

# POSSIBLE EUROPEAN TERRITORIAL FUTURES

## Expert consultation on Key Foresight Topics

### Synthesis of Results

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## 1 Introduction

### 1.1 Aim & Scope

The **ESPON 2020 Possible European Territorial Futures** has developed an expert online survey mostly disseminated to the European planning institution and scientific community.

The survey was composed by 10 questions presenting innovative initiatives happening today in Europe where participants were requested to express their beliefs in relation to their possible interest at European level, and the likelihood in which such solutions could fully develop in the future. Additionally, participants were requested to provide insights on the likely impact of such solutions for the particular territories they are better acquainted with.

In particular, the 10 initiatives presented were:

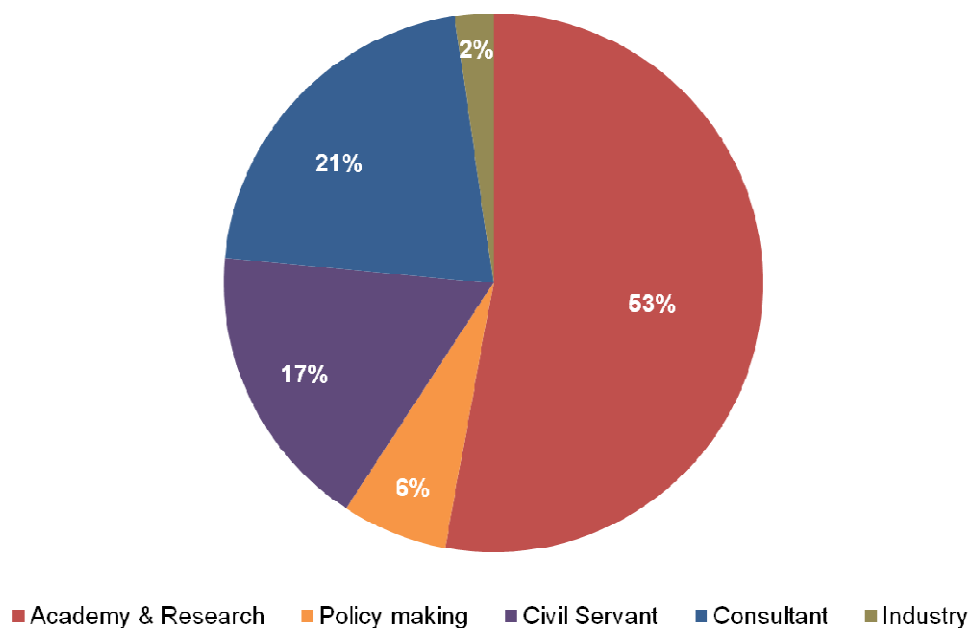
- Self-sufficient energy buildings
- Industrial symbiosis
- Smart Grid Systems
- Solar energy
- Vertical farming
- Less spaces for cars and more for community uses
- Co-housing
- Taxation for temporary residence
- Taxing Real Estate fast profits
- Putting aside land from Real Estate markets

The survey remained open for input from participants between November 7<sup>th</sup> and November 22<sup>nd</sup>. During this period approximately 180 experts participated.

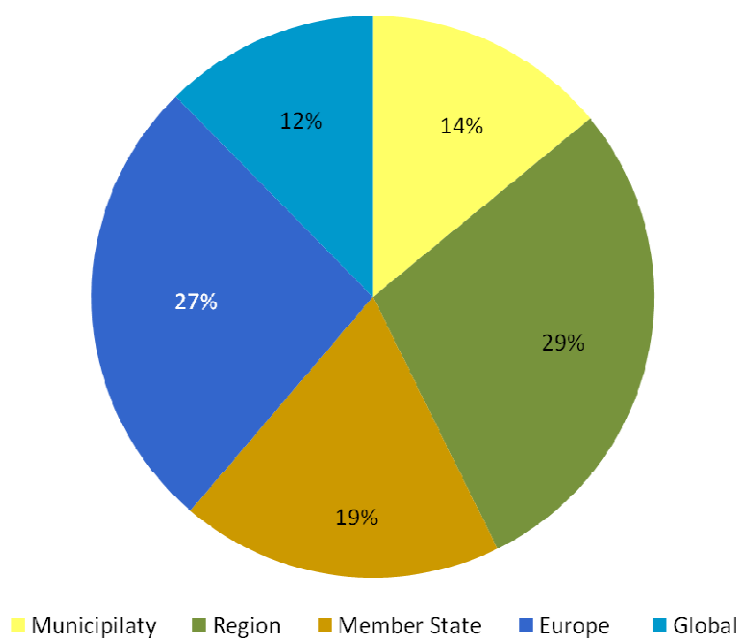
Respondents of the survey were many researchers and academics (53%), but also policy makers and civil servants (23%), consultants (21%) and a few industry members (2%).

