POST-CARBON CITIES OF TOMORROW

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PRESENTATION OUTLINE

- About the POCACITO project and process
- Stakeholder workshop methodology
- Post-carbon visions
- Backcasting scenarios
- Conclusions

POCACITO

POst-**CA**rbon **CI**ties of **TO**morrow

- **OBJECTIVE**: to facilitate the transition of EU cities to a sustainable or “post-carbon” economic and societal model in a global context
- **METHOD**: assess the long-term trends and tensions in EU cities that impact urban development and explore innovative approaches for achieving sustainable post-carbon cities
- **FINAL PRODUCT**: roadmap for moving to a no or low-carbon economy by 2050, supporting the EU Innovation Union flagship initiative

WHAT IS A POST-CARBON CITY?

Rupture in the carbon-dependent urban system

No or low-carbon and environmentally, socially and economically sustainable

Emphasis on the transformation process, shifting paradigms

Responding to the multiple challenges of climate change, ecosystem degradation, social equity and economic pressures

Adaptive capacity empowers cities to use the threat of climate change as an opportunity to reduce vulnerability

ROLE OF FORESIGHT EXERCISES

"systematic, participatory, future-intelligence-gathering, and medium-to-long-term vision-building process aimed at enabling present-day decisions and mobilizing joint actions" (EFP 2001)

foresight activities intend to create a platform to

think about, debate, and shape the future with stakeholders,

not to predict the future

use **scenarios** as a means for examining the factors and trends that form future developments

SCENARIOS

- " What if " or "how to get there" futures
- Not forecasts or predictions
- No "right" or "wrong" solutions
- Informed reflections about possible

Shared Socioeconomic Pathways (SSPs)

From the climate research/integrated modelling community:

- Socioeconomic reference for future climate projections and research
- Basic assumptions:
  - SSPs occur *without* *any new climate mitigation or adaptation policy interventions*
  - basic assumptions and drivers are *not influenced by future climate change*

STAKEHOLDER WORKSHOPS

3-step methodology

Initial Assessment

- presenting the results of initial assessment
- stakeholders decide on key challenges
- key challenges can then be presented in the visioning WS

Visioning

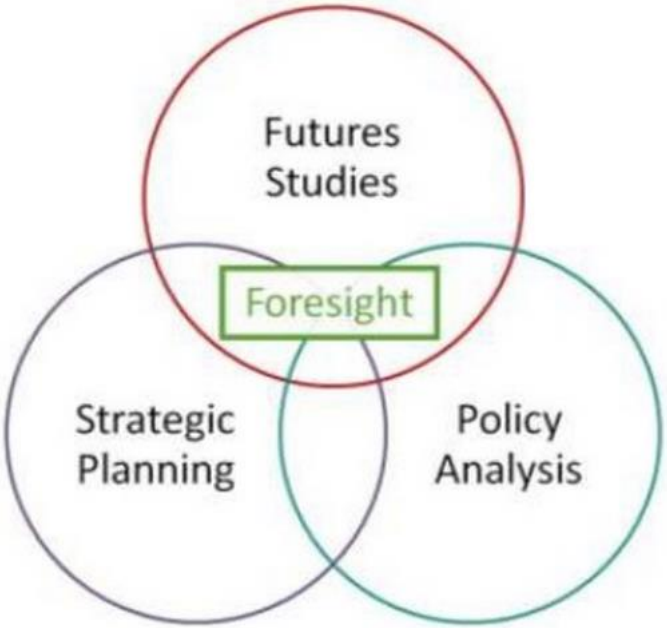
- presenting the key challenges
- presenting a European context scenario
- stakeholders develop a local post-carbon vision for 2050

Backcasting

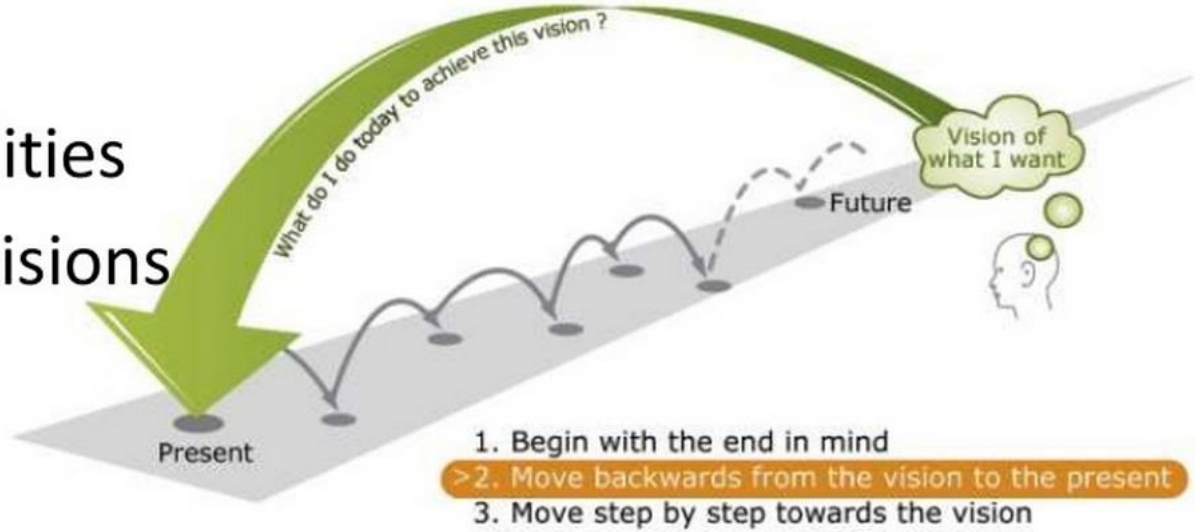
- presenting the local post-carbon vision as end-point
- stakeholders identify obstacles and opportunities
- stakeholders define milestones
- stakeholders agree on actions
- optional: test of robustness of recommendations under variation of context scenario

