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Commission

Horizon 2020

Smart Cities & Communities

**The H2020 call for
Smart Cities and Communities
SCC1**

**And lessons learned from
last year's call**

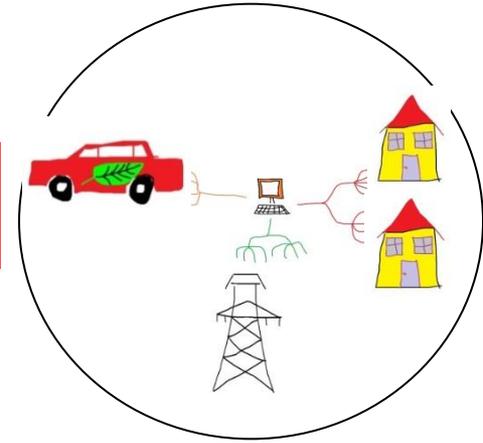
Alexandros Kotronaros

12 February 2015

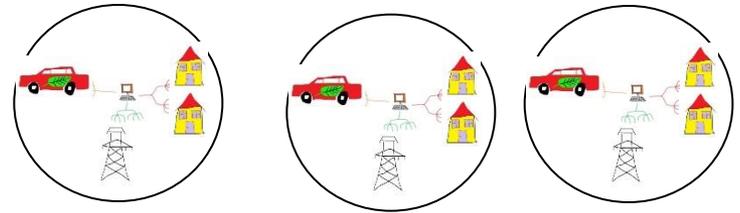
Keywords:



