

WHAT IS – AFTER ALL – A « SMART CITY » AND KEY CHALLENGES TO REALIZE IT?



FRANCESCO GRILLO

St. Antony's College, Oxford University

Advisor to Italy's Minister for Education, Research and Universities

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SET Plan 2016 - Central European Energy Conference X

*Energy Union: towards a transformed European energy system
with the new Integrated Research, Innovation and Competitiveness Strategy*

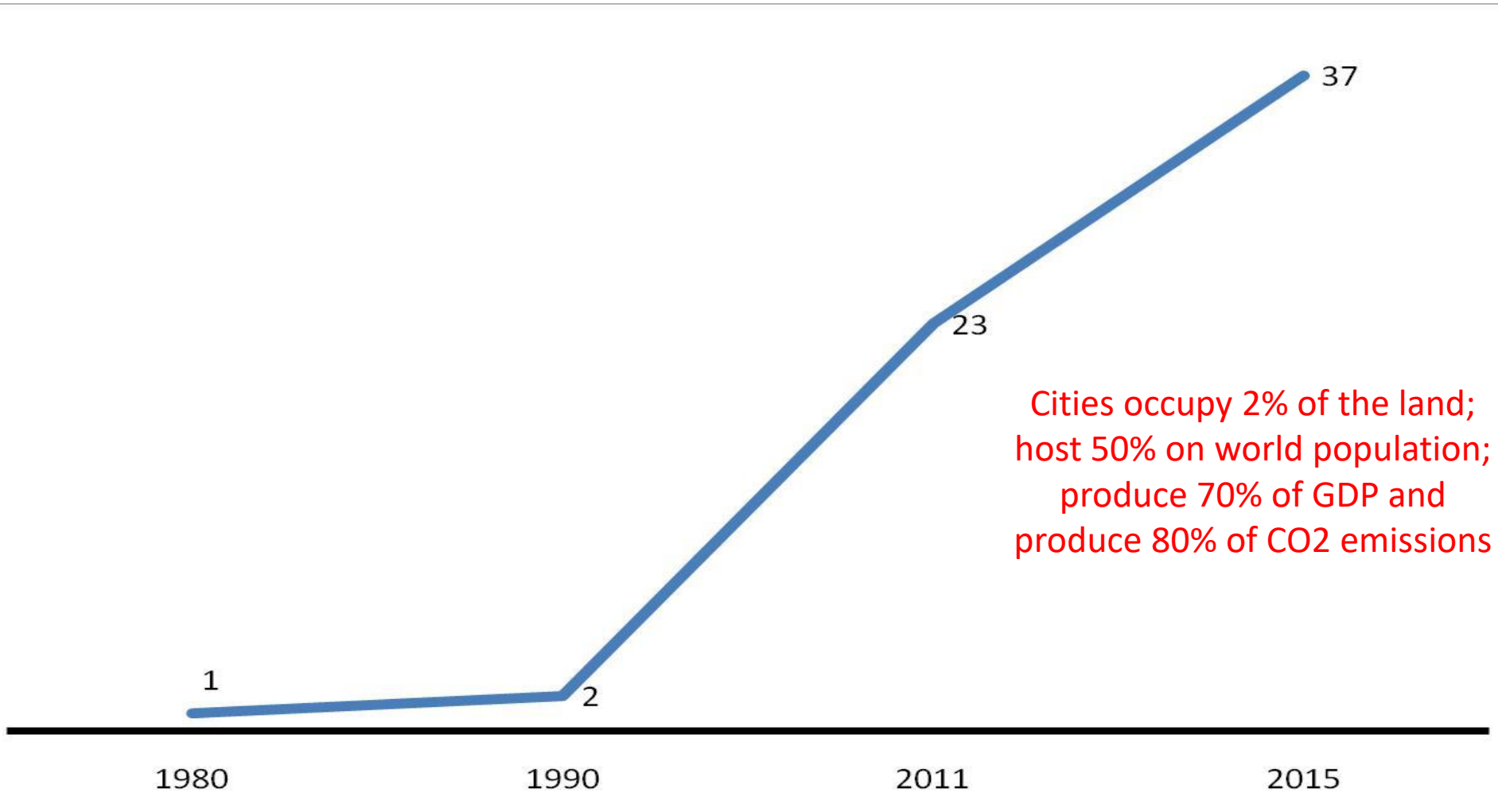


Agenda

- 1. THE RISE AND THE FALL OF CITIES**
- 2. A FRAMEWORK FOR MAKING SMART CITIES REAL**
- 3. SUGGESTED QUESTIONS FOR THE PANEL**

THE RISE OF THE CITIES ...