WORKSHOPS

- Participatory scenario building
- Backcasting exercises



- Inform policy makers
- Build networks
- Develop capabilities
- Build strategic visions



SOURCE: THE NATURAL STEP 2014

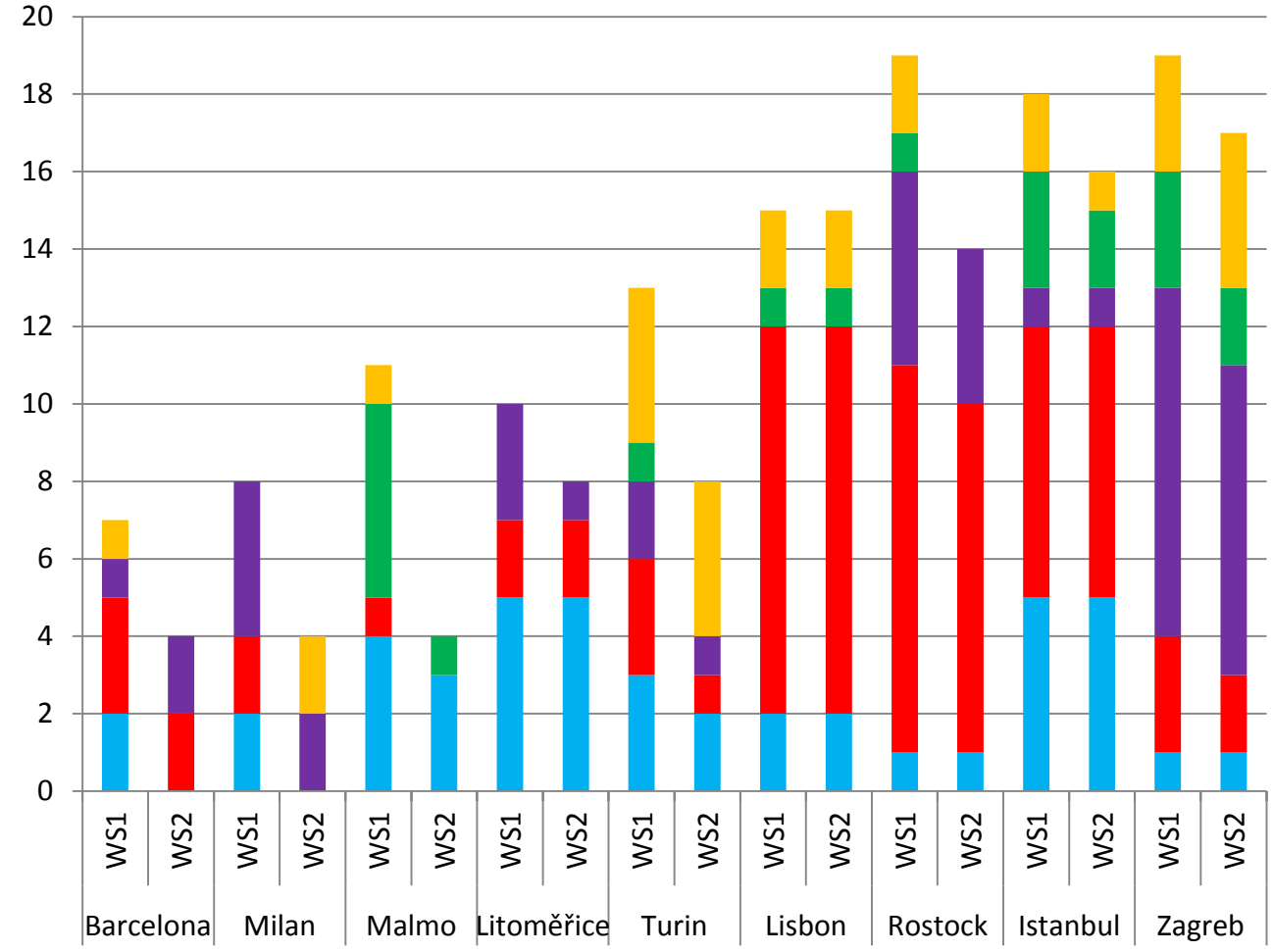
CASE STUDY CITIES

CHARACERIZATION OF CITIES

Selected **socio-economic** and **environmental** indicators

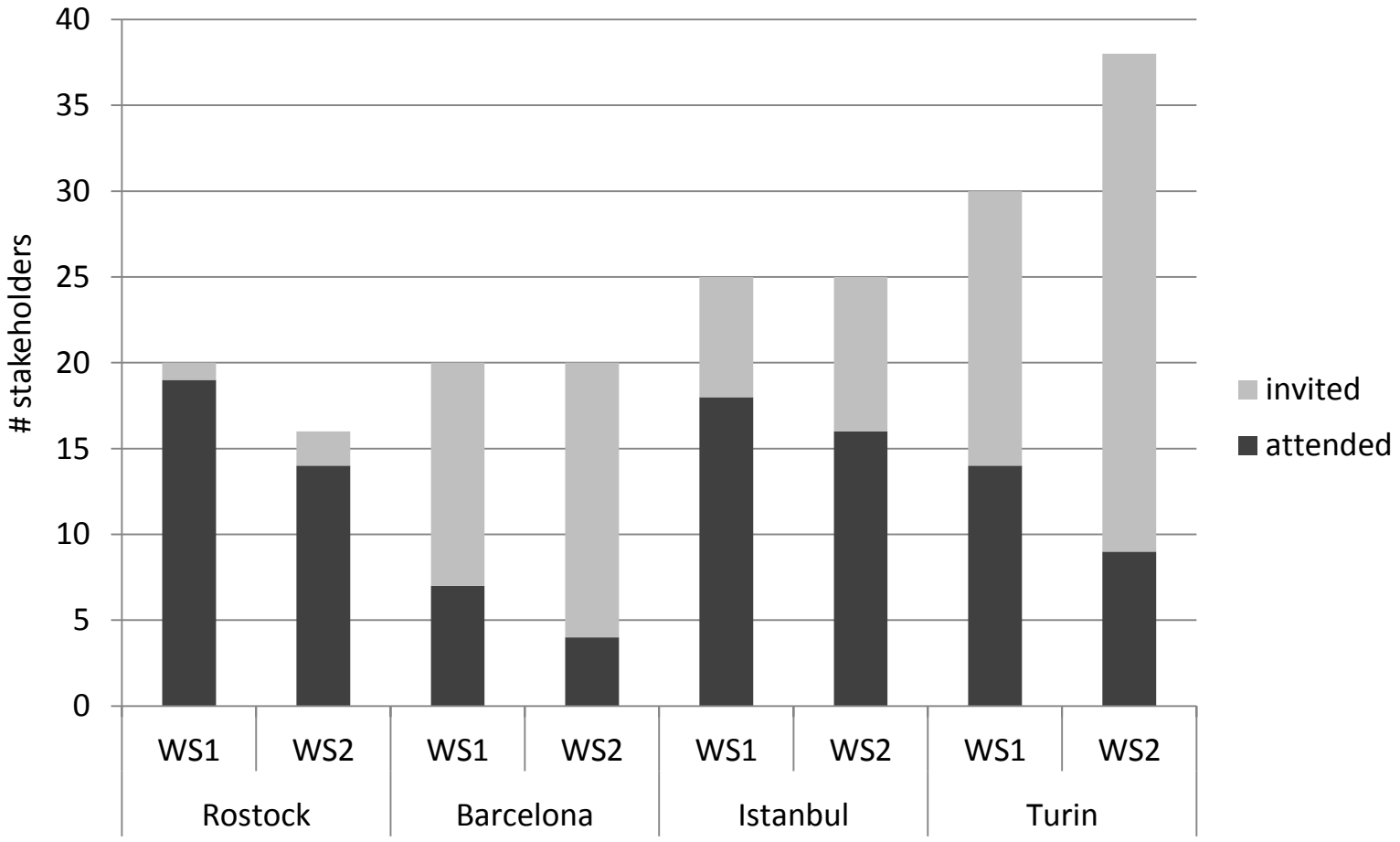
City	Population	Area (km^2)	Density (pop/ km^2)	GDP per capita (€)	Carbon Intensity (CO_2/million €)	Eco modal share (%)	Urban Waste Recovery (%)