INTEGRATION



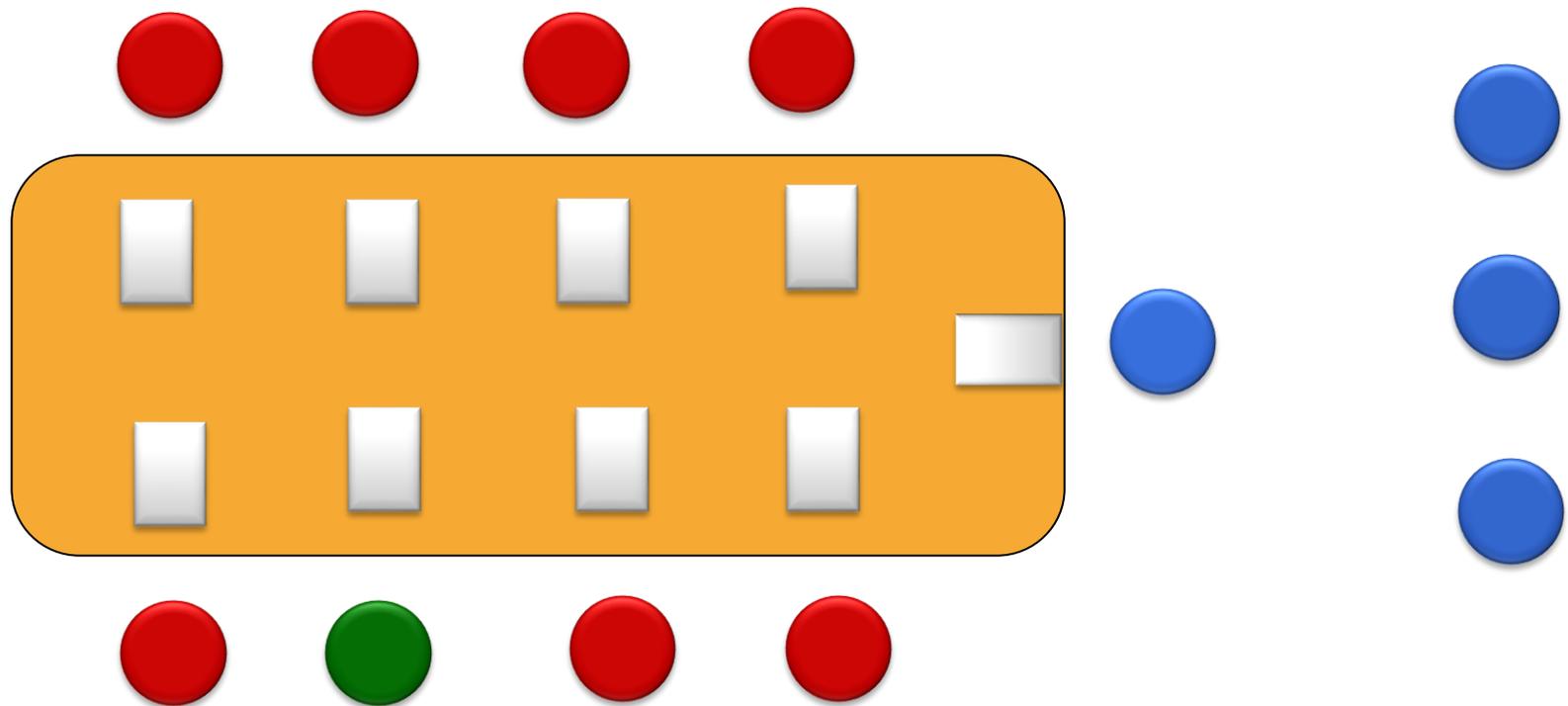
Replication



Balance



Evaluators and Evaluation

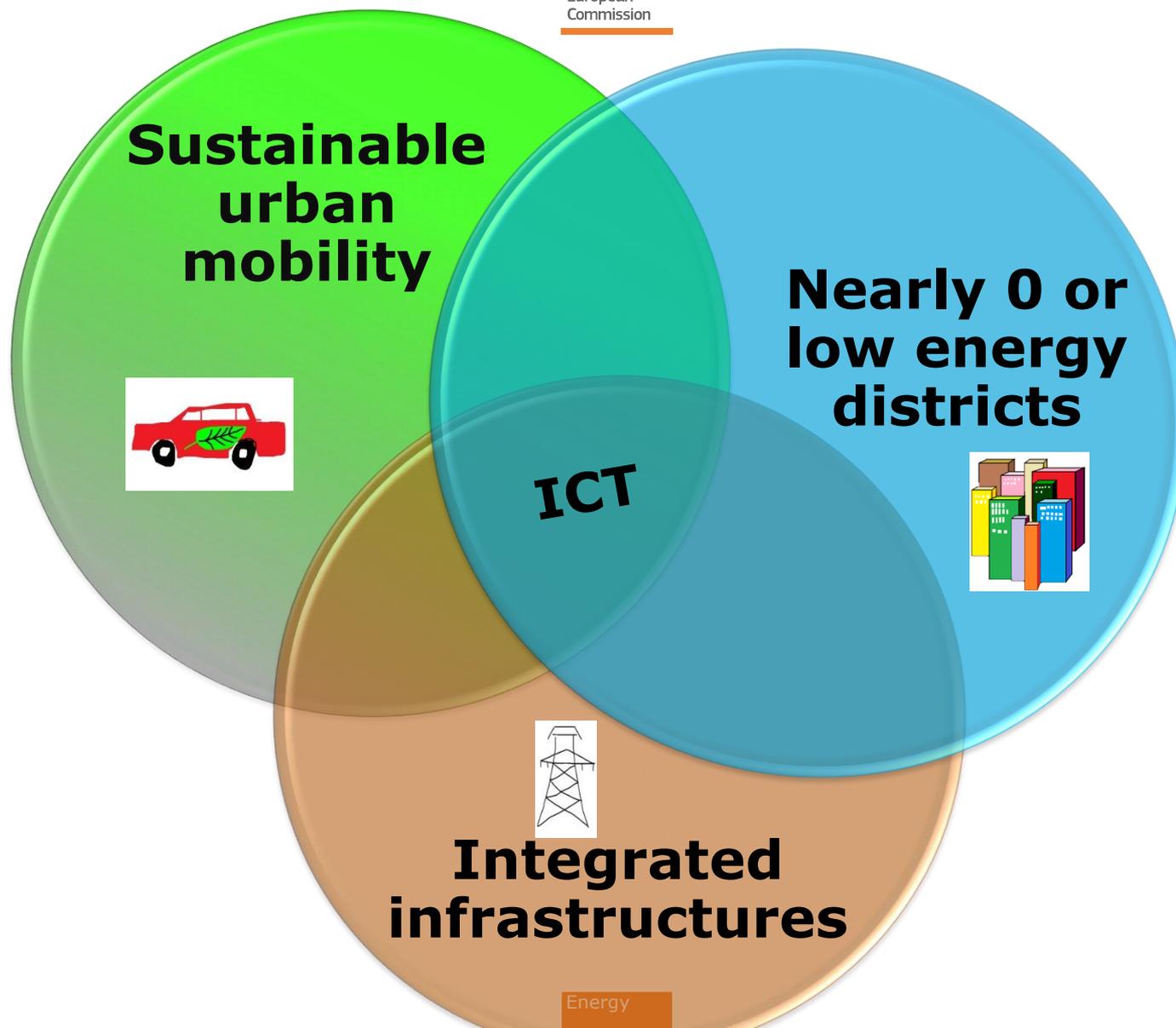


selected from independent expert database in H2020 Participant Portal.

SCC1 proposals should address the following areas:



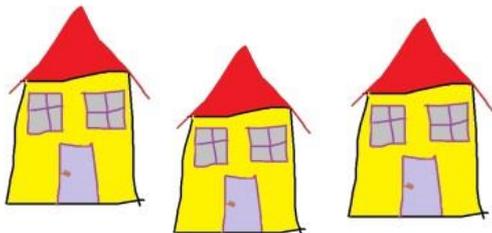
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Energy

(Nearly zero) or Low energy districts

- through the **integration and management** of:
 - the **cost-effective**
 - **refurbishment of buildings**
 - without significant disruption for tenants
 - special focus on **residential buildings**
 - predominant exploitation of local resources (e.g. waste heat, renewables, storage)
 - **supply of energy**
- Active participation of consumers



