



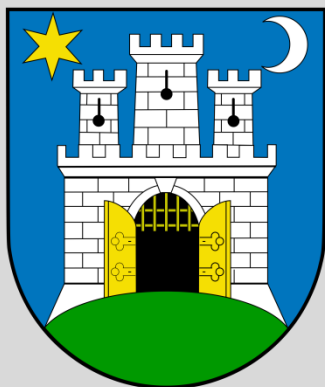
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No 649883



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EUROPEAN UNION

## Urban learning

# Integrirano energetska planiranje urbanih područja



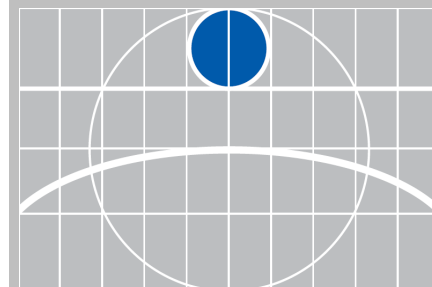
GRAD ZAGREB



GRADSKI URED ZA  
ENERGETIKU, ZAŠTITU  
OKOLIŠA I ODRŽIVI RAZVOJ



GRADSKI URED ZA  
STRATEGIJSKO PLANIRANJE  
I RAZVOJ GRADA



ZAVOD ZA PROSTORNO  
UREĐENJE GRADA  
ZAGREBA

# Projekt

- *integrirano energetska planiranje urbanih područja;*
- *razvoj urbanih područja s niskim emisijama CO<sub>2</sub>;*
- *upravljački procesi - jačanje kapaciteta i zajedničko učenje i suradnja svih dionika;*
- *u slijedećih 20 god. planirati gradnju i obnovu stanova i radnih mjesta za cca 3 mil. ljudi, planirati više od 1700 GWh/a uštede energije i preko 2000 Gwh/a energije iz obnovljivih izvora;*
- *transfer znanja prema 150 gradova.*



## Partneri



MAIRIE DE PARIS



**Wien!**  
**voraus**

Energieplanung

StoDt+Wien

- 1) **TINA VIENNA**, Austrija
- 2) **MAGISTRAT DER STADT WIEN**, Austrija
- 3) **BEA (BERLINER ENERGIE AGENTUR)**, Njemačka
- 4) **VILLE DE PARIS**, Francuska
- 5) **APC (AGENCE PARISIENNE DU CLIMAT ASSOCIATION)**, Francuska
- 6) **STOCKHOLMS STAD**, Švedska
- 7) **GRAD ZAGREB**, Hrvatska
- 8) **EIHP (ENERGY INSTITUTE HRVOJE POŽAR)**, Hrvatska
- 9) **MIASTO STOŁECZNE WARSZAWA**, Poljska
- 10) **GEMEENTE AMSTERDAM**, Nizozemska
- 11) **GEMEENTE ZAAANSTAD**, Nizozemska