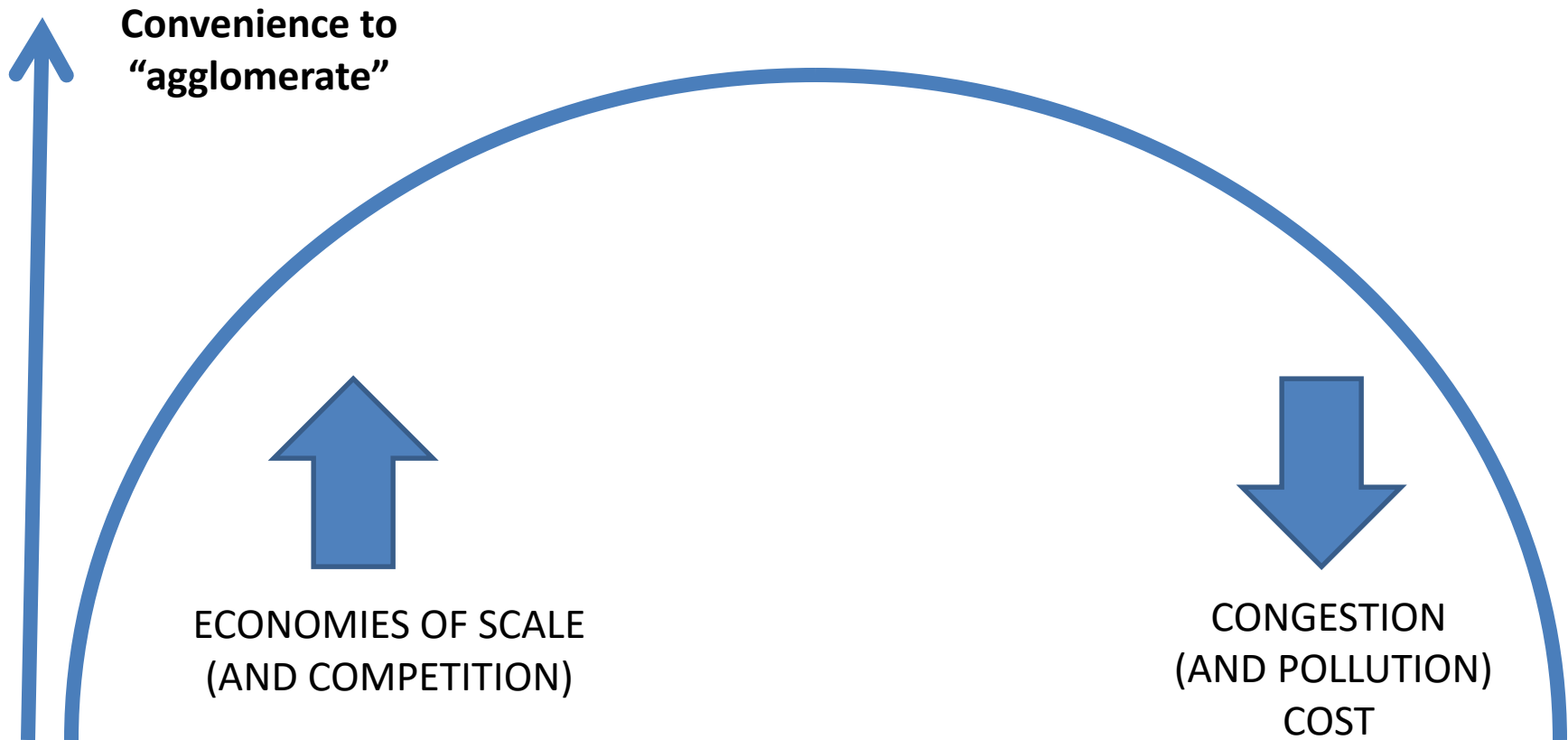
Number of cities with more than 10,000,000 inhabitants, World