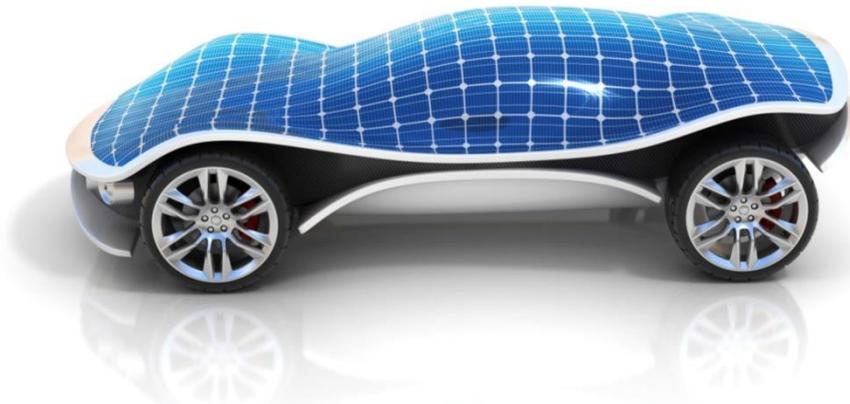
Integrated infrastructures

- the **integration of physical infrastructures** such as core networks, lighting, industrial sites etc to create new forms of value through re-use and repurposing.
 - This should lead to **quantifiable benefits** such as reduction of capital /operational expenditure as well as reduced carbon / energy footprints.
 - This might also imply **exploitation of synergies** between requirements for smart grids, broadband infrastructures and in general poly-networks (eg district heating and cooling).



Sustainable Urban mobility

- the **integration of energy/ fuelling infrastructure with vehicle fleets** powered by alternative energy carriers for public and private transport, including logistics and freight-distribution.
 - **Implications on energy management**, and in the case of electromobility, the **impact on the electricity grid**, of the deployment of high numbers of vehicles and/or the alternative fuel blends performance must be assessed.
- *Note: other transport activities are excluded from funding*



ICT

Cross cutting ICT solutions for the design & management of energy/transport systems

Open &
consistent data and
interoperability of
solutions in order to
avoid locked-in
customers



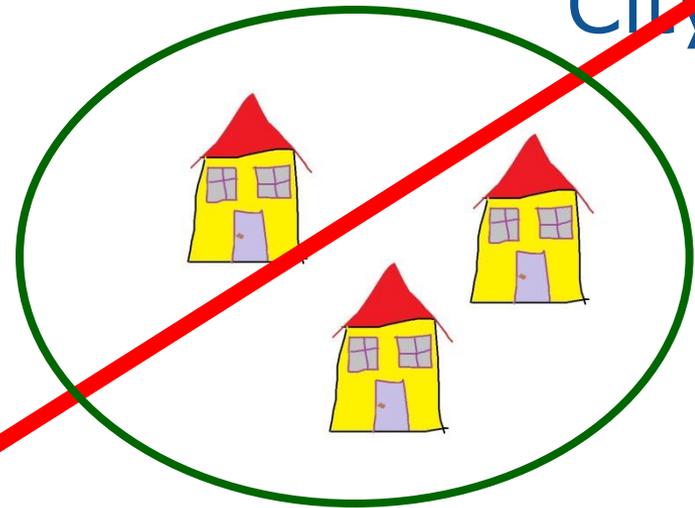


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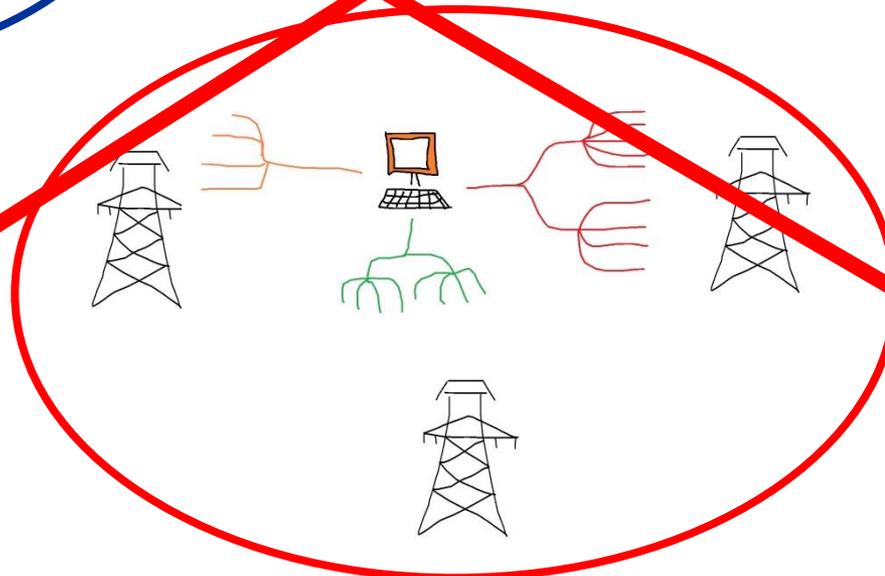
City 1