MIASTO  
STOŁECZNE  
WARSZAWA



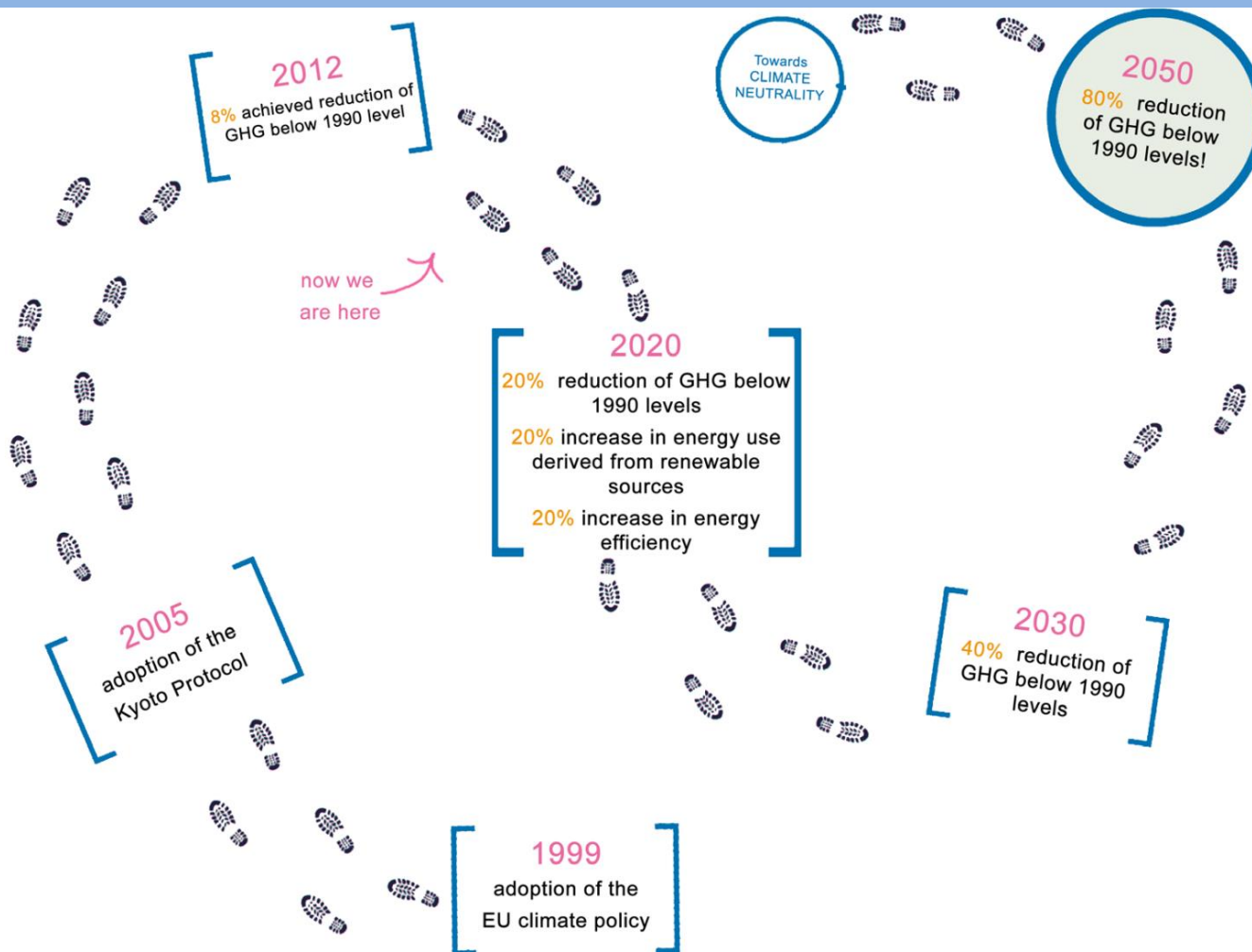


# Radni paketi

- Upravljanje i formiranje lokalnih radnih grupa
- Inovativne tehničke mogućnosti
- Razmatranje mogućih instrumenata i alata
- Inovativne upravljačke mogućnosti
- Modeli za replikacije
- Komunikacija i diseminacija



## 2020., 2030., 2050.



*EU climate mitigation targets  
(From European Cities Moving Towards Climate Neutrality, final report, CLUE, 2014.)*



## Strateški ciljevi

do 2020. \* 3x20%



2050. > - 80% GHG (1980),  
 manje od 11GHG/cap  
 > - 40% finalne potrošnje energije/cap  
 (2005)  
 prema 2000 W/cap potpomi energetski  
 izvor  
 > 50% iz obnovljivih izvora



do 2050. klimatski neutralan  
(> - 85% GHG)



do 2050. > - 75%  
GHG 2050.



2040. bez fosilnih goriva



do 2020. \* > - 80% GHG (2007), > - 80%  
energetske potrošnje (2007), > 20%  
energije iz obnovljivih izvora



do 2040. > - 75% GHG (1990)