Barcelona	1,620,000	102	15,898	28,300	216	70	36
Istanbul	13,854,720	5,343	25,931	20,100	268	54	3
Lisbon	547,733	100	548		134	51	20
Litoměřice	24,136	18	1,341	11,800		75	
Malmö	313,000	157	1,995	45,400	127	60	36
Milan	1,324,169	182	7,276	45,600	170	63	39
Rostock	203,673	181	1,125	29,000	133	65	54
Turin	902,137	130	6,940	28,900	190	55	42
Zagreb	792,875	641	1,237	27,400			

CHARACTERIZATION OF STAKEHOLDERS



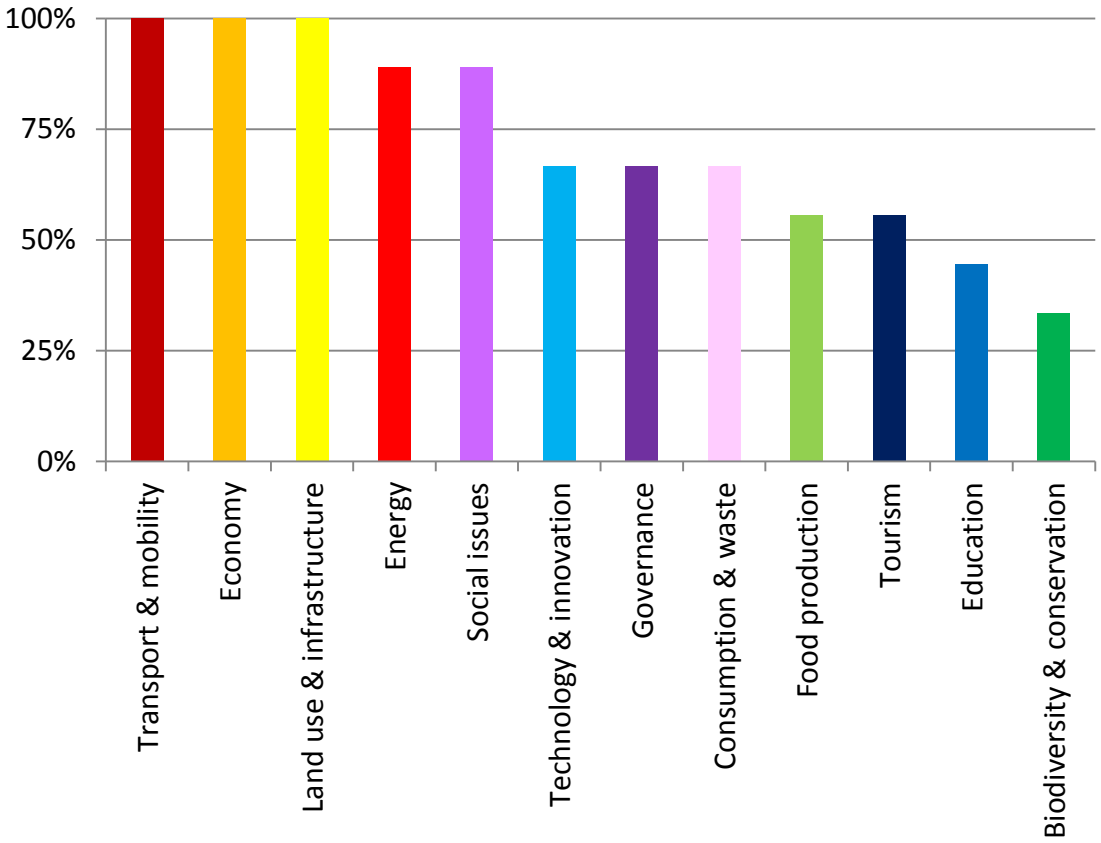
% stakeholders at
1st Workshop (inside) and
2nd Workshop (outside)