City 2



City 3



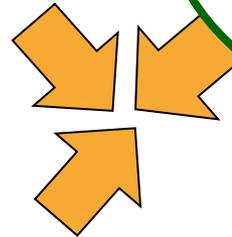
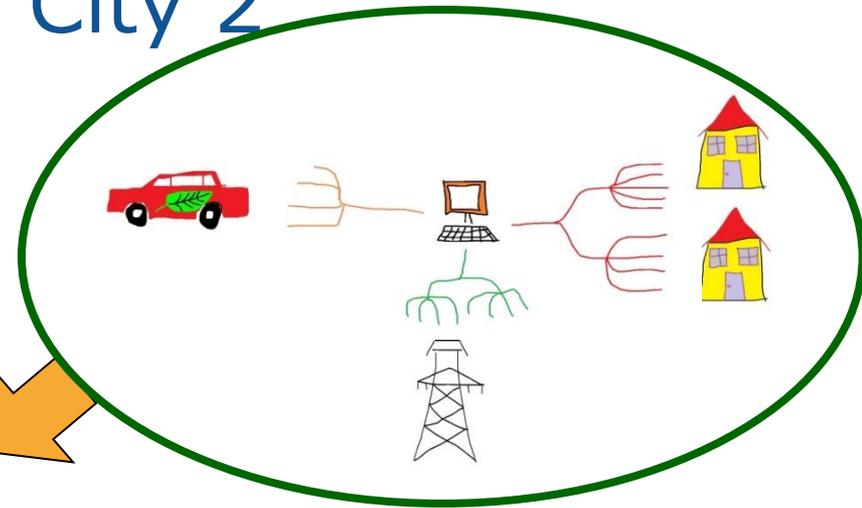
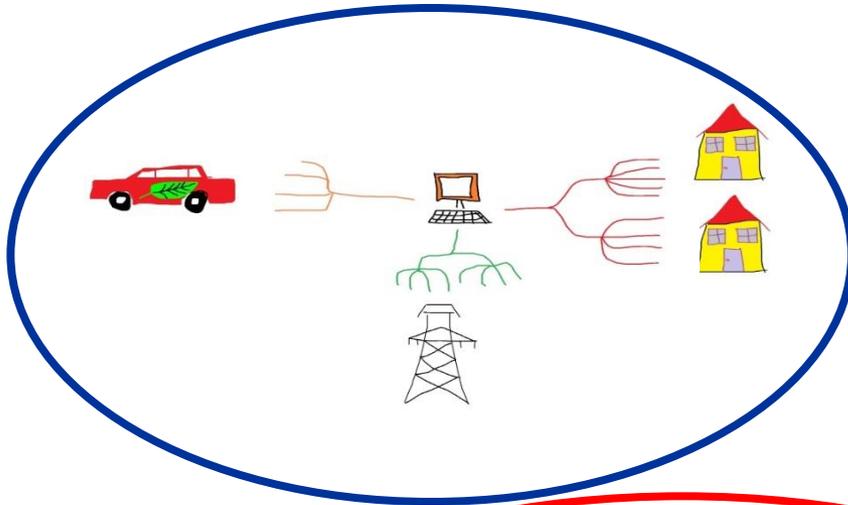
Energy



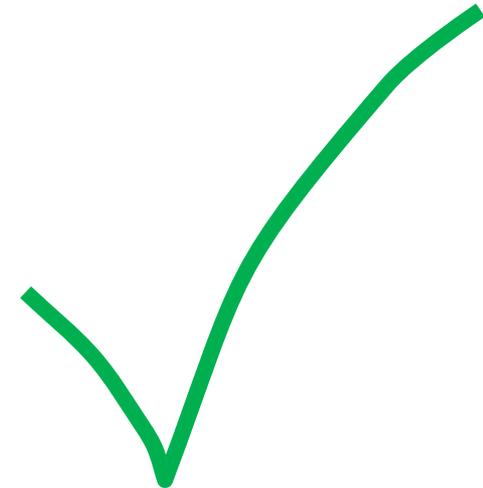
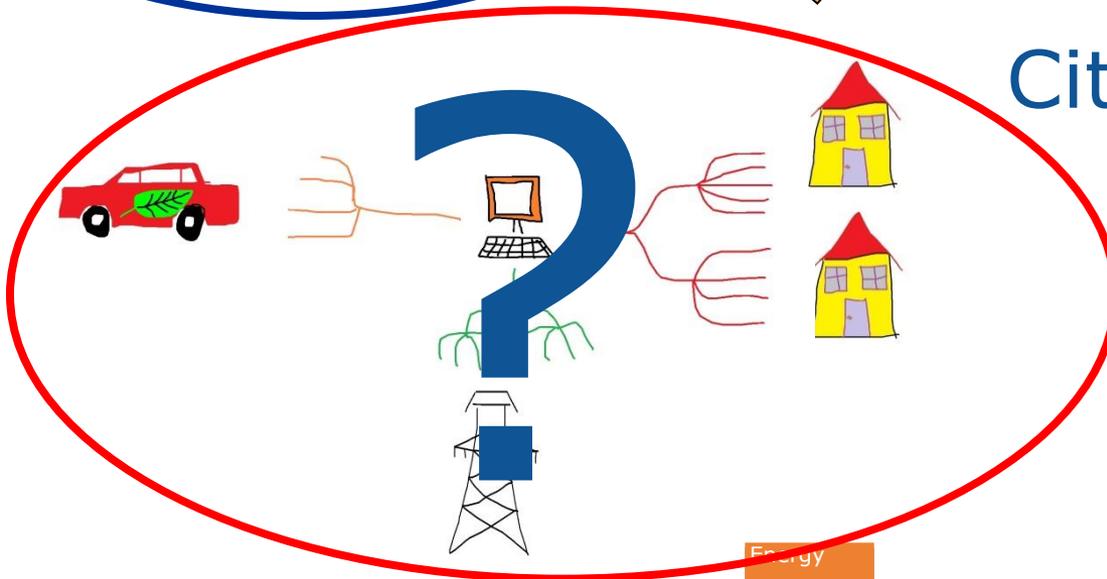
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City 1