2020. klimatski  
neutralan





# SEAP (Akcijski plan energetske održivosti Grada Zagreba) Sl. gl. GZ 8/10.

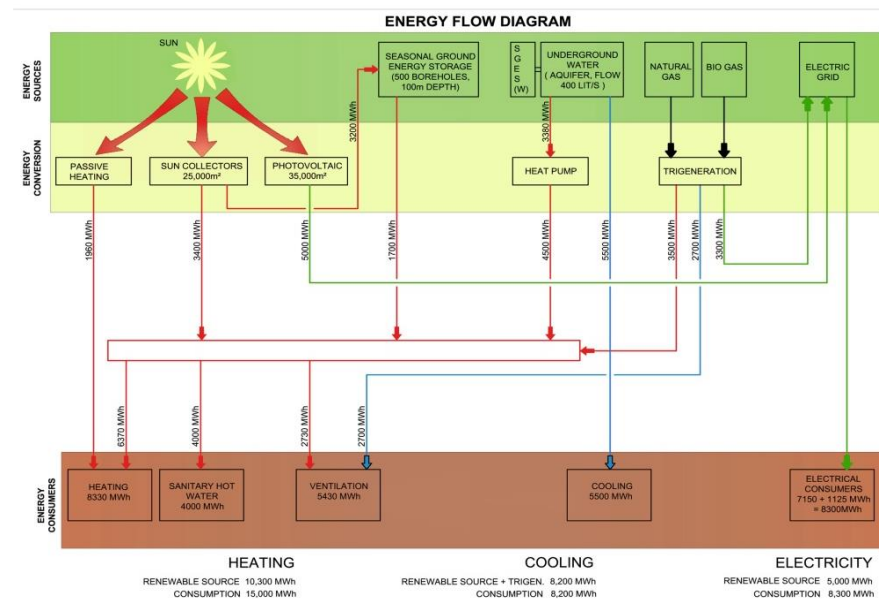
## \*Akcijski plan energetske učinkovitosti Grada Zagreba za razdoblje 2017.-2019.

- **Smanjenje emisija CO<sub>2</sub> u svim sektorima implementiranjem mjera energetske efikasnosti, upotreba obnovljivih izvora energije i ekološki prihvatljivijih goriva, racionalno upravljanje potrošnjom, kontinuirana edukacija i ostale mjere;**
- Doprinijeti što je moguće više sigurnosti i raznolikosti energetske opskrbe grada;
- **Reducirati potrošnju energije u svim sektorima;**
- Omogućiti transformaciju urbanih dijelova grada u ekološki održive prostore.



# primjeri Zagreb

- **Projekt ZAGEE-** *Zagreb energetski efikasan grad obuhvaćena je energetska obnova zgrada u vlasništvu Grada Zagreba kroz primjenu mjera energetske učinkovitosti i obnovljivih izvora energije za ukupno 89 zgrada. Među njima i 39 zagrebačkih dječjih vrtića,*
- **Projekt Kampus Borongaj**



NOTE: The ratio between energy sources on the above diagram comes as a result of preliminary simulations and analysis. During the Urban Design Stage the design team shall further optimize the results and perform Life Cycle Cost analysis for number of options. Depending on number of factors, joint decision shall be made between all relevant Project entities.



# WP3 Najbolje prakse, instrumenti i sredstva

City	Instrument/Tool	Type
Amsterdam Zaanstad	Energy Atlas + TRANSFORM tool	Diagnosis tool
Berlin	Energy Saving Partnership	Contracts
	Climate Protection Agreements	
Paris	Label Ecoquartier / Ecodistrict Label	Certification at urban project scale
Stockholm	SRS model for monitoring	Monitoring
	SRS Over all program (including SRS Action Plan for real estate )	Strategic urban planing document
Zagreb	Geoportal	Diagnosis tool
Warsaw	The Assumptions for Plan of Supply with Heat, Electricity and Gas Fuels	Diagnosis tool
Vienna	Public property development competition	Competition

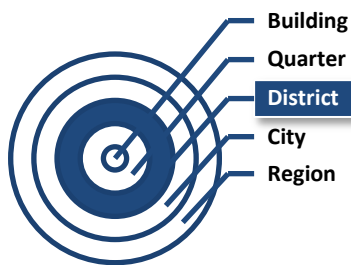
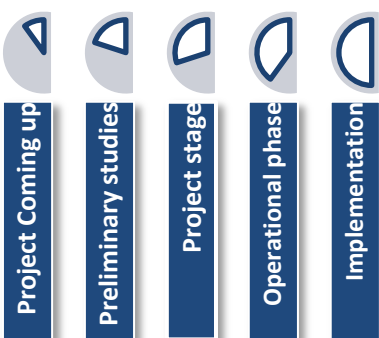


## OUTLINE

The Label Ecoquartier is a national approach carried by the state, which aims to decline the overall state objectives in development sustainability at the scale of a development project. A national validation is necessary for granting the label. The city of Paris use this tool to evaluate the quality of the new urban project. Three projects have been approved "eco-quartier". It gives a good overview of the environmental performance of the project to the municipality.

## ENERGY INTEGRATION

Technical profile of the approach: the label includes a commitment charter and objectives structured in 4 dimensions and 20 commitments, which allow actors to organize and a committee of experts to assess the quality of the development. The energy aspect is taken into consideration at an early stage which allow to identify the best energy solutions during all the phases of the urban project.