... BUT A DIFFERENT EUROPEAN STORY

Top 10 EU Capitals	Population 1990/1991	Population 2011/2012	Growth rate
London	6.83	8.17	19.7%
Berlin	3.47	3.50	1.0%
Madrid	3.01	3.28	9.1%
Rome	2.78	2.80	0.9%
Paris	2.15	2.11	-1.8%
Hambourg	1.69	1.80	6.7%
Budapest	2.02	1.74	-13.7%
Vienna	1.54	1.73	12.4%
Warsaw	1.66	1.70	2.7%
Bucharest	2.11	1.68	-20.4%
TOTAL	27.24	28.52	4.7%
TOTAL EU 27	473	539	14.0%
% in Capitals	5,8%	5,3%	

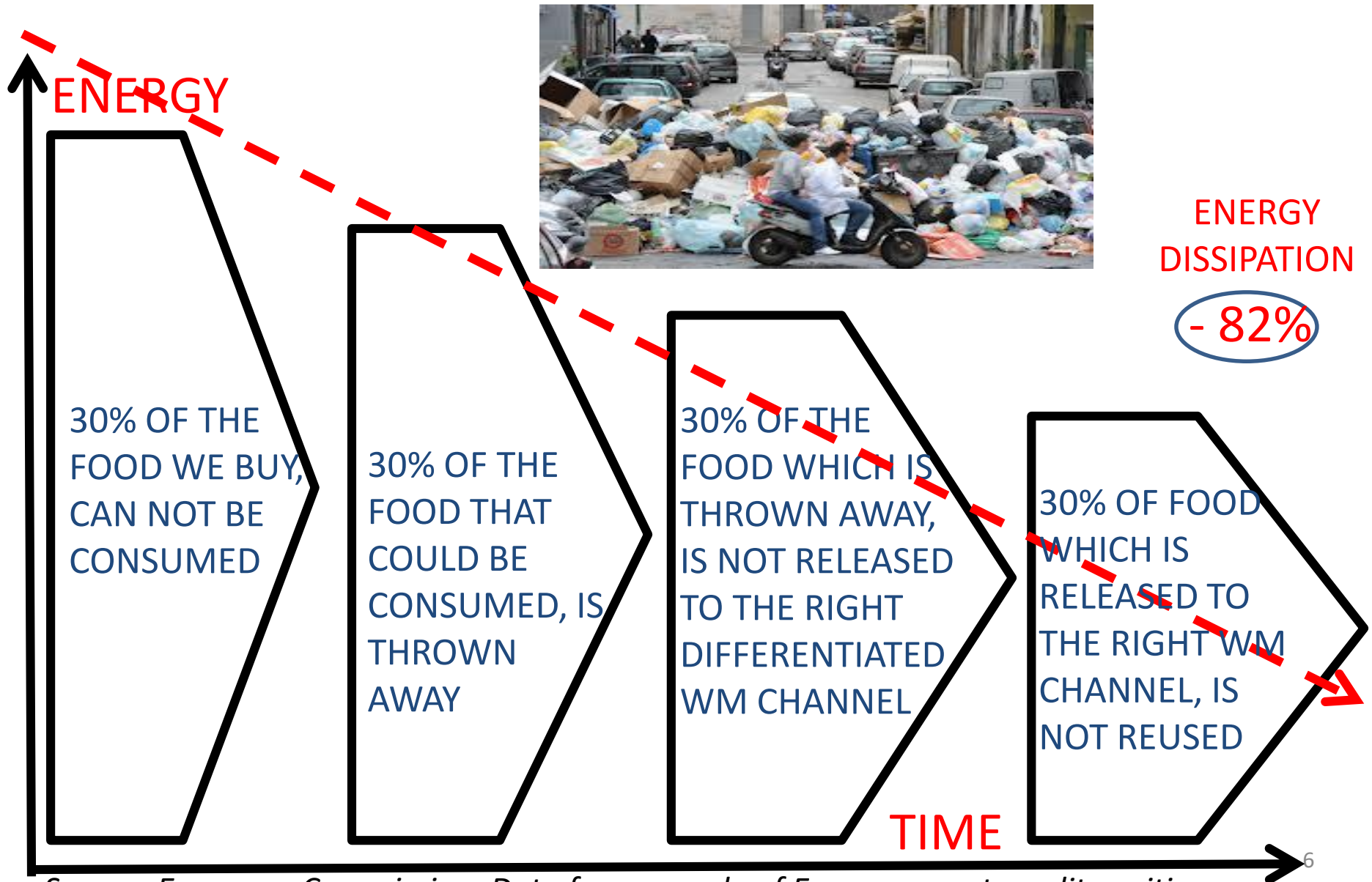
THE THEORY *



AS FOR THE NEW ECONOMIC GEOGRAPHY
(Krugman and Venables, Globalization and the inequality of Nations, 1995)

WHAT IS A « STUPID » CITY?

The three laws of cities inefficiency – The waste management



Source: European Commission; Data from sample of European metropolitan cities

WHAT IS A « STUPID » CITY?

The three laws of cities inefficiency – Mobility

ENERGY

70% OF KILOMETERES PER PASSENGERS ARE TRAVELLED BY PRIVATELY OWNED VEHICLES WHICH ARE, ON AVERAGE. ...

.. ARE USED 20% OF THEIR USABLE LIFE..

..OCCUPIED FOR 20% OF THEIR CAPACITY...

.. USE A KIND OF ENERGY (FOSSIL) WHOSE EFFICIENCY (COST PER KM) IS 20% OF THE ONE AT THE FRONTIER (ELECTRICITY)..

... TRAVEL AT A SPEED WHICH IS 20% OF THEIR POTENTIAL SPEED.