City 2



City 3



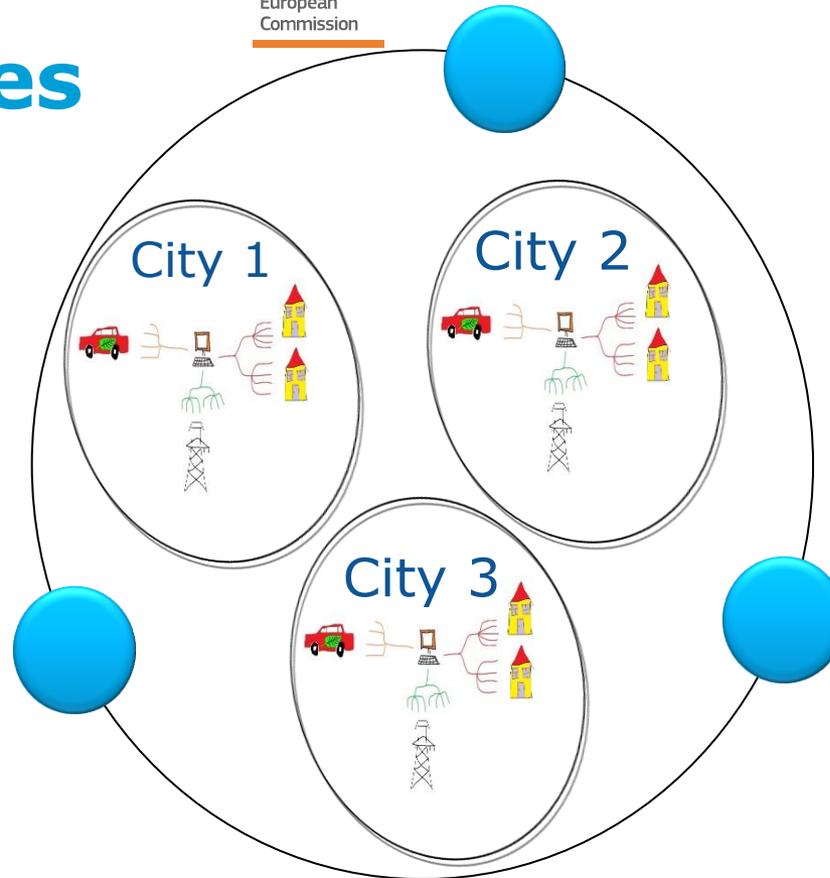
Energy

Include area maps in proposals



Indicate boundaries of affected areas

Follower cities



involve **2-3 follower cities** (in view of future replication), EU geographical coverage should be applied

Consortia to include:

- Industry,
- City planning authorities
- Research community,
- SMEs



Other requirements

- **Funding from other parts secured**
(preferably private ones, but also other EU funding)
- Projects should demonstrate and validate **attractive business plans** that allow large-scale replication of affordable solutions
- Industrial partners and municipal authorities **expected to engage in replicating successful demonstration** in their own and other cities.