## KEY FACTS

- > **National label**  
(State – Environment minister)
- > **39 EcoQuartiers** (labialized districts) between 2012 and 2015
- > Application for district level projects
- > **4 dimensions & 20 requirements**
- > **Charter** to engage municipality
- > **National club** of ecodistricts
- > Project visibility

## CONDITIONS OF USE

- > No thresholds but performance indicators
- > Experts comitee for project quality evaluation
- > No financial aids (in progress)
- > Administrative support by state services

No  
evaluation

Auto evaluation

Evaluation by  
external  
experts

READ MORE

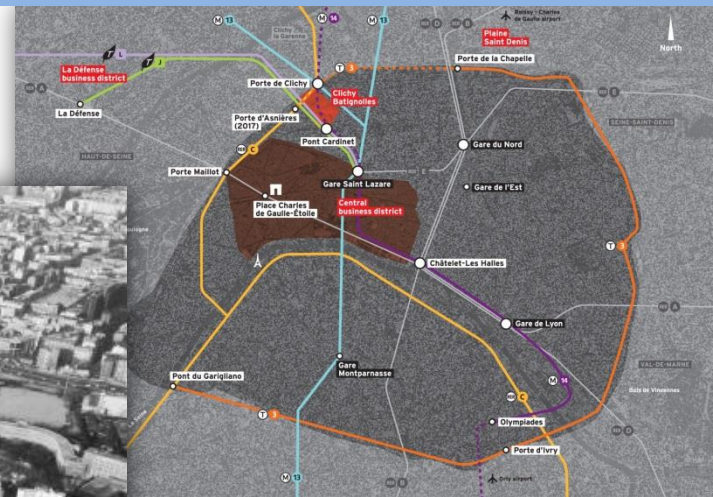
<http://www.logement.gouv.fr/es-ecoquartiers> (French)

@



# Clichy Batignolles, PARIS (2002-2020)

povezanost sa željeznicom, automatizirano skupljanje otpada vakumom, unaprijeđen javni transport, niska potrošnja energije, upotreba obnovljivih izvora energije, biljna raznolikost



živjeti zajedno (50% soc.st.)  
dovođenje prirode u grad  
„održiva arhitektura”  
povezivanje susjedstva  
važne javne građevine  
dijeljenje javnog prostora  
povećana mobilnost  
grijanje-mreža-geoterm.en.  
niskoenergetske kuće  
naselje koje proizvodi energiju



3 500 LOGEMENTS

7 000 à 8 000 habitants

109 400 m<sup>2</sup> de BUREAUX et ACTIVITES

6 400 nouveaux emplois

«SOCLE» 11 500 m<sup>2</sup> de COMMERCES, SERVICES  
29 900 m<sup>2</sup> d'EQUIPEMENTS PUBLICS

