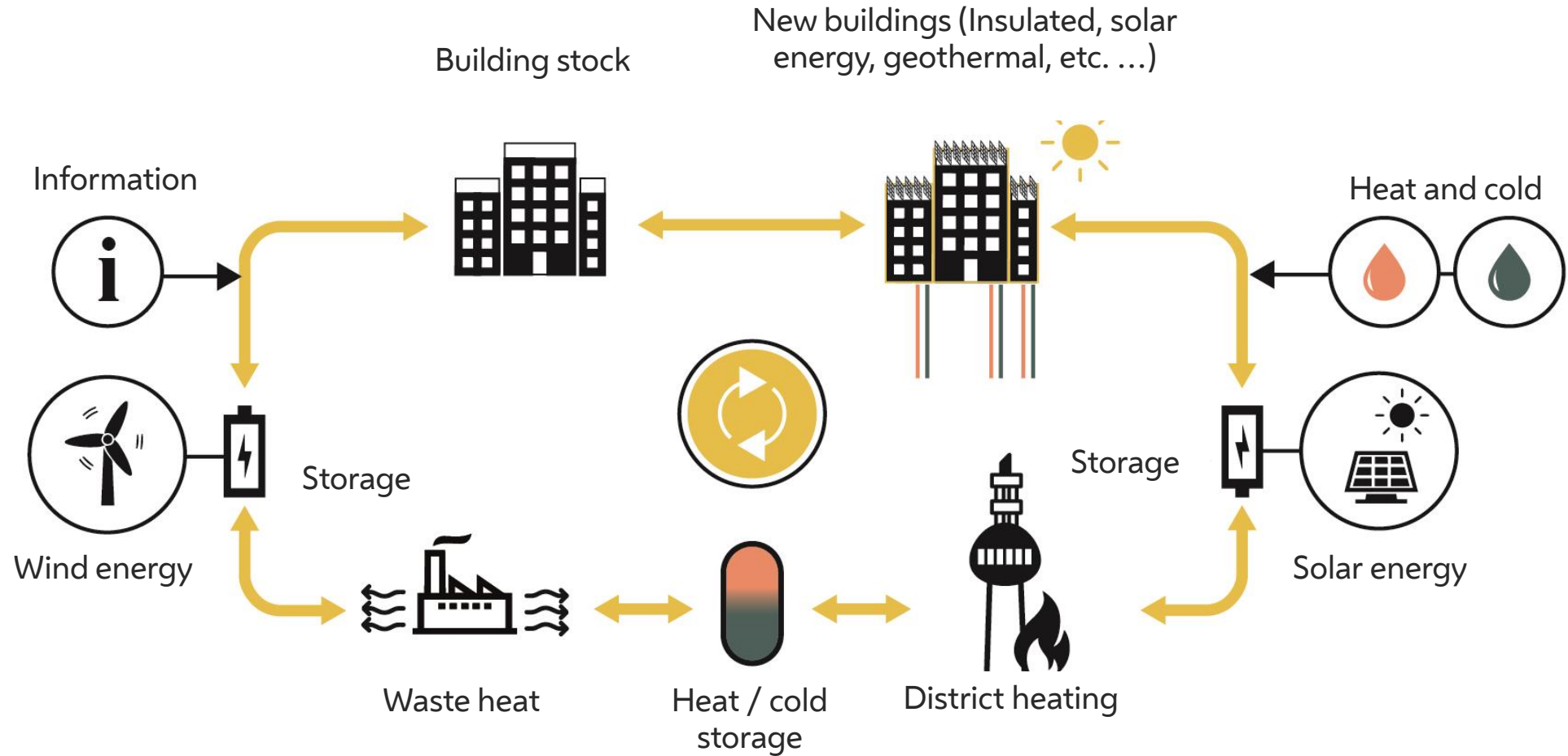
1.700 GWh necessary for decarbonization

2/3 of the roof tops are theoretically suitable  
(computerized solar land register)