≥2 years monitoring

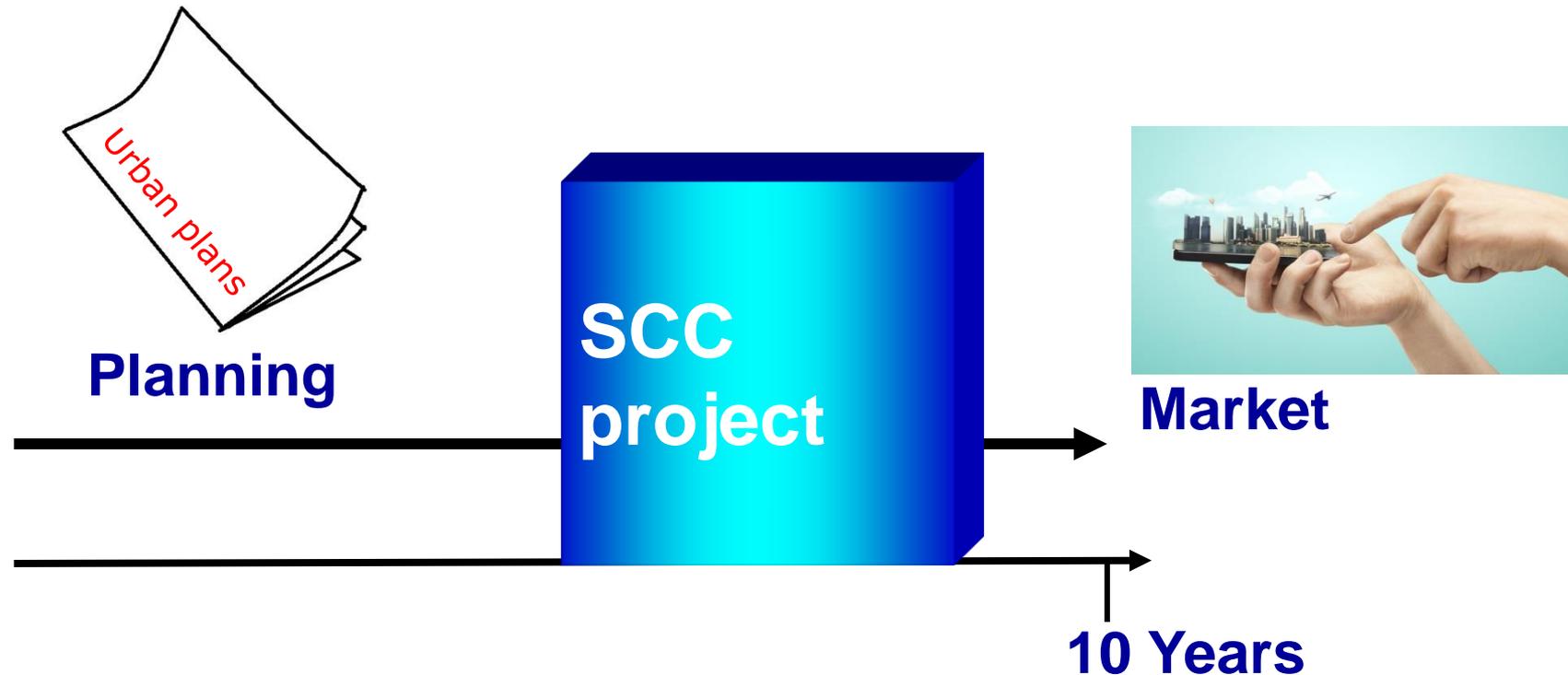
- (longer term commitment will give an added value)
- Performance data into existing data bases

Costs justification

- Financial viability



Sustainable development process



Embedded in ambitious urban plans
(need to be finalised for lighthouse cities)

Expected impact:

- Deployment of large scale integrated, innovative, replicable solutions
- Trigger large investments with acceptable pbt
- Increase EE and foster use of RES
- Active participation of consumers
- Increase mobility efficiency, lower emission of pollutants & CO2
- Reduce energy costs
- Decarbonise the energy system
- Active cooperation and stronger links between cities

- Reduction of energy bills
- Increase quality of life & create local jobs
- Increase air quality

One BEST for every building type

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Buildings Energy Specification Table (BEST)

For every type of building

- Specifications of buildings
- Building energy performance
- Res contribution
- Building's energy use

Calculates support

For conditioned areas only
To be included in the proposal

Find form in the call documents

The image shows a detailed view of the Buildings Energy Specification Table (BEST) form. The form is divided into several main sections:

- 1.1 Building Category:** Includes fields for Community / site, total area / category / BEST sheet [2], and BEST no.
- 1.2 Local Climate:** Includes Climate Zone (national definition), January average outside temperature, August average outside temperature, Average global horizontal radiation, and Annual heating degree days [3].
- 1.3 Maximum requirements of building fabric:** Lists requirements for Facade/wall, Roof, Ground floor, Glazing, Average U-value, Glazing shading, and Ventilation rate [4].
- 2 Building Energy Performance:**
 - 2.1 Energy demand per m² of total used conditioned floor area (kWh / m² / yr) incl. system losses:** Includes fields for Heating + ventilation, Cooling + ventilation, Ventilation (if separate from heating/cooling), Lighting, Domestic Hot Water (DHW), and Other energy demand. It also includes a table for Appliances (please indicate, but costs are not eligible).
 - 2.2 RES contribution per m² of total used conditioned area (kWh / m² / yr):** Includes a table for total production (kWh / yr) and a table for RES contribution.
- 3 Building Energy Use:** Includes fields for kWh/m² / yr for sub-total sum of energy demand, sub-total sum of RES contribution, and total Building Energy Use.
- 4 Other national overall energy performance targets or criteria (additional information, mandatory if existing):** Includes fields for kWh/m² / yr and a table for National regulation / normal practice for new buildings (2006) [6] and suggested specification [7].

Buildings support – scale of unit cost

Example of calculation

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- refurbishment of a building results in energy savings of 100 kWh/m²/year (assumption for the calculation) above current practice
- Payback period (standard figure to be used in the calculation) = 10 years
- Standard cost in euro to save 1 kWh (standard figure to be used in the calculation) = 0,1€/kWh

$$0.1\text{€/kWh} * 100\text{kWh/m}^2/\text{year} * 10 \text{ years} = 100\text{€/m}^2$$

eligible cost

- application of the 70% funding rate  indicative EU contribution 70€/m².
- **SUPPORT INCLUDES ALL CONTENTS OF THE BUILDING**
- **TO BE APPLIED ONLY FOR THE CONDITIONED AREAS**

One TEST per proposal



Transport Energy Specification Table (TEST)

1 Size of the entire vehicle fleet

powered by alternative energy carriers that will be deployed in the project

	Units [11]	explain content and scale [12]
City 1		
City 2		
total		

2 Number of the recharging/ refuelling units

in the infrastructure that will be deployed in the project

	Units [13]	explain content and scale [14]
City 1		
City 2		
total		

3 Estimation of CO2 savings obtained through the sustainable urban mobility solutions

deployed in the project, on the basis of CO2 intensity of the European electricity grid of in 430 g CO2/kWh.