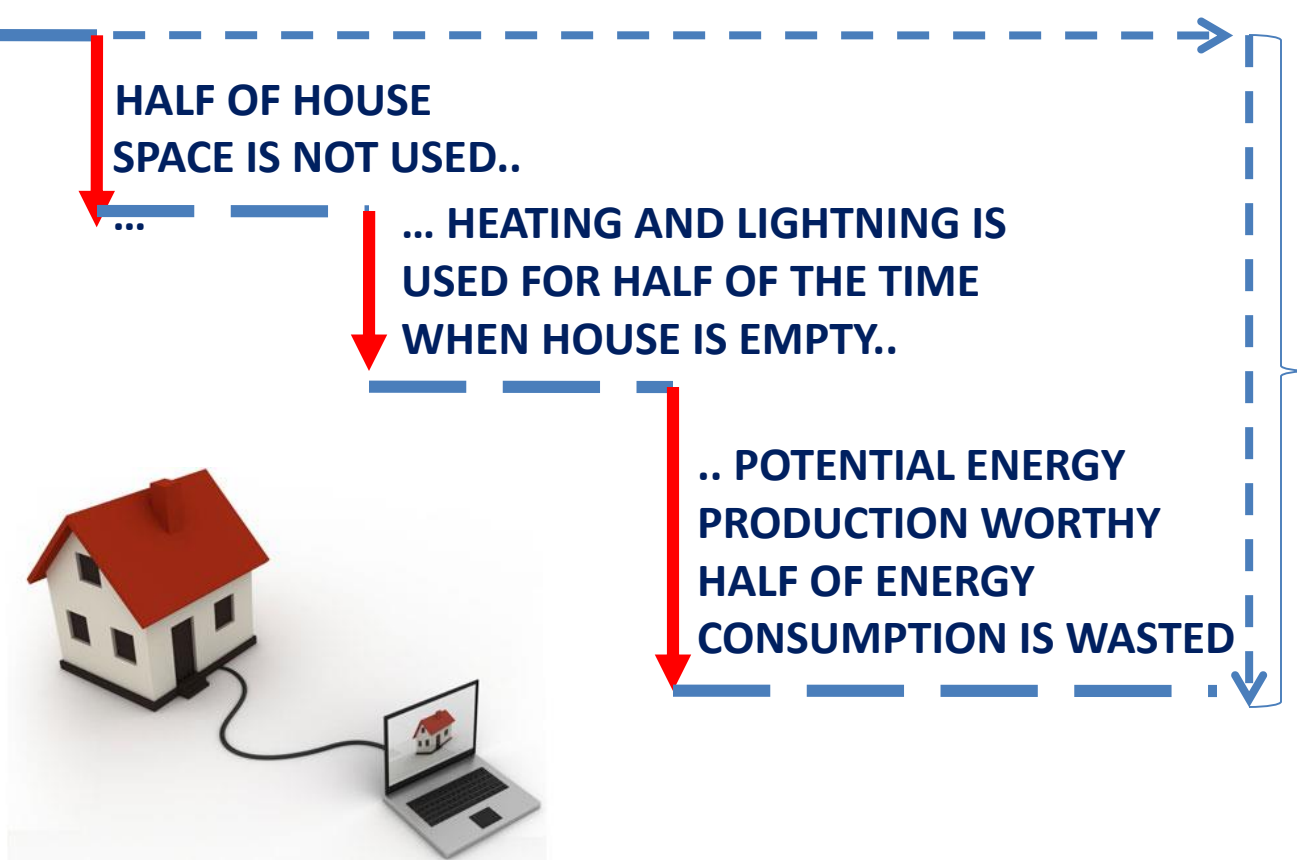
ENERGY DISSIPATION - 99%

TIME

WHAT IS A « STUPID » CITY?