LOGISTIQUE



# Stockholm Royal Seaport (2009-2025)



od „*brownfield*” zone do  
održivog stambenog naselja



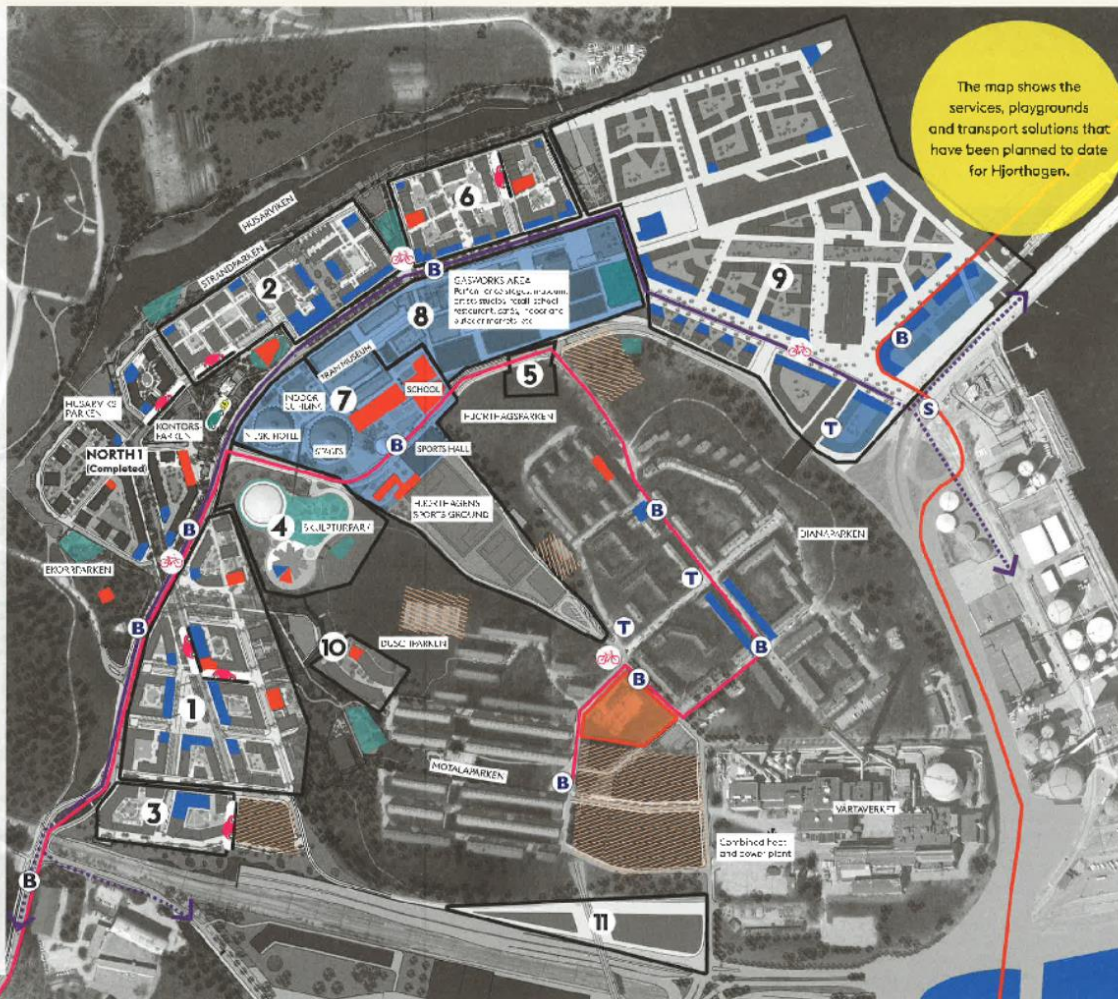


## Stockholm Royal Seaport

### Overview Hjorthagen

- Areas prepared for business operations, services, retail
- Areas prepared for day-care centre and school
- Playgrounds
- Future feasibility study areas
- Planned blocks with unfinished studies
- Current parking spaces
- Charging points for electrical vehicles
- Bike stands for rental bikes
- Entrance to Ropsten metro station
- Tram stop
- Bus stop
- Bus route 65
- Future rapid transit route
- Possible extension of the rapid transit route
- Söderväg City tram line

1. Phase Västra  
Construction start up 2014, occupancy 2015-2017
2. Phase Norra 2  
Construction start up 2014, occupancy 2015-2017
3. Phase Ängbotten  
Construction start up 2014, occupancy 2015
4. Gas holders 3 and 4  
Construction start up 2015, occupancy 2016-2019
5. YDS terminal  
Construction start up in permanent location 2015, service starts 2016
6. Phase Bräfsätet  
Construction start up 2014, occupancy 2016-2019
7. Gasworks area west  
Construction start up 2014, occupancy 2017-2019
8. Gasworks area east  
Construction start up 2017, occupancy 2019-2021
9. Phase Kulkajen - Ropsten  
Construction start up 2018, occupancy 2019-2023
10. Phase Jeckproppen  
Construction start up 2017, occupancy 2019
11. Phase Storträskmen  
Construction start up 2018, occupancy 2019