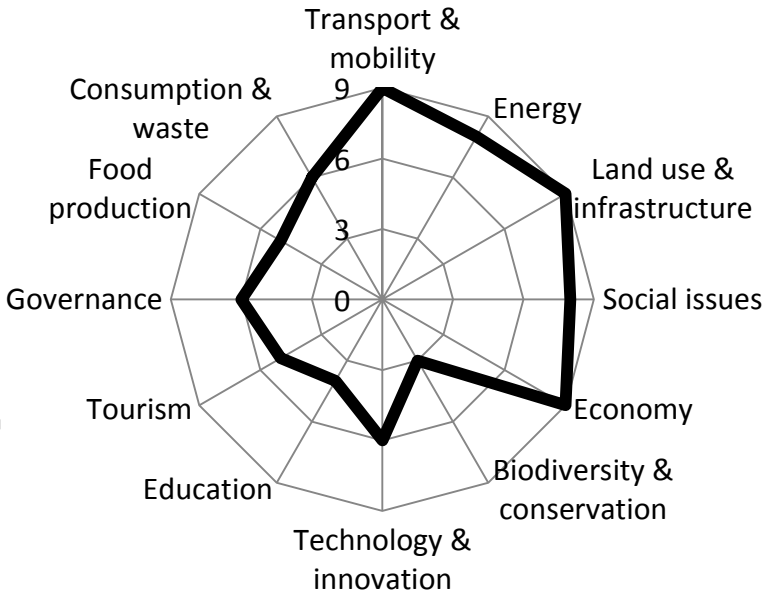
CHARACTERIZATION OF STAKEHOLDERS



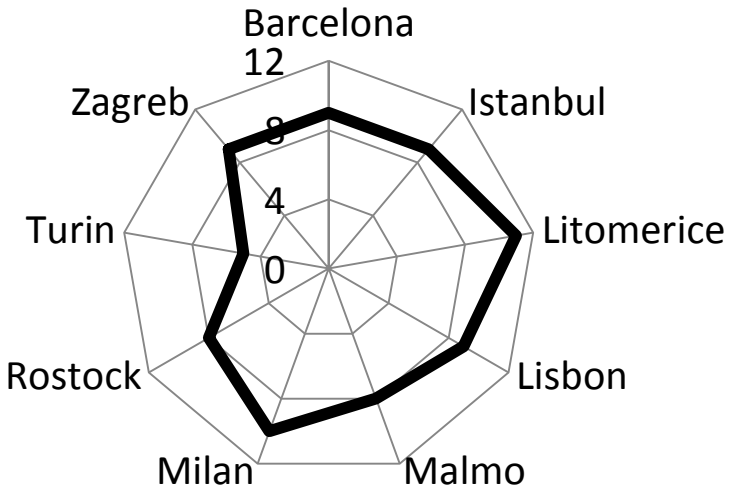
POST-CARBON VISIONS: SECTORS

Percentage (left) and number (right) of cities addressing each sector





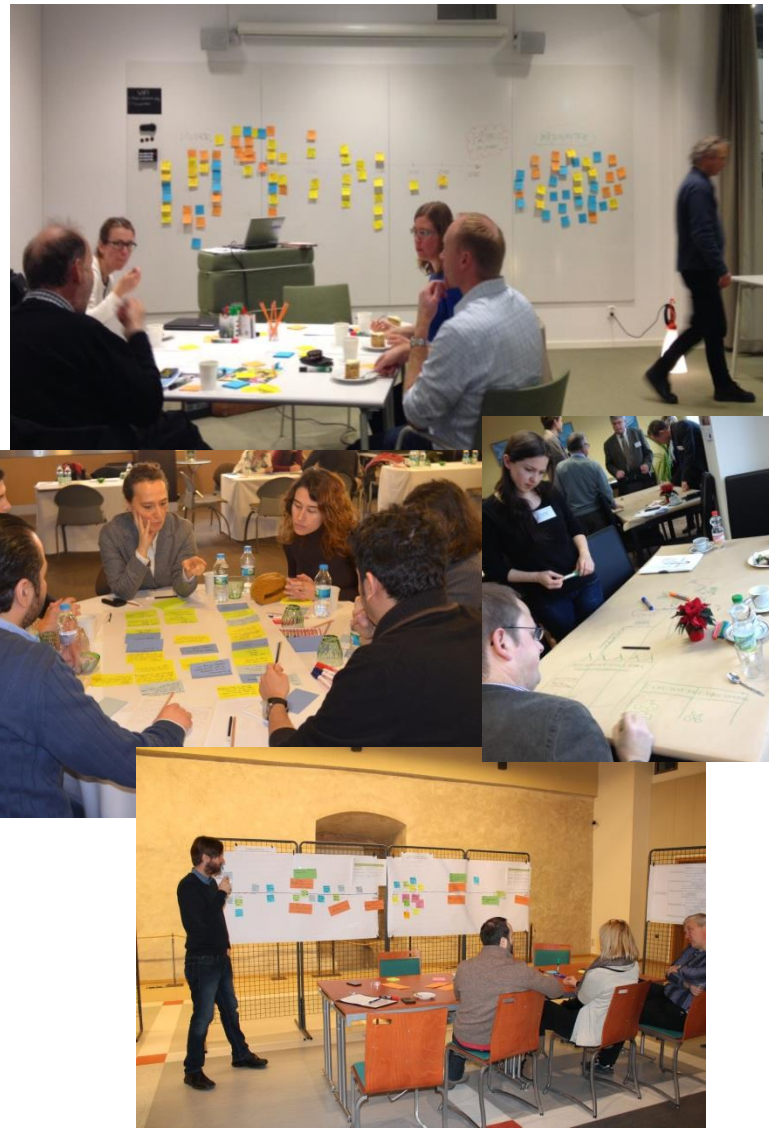
VISIONS BY CITY



City	Transport & mobility	Energy	Land use & infrastructure	Social issues	Economy	Biodiversity & conservation	Technology & innovation	Education	Tourism	Governance	Food production	Consumption & waste
Barcelona	●	●	●	●	●		●	●	●	●		
Istanbul	●	●	●	●	●	●	●			●		●
Litomerice	●	●	●	●	●		●	●	●	●	●	●
Lisbon	●	●	●	●	●		●		●	●	●	
Malmo	●	●	●	●	●		●				●	●