The three laws of cities inefficiency – HOUSING

ENERGY



ENERGY DISSIPATION - 82%

TIME

WHAT IS THEN A “SMART CITY” AND .. HOW CAN IT BE MEASURED

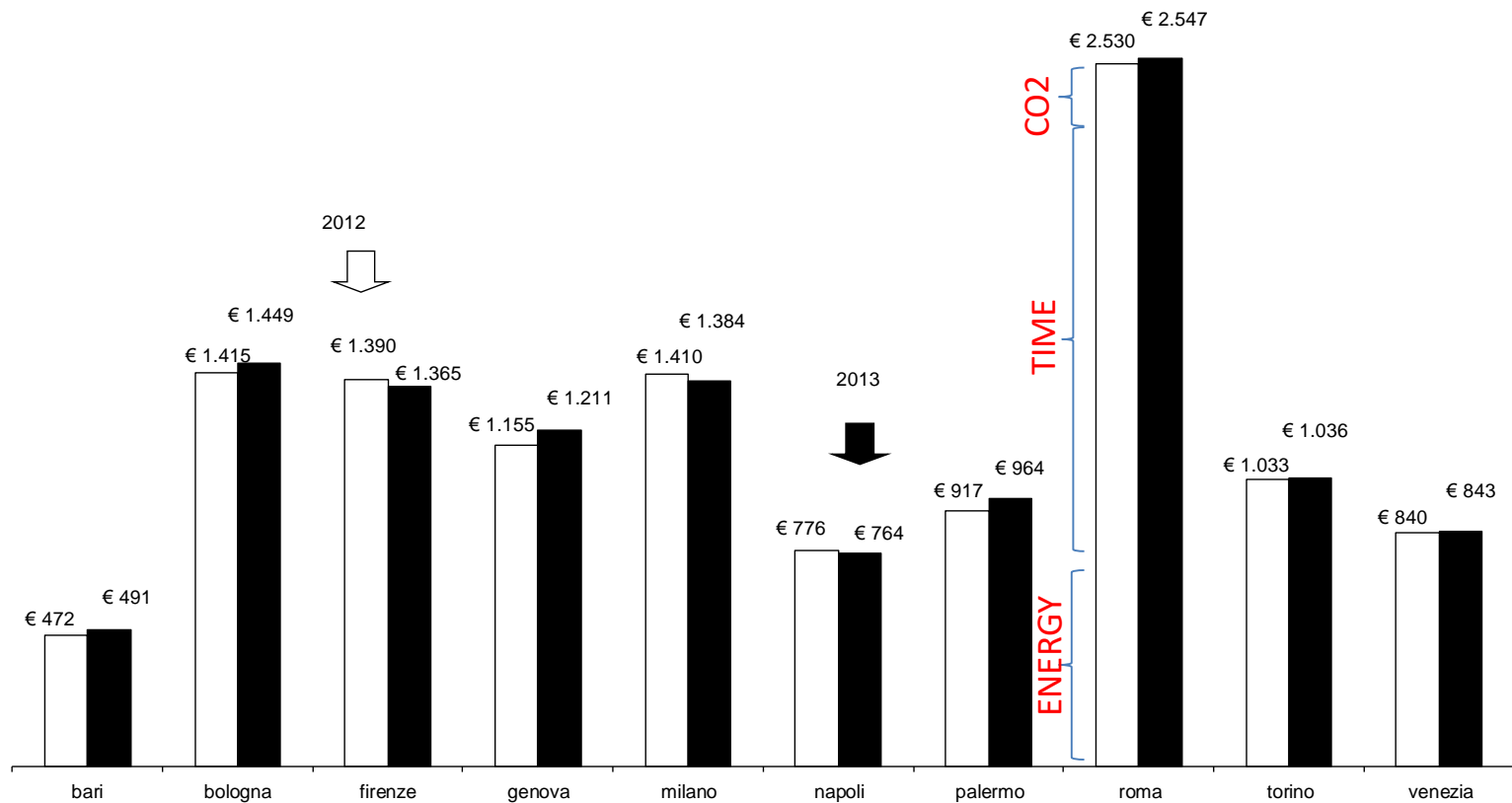
**MORE ENERGY
EFFICIENT**
(CAN BE PROXIED BY
**JOULE PER UNIT OF
INCOME**)

**LESS FOOTPRINT ON
PEOPLE AND PLACES
DISTANT IN SPACE AND
TIME (CAN BE PROXIED BY
CO2 EMISSIONS OF CARS/
HOUSES AND EXCEEDANCE
OF LIMIT VALUE IN CITIES)**