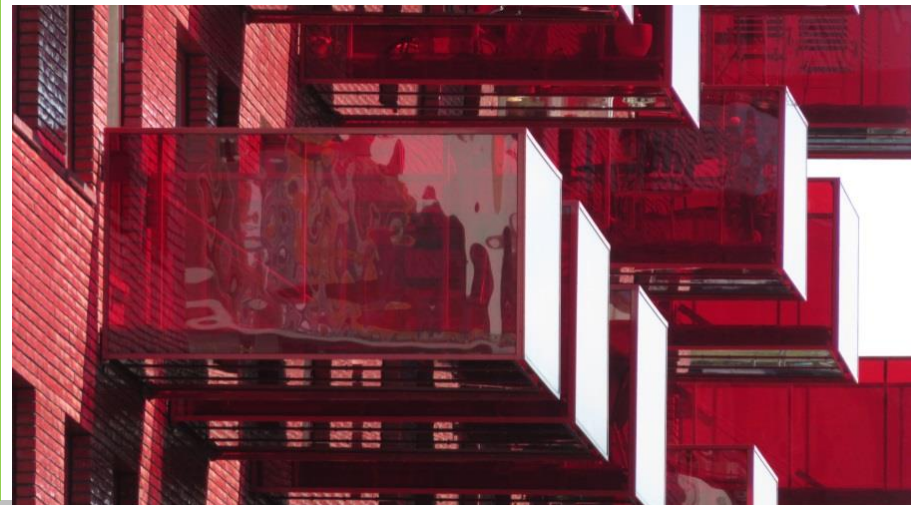


# Stockholm Royal Seaport





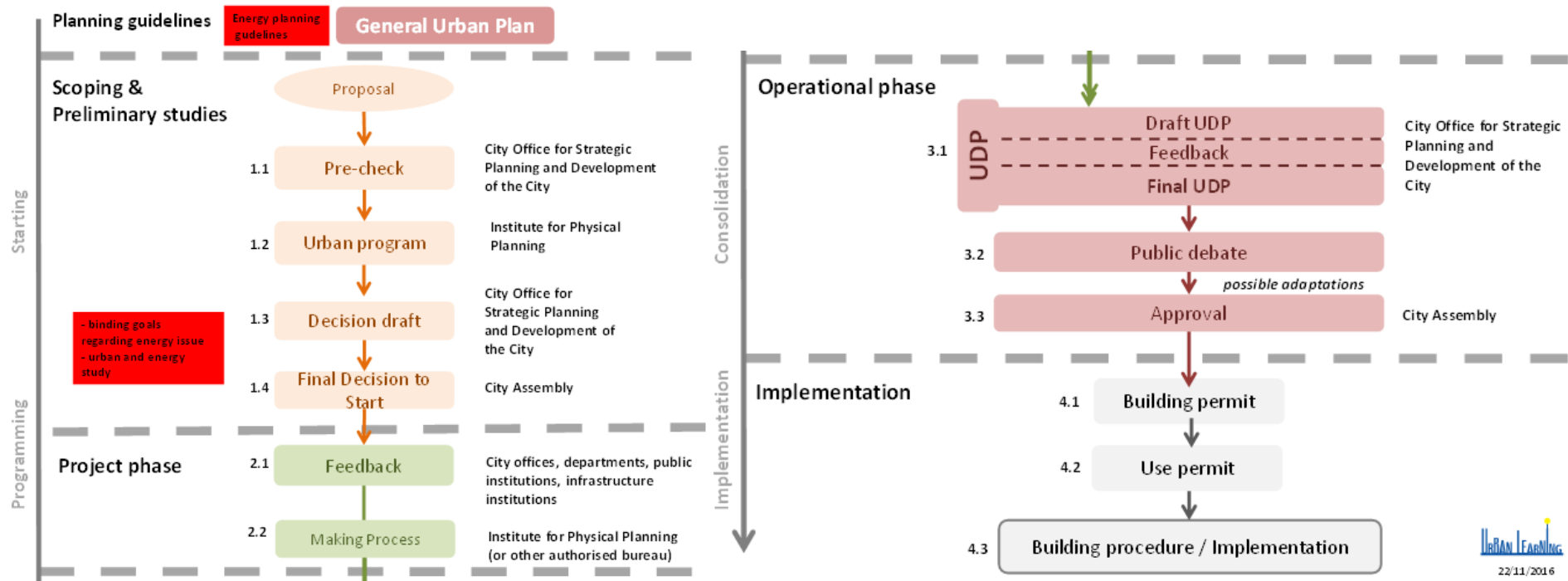
# Stockholm Royal Seaport



# Zagreb – energetska planiranje urbanih područja



## Zagreb: Planning procedure for adapting the Urban Development Plan (UDP)





# Zagreb – Pilot projekt energetske obnove cjelovitog naselja



- 15750 „prve generacije” stanova izgrađenih između 1957. i 1962. godine;
- procjena ušteda više od 41000 Mwh godišnje odnosno 4300000m<sup>3</sup> plina; \*

\*Izvor: Akcijski plan energetske održivog razvitka Grada Zagreba, ožujak 2010.,