Milan	●	●	●	●	●	●	●	●		●		●
Rostock	●	●	●	●	●				●		●	●
Turin	●		●	●	●				●			
Zagreb	●	●	●		●	●		●		●	●	●

BACKCASTING SCENARIOS

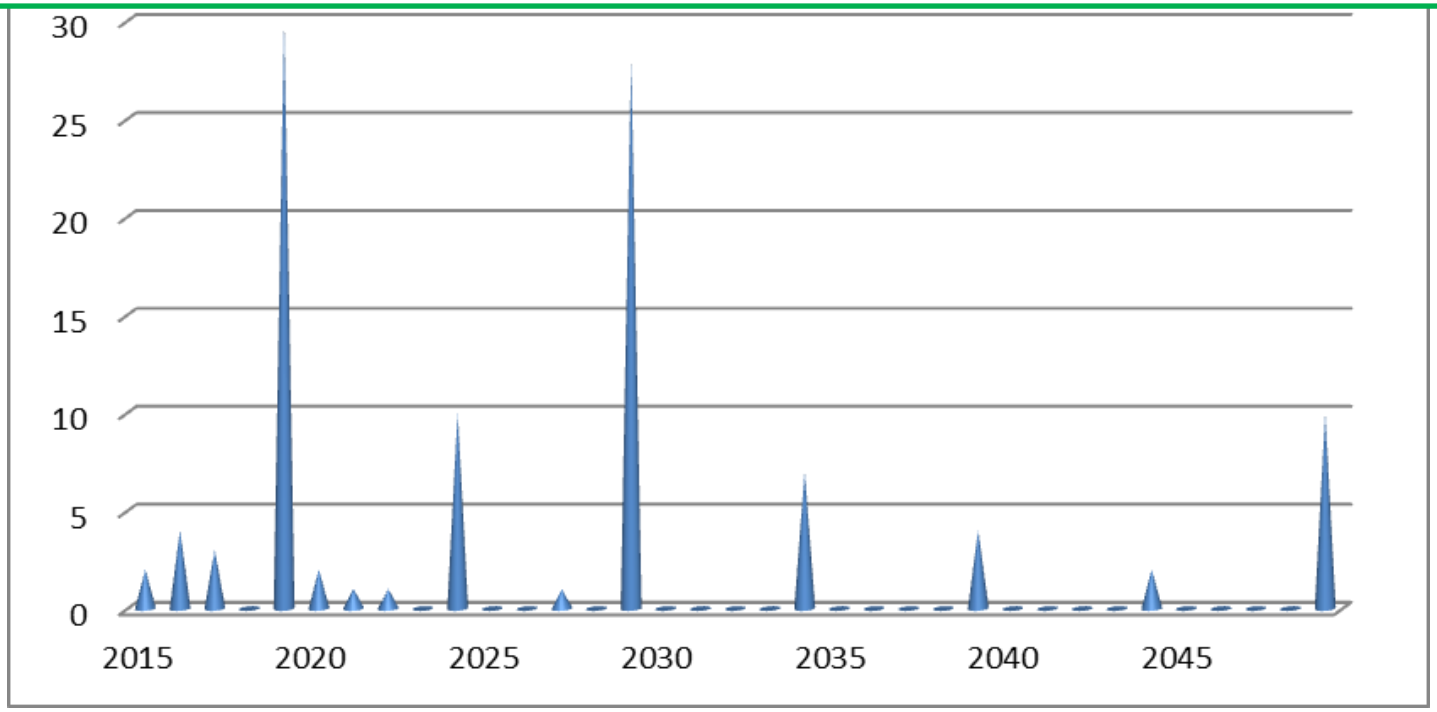
- Define a normative “desired” end point (the **vision** from the previous visioning workshop)
- Consider potential **obstacles** and **opportunities** in reaching the end point
- Identify **milestones** or interim projects that would signify progress in reaching the end point
- Define **actions** that must be taken to get to the end point
- Validate the **robustness** of actions in the case of other background scenarios playing out