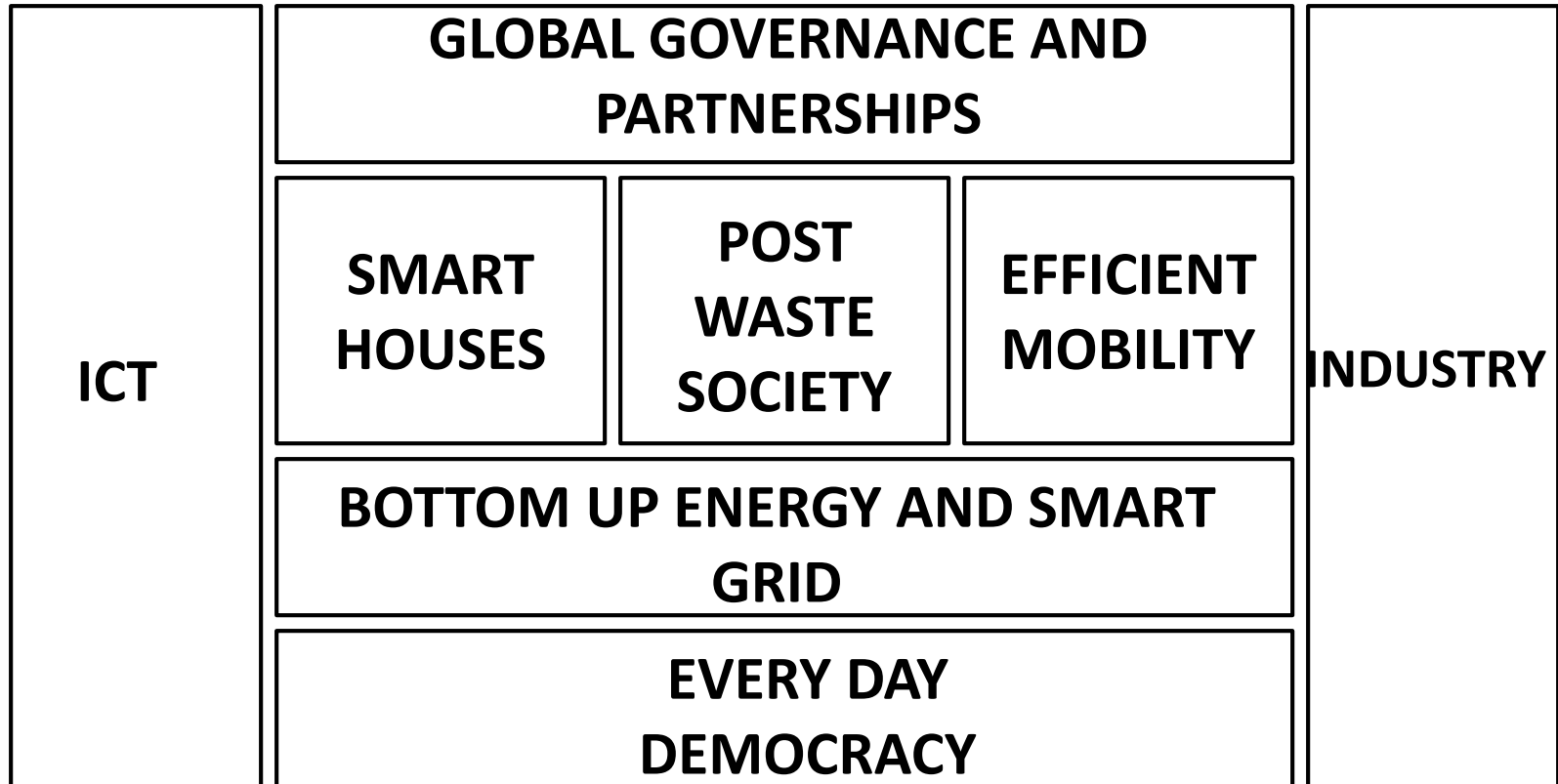
**EMPOWERMENT OF
INDIVIDUAL AND
COLLECTIVE CAPABILITIES
THROUGH REDUCTION OF
WASTE**
(CAN BE PROXIED BY **TIME
WASTED**)

AN ATTEMPT OF MEASURING SMART MOBILITY

Cost per citizen, yearly, euro, 2012 and 2013 (in energy consumed, time



THE FRAMEWORK



KEY QUESTIONS

- HOW CAN WE **MEASURE** THE SMARTNESS OF A CITY ?
- HOW CAN WE MAKE SMART CITIES (AND IN GENERAL INNOVATION) IMPORTANT TO **PUBLIC OPINIONS** AND THUS PRIORITY IN THE **POLICY MAKER'S** AGENDA ?
- ISN'T THERE AN APPARENT CONTRADICTION OF HAVING **PUBLIC ADMINISTRATION** TO FUND A POLICY WHICH BY DEFINITION IMPLIES RISK , FAILURES AND CHOICES ? WHICH INNOVATIONS IN PUBLIC PROCUREMENT AND PUBLIC PRIVATE PARTNERSHIP CAN SOLVE THE PARADOX ?
- IS IT TRUE THAT INNOVATION CAN SAVE **MONEY** AND THAT THIS CAN BE EVEN A GOOD RESPONSE TO ECONOMIC AND STATE FINANCE CRISIS ?
- HOW CAN WE OVERCOME THE **RESISTANCE** (TRADE UNIONS , REGULATION, ..) THAT NORMALLY TRANSFORMATION OF CITIES WILL IMPLY DUE TO LOSS OF JOBS , DIGITAL DIVIDE ... ?

F.Grillo@istruzione.It
Francesco.Grillo@sant.Ox.Ac.Uk
WWW.Visionwebsite.Eu