**Support for
mobility**

**Common EU practice
to support the additional
cost compared to
conventional systems**



One project = one rate

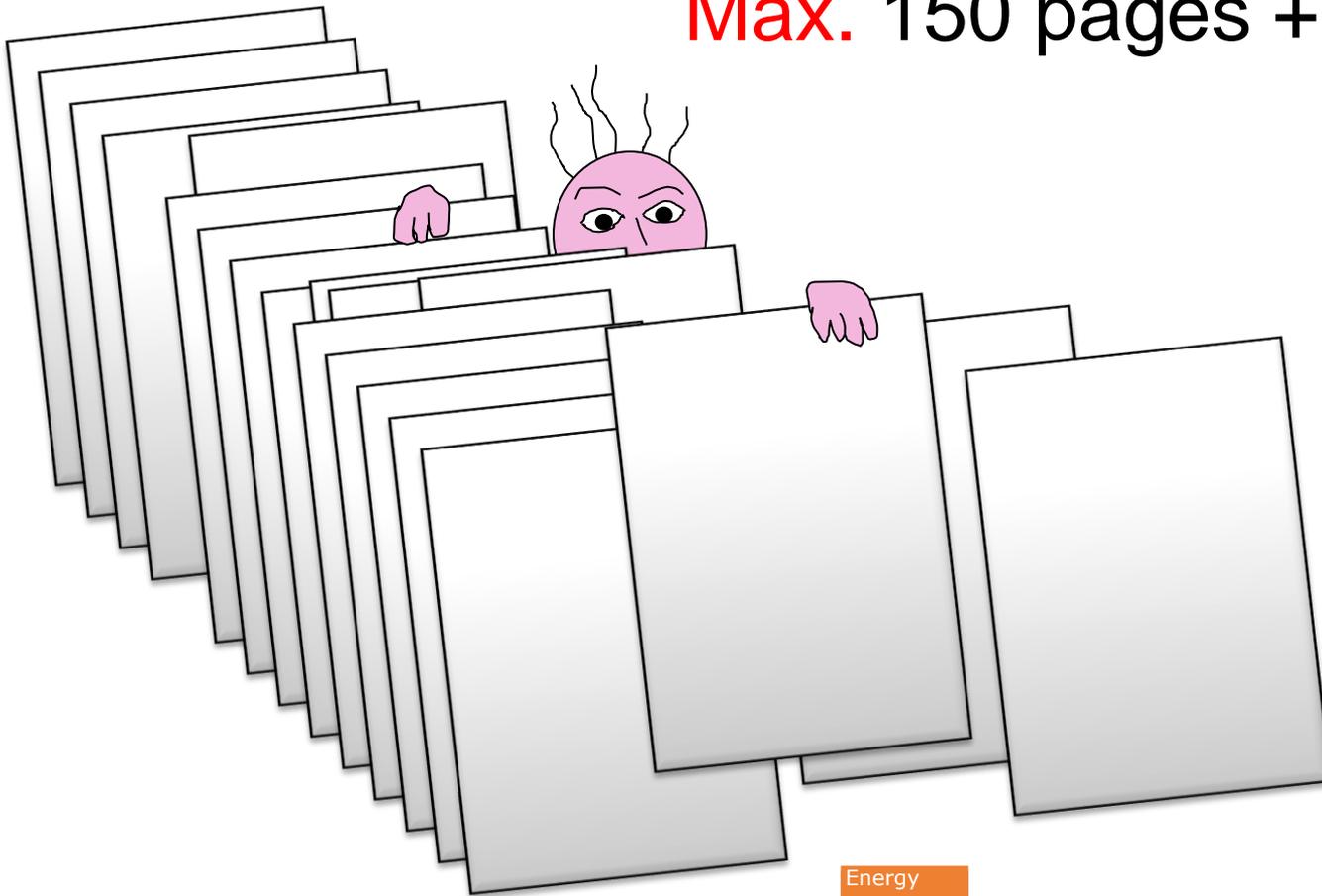
- ☑ For all beneficiaries and activities in the grant.
- ☑ Defined in the Work Programme:
 - Up to 100 % of the eligible costs for **research actions**;
 - Up to 70 % for **innovation actions** (exception for non-profit organisations – up to 100%).