# The City of tomorrow today

## Urban energy supply



Heat supply of the future  
efficient, renewable and integrated



# Solar handbook NEW

Late 2020

Focus on two main elements

BIPV

Combination of greening & PV



Quelle: Stadt Wien / C. Fürthner

Gestaltung von Solaranlagen  
und Bauwerksbegrünung

SOLAR  
LEIT  
FADEN

Stadt Wien  
Wien ist anders

Quelle: Stadt Wien / S. Sattler

# Outlook

Building code Vienna – focus on climate protection

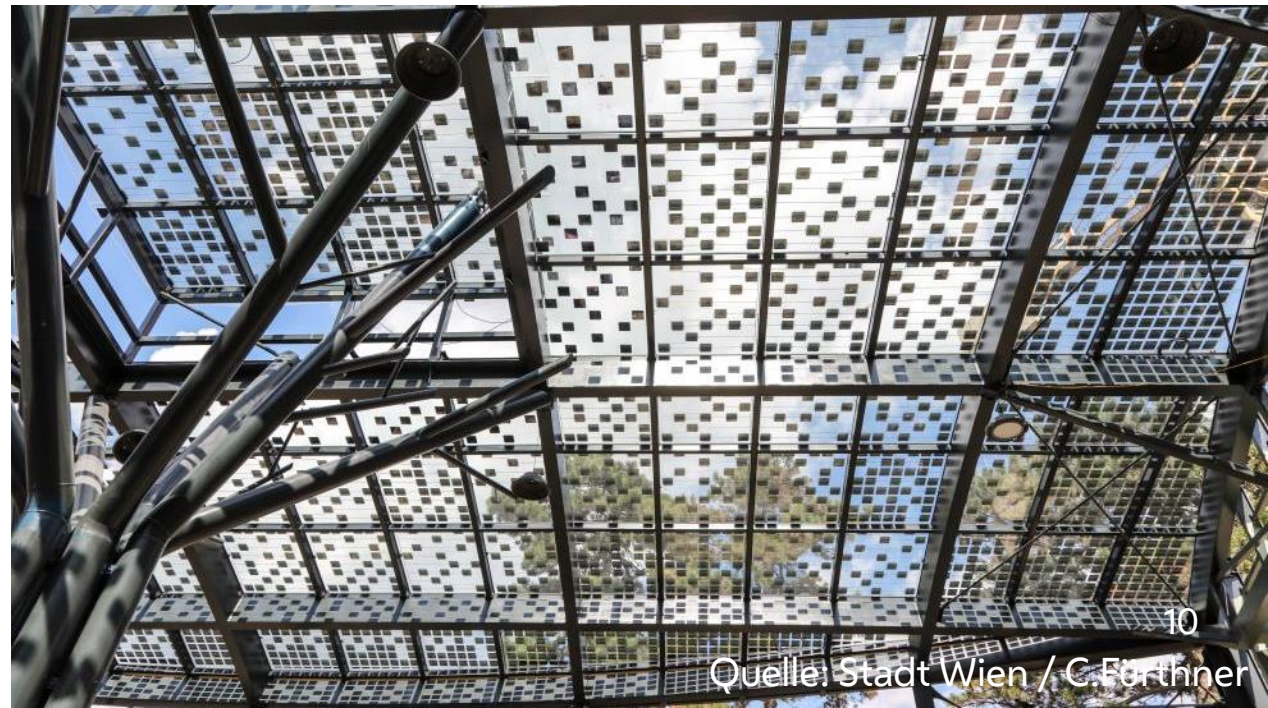
Focus on positive energy districts #PED

## National goals

- 100% green electricity until 2030
- Decarbonization until 2040

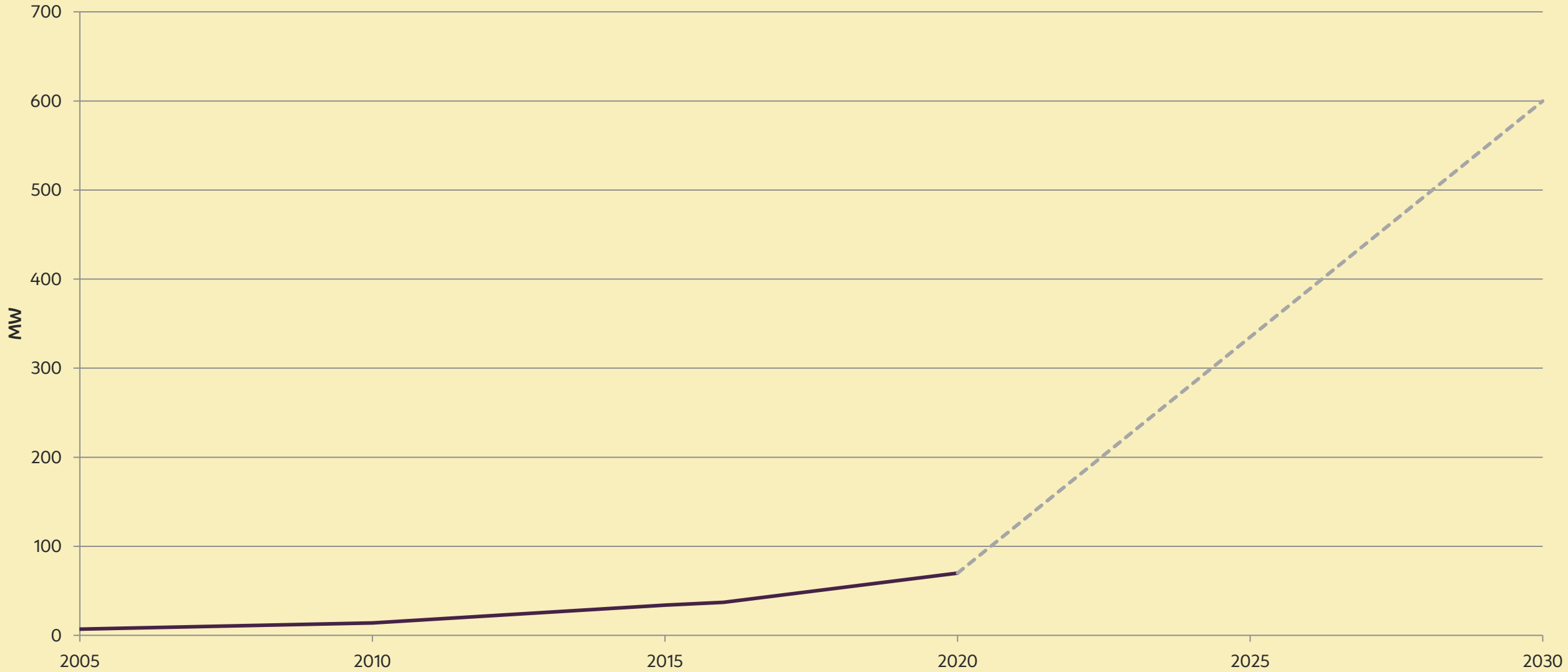


Quelle: Barbara Feldmann



Quelle: Stadt Wien / C. Forthner

# Outlook





## Energy! Ahead

The new  
Energy showcase projects - App  
the city of Vienna

# THANK YOU

DI Stefan Sattler

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Energy  
Planning