MILESTONES

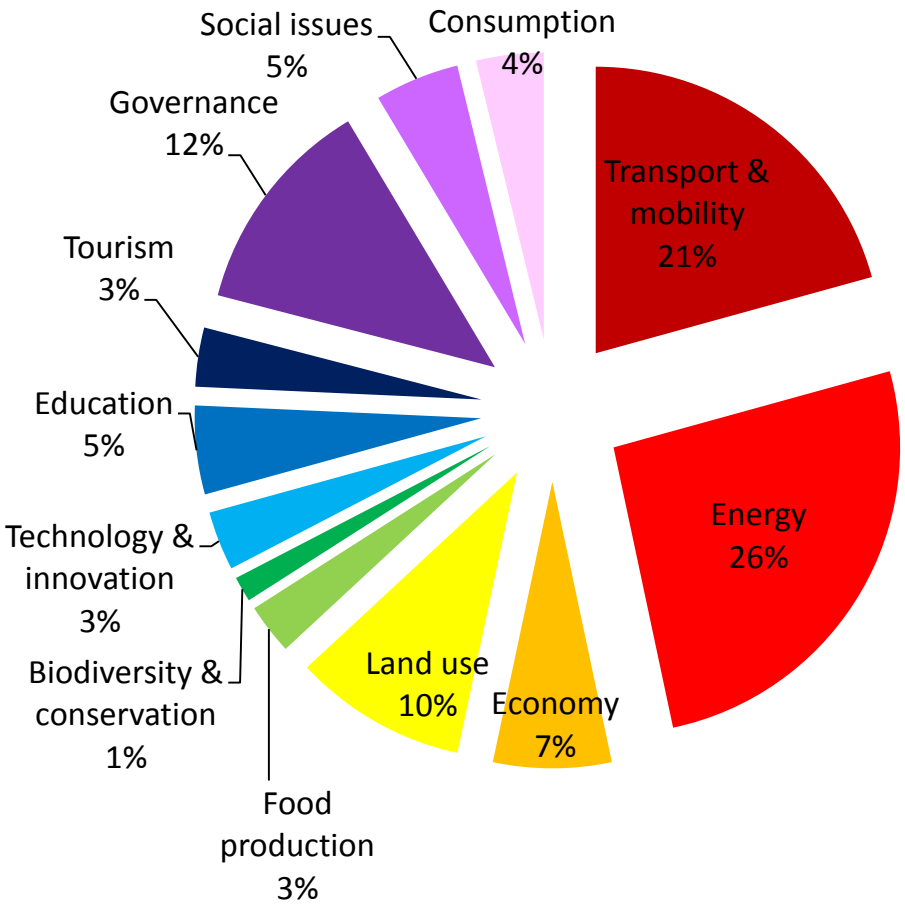
Concentrated in the period up to 2020; only about 30% refer to the post-2030 period

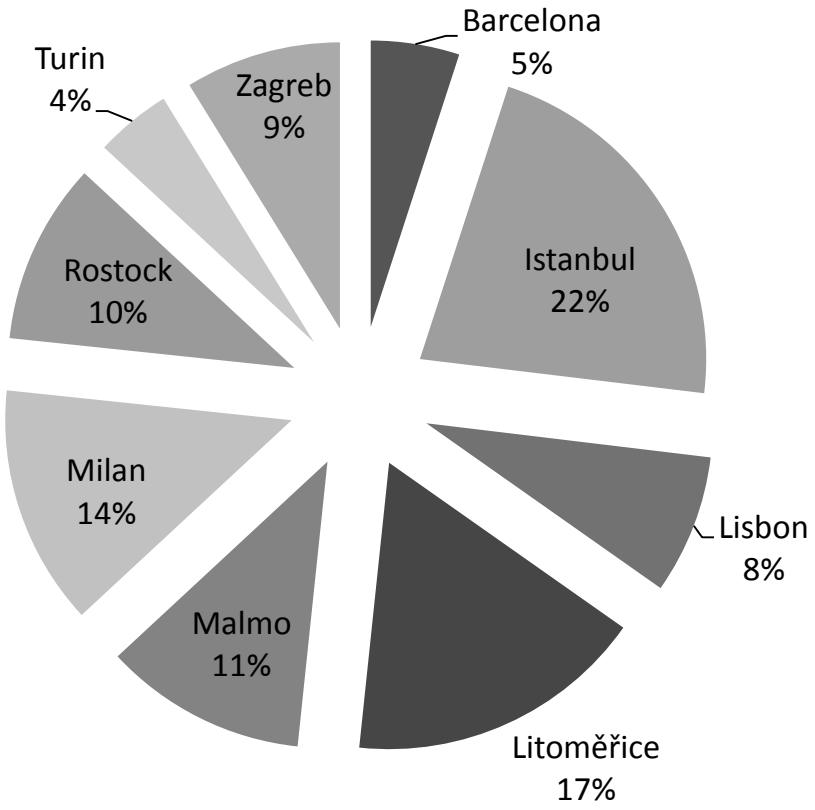
➡ stakeholders struggled with detailing actions and goals over long time frames