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Number of pages

Max. 150 pages + annexes



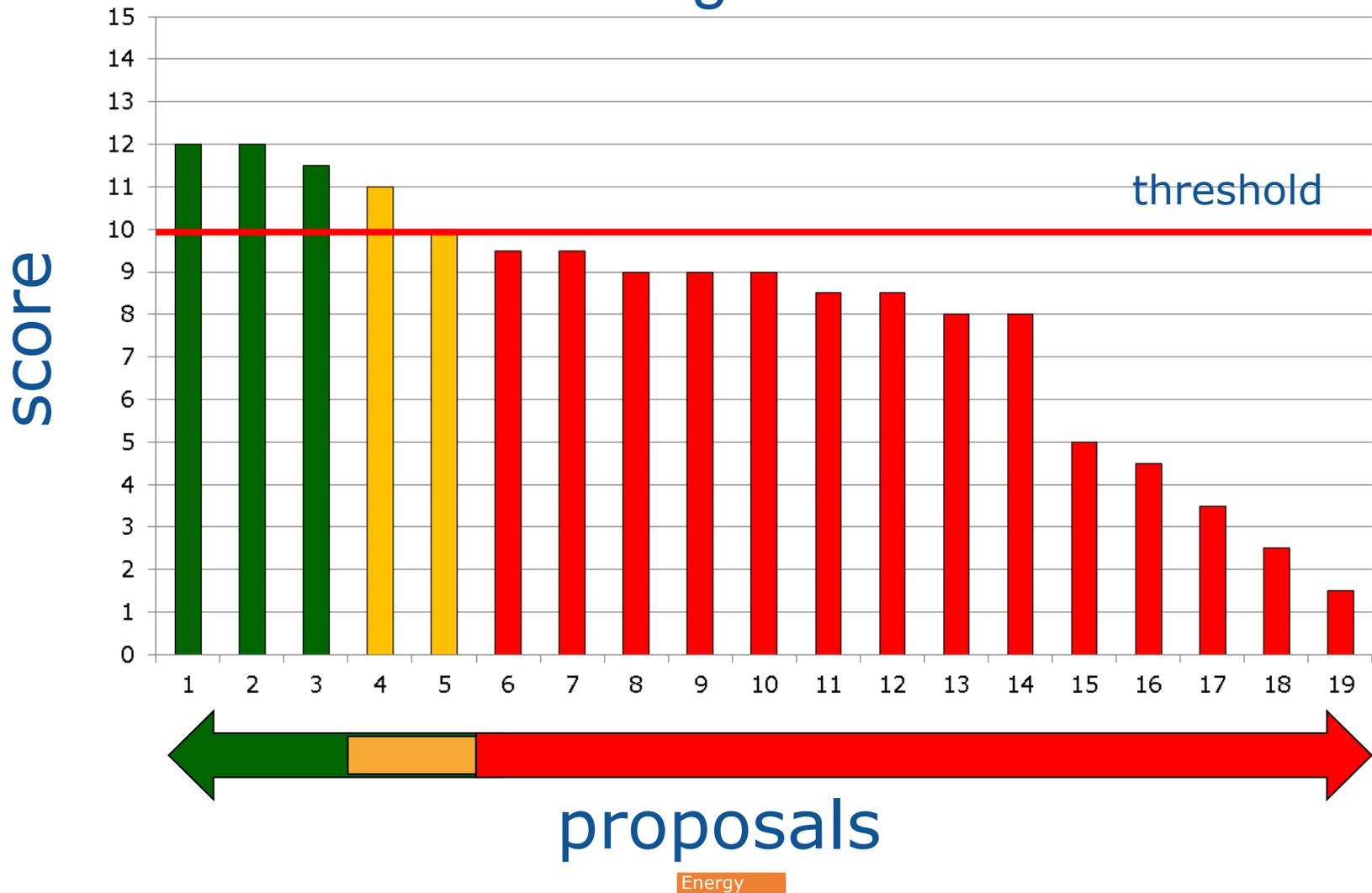
Facilitate the reading of proposals

- Make information easy to find
- Use summary tables
- Justify budget – detail distribution
- Keep page limits
- Use graphs, pictures

Evaluation Criteria

Excellence	Impact	Quality & efficiency of implementation
<p>Clarity and pertinence of the objective</p> <p>Credibility of the approach</p>	<p>Against the expected impacts listed in the work programme</p>	<p>Coherence and efficiency of the work plan – allocation of tasks and resources</p> <p>Competence of participants</p> <p>Appropriateness of the management structure and procedures including risk and innovation management</p>

Scoring in 2014



**Deadline for the (electronic only)
submission of proposals**
5.5.2015
(17:00 Brussels local time)

Indicative budget
€107,180,000



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Before
5.10.2015

Before
5.1.2016



Submission
of
proposals

5.5.2015

Signature
Of grant
agreements

2014 SCC1 call results

	Submitted	Supported	Success rate
Proposals	19	3	16%
Participants	529	84	16%
Countries	32	15 (lead + followers)	
Lead cities	46	9	20%
Follower cities	53	10	19%

Smart Cities and Communities 2014 call Successful lean and follower cities



Lead cities within avail. Budg. ★
Follower cities within avail. budg. ★

ADDITIONAL INFO:

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Participant Portal

At: <http://ec.europa.eu/research/participants/portal/desktop/en/home.html>



Horizon 2020 On-line Manual

<http://ec.europa.eu/research/participants/portal/desktop/en/funding/guide.html#>



Questions? *Research Enquiry Service*

<http://ec.europa.eu/research/enquiries>



Horizon 2020 Annotated Grant Agreement

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf



Call documents

<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-scc-2015.html>



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**Thank you
for your attention!**

Find out more:

<http://ec.europa.eu/programmes/horizon2020/>