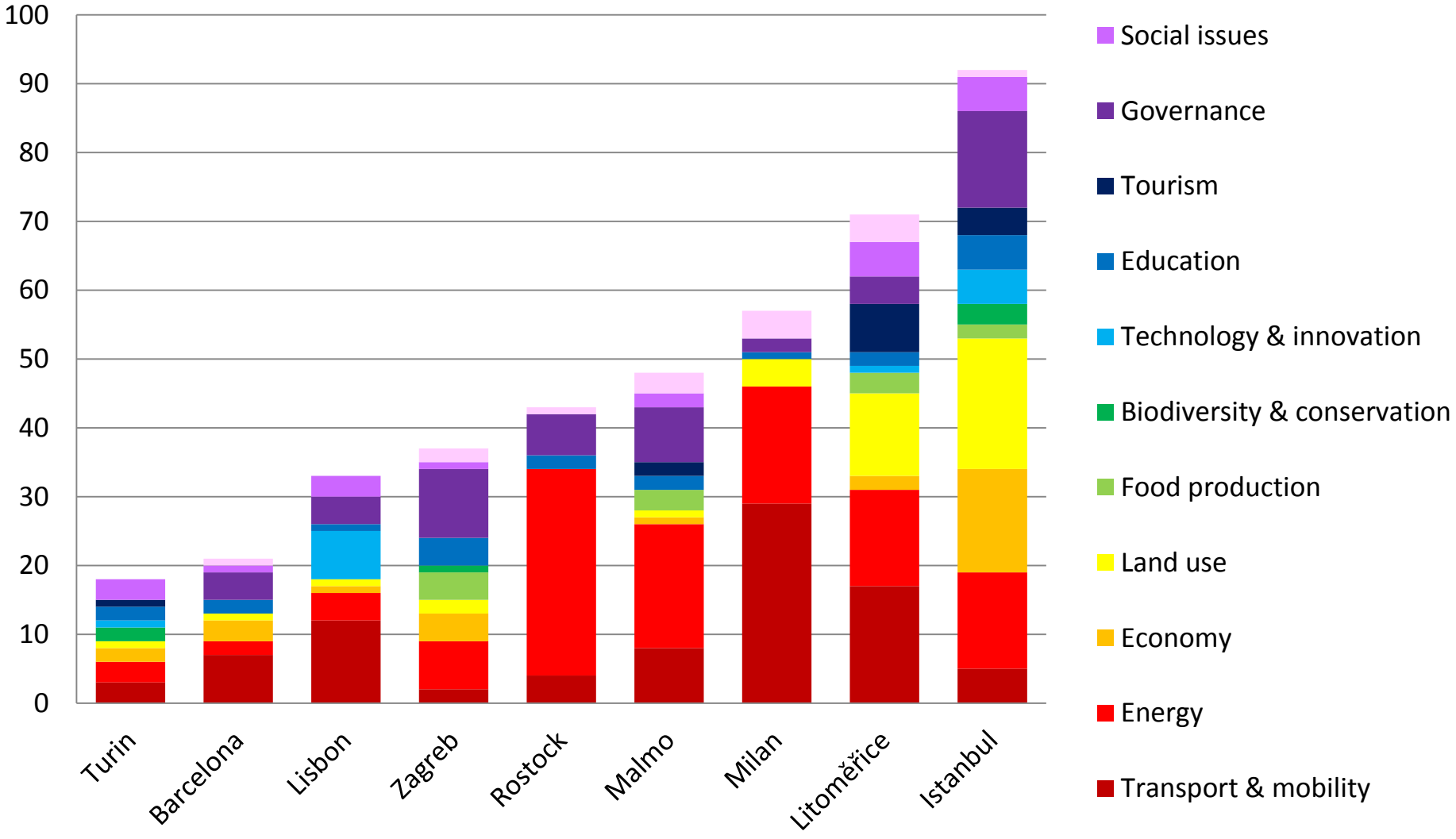
ACTIONS

Distribution of actions by sectors (left) and cities (right)

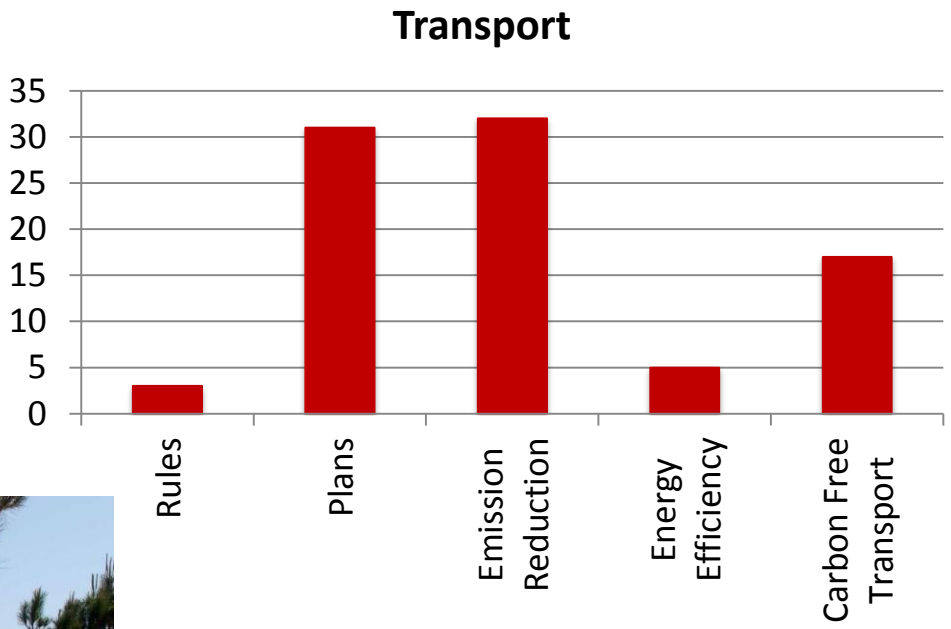




ACTIONS


100
90
80
70
60
50
40
30
20
10
0
Turin
Barcelona
Lisbon
Zagreb
Rostock
Malmo
Milan
Litoměřice
Istanbul
Consumption
Social issues
Governance
Tourism
Education
Technology & innovation
Biodiversity & conservation
Food production
Land use
Economy
Energy
Transport & mobility

EXAMPLES OF ACTIONS BY SECTOR & TYPE



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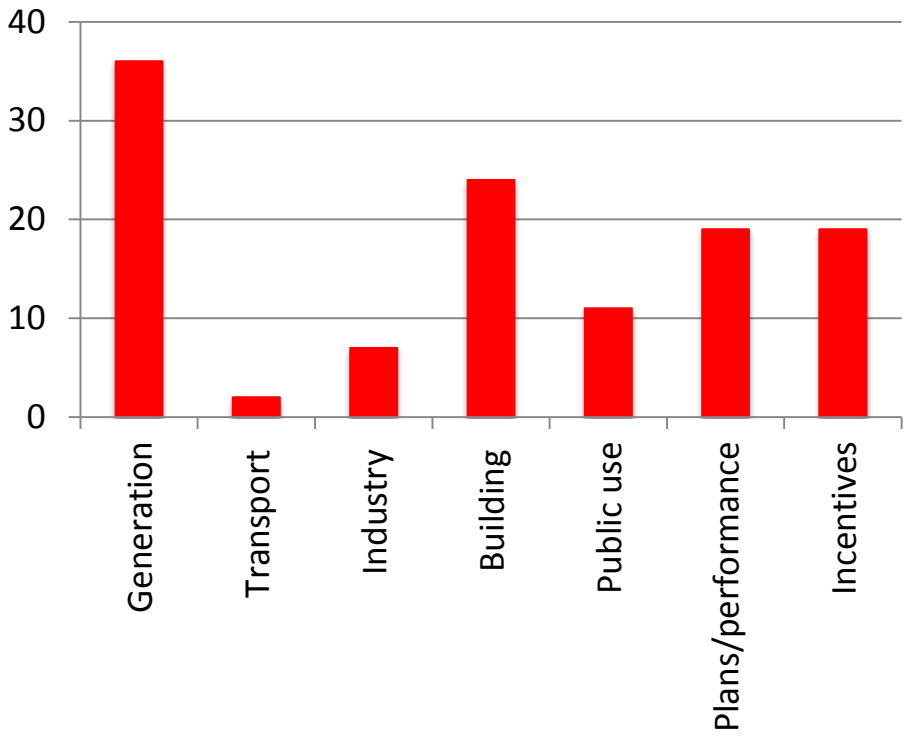

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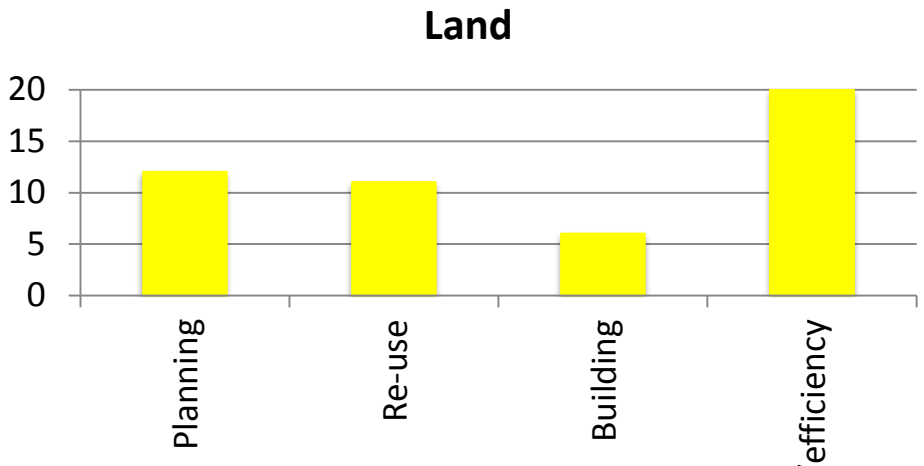

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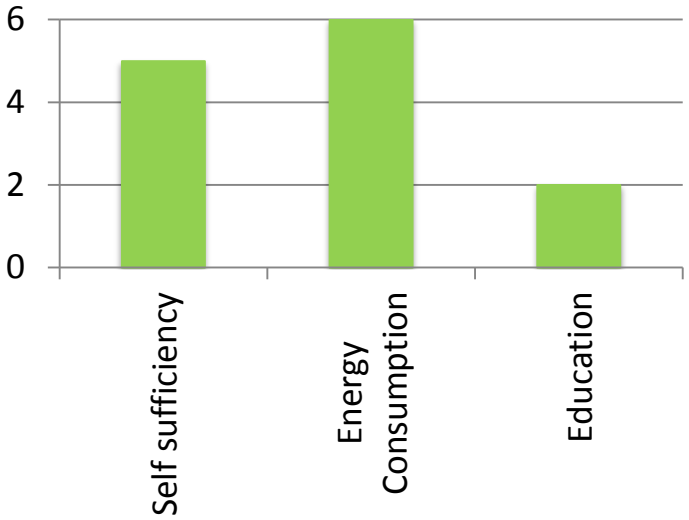

CONCLUSIONS

- Not surprisingly, cities aim at measures which are concentrated in five main areas:
- Transport and mobility,
- Economic development
- Land and infrastructure
- Energy production and efficiency
- Social justice

This last one was slightly less targeted

OUTLOOK

Work ahead (2015/2016):

- Using the initial indicators from each city and local storylines built on the SSPs and global projections, results from the local visions will be assessed and, as far as possible, quantified.
- Economic quantification follows an input-output approach with geographical downscaling, under the lead of CUNI

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