The survey combined sectoral experts on the field topics (approximately accounting for 60% of participants), and general analysts whose expertise was more closely related to regional policy and development.

In relation to the scope of the expert's professional work, 43% were professionally engaged at local or regional level (14% and 29%), 39% at European or Global level, and 19% at the level of Member States.

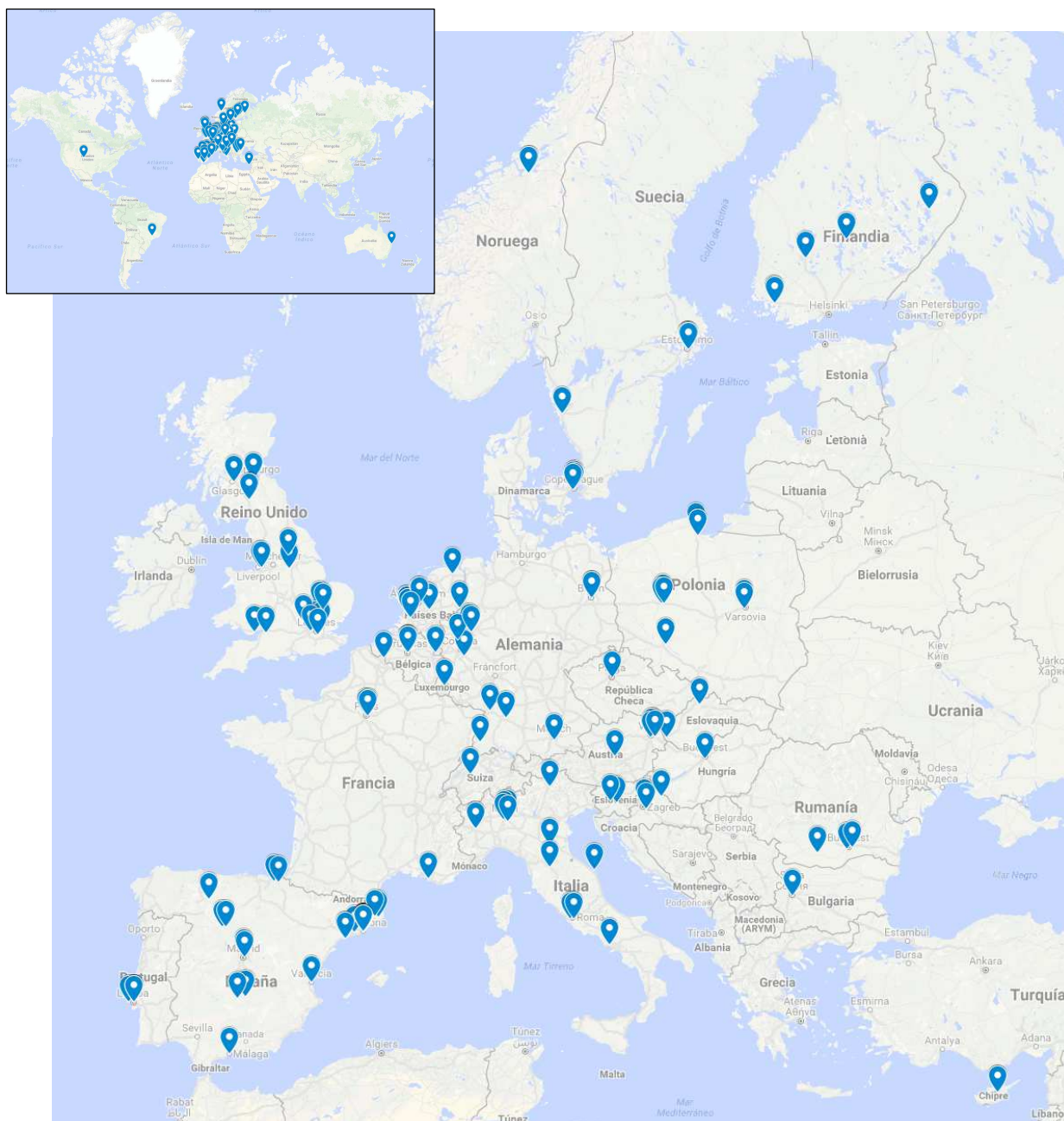


**Figure 1. Professional background of participants**



**Figure 2. Territorial scope of expert's professional work**

United Kingdom, Italy, Germany, Netherlands, Belgium, Poland or Spain are the countries where the members of institutions have participated more in ESPON expert consultation. These participants are from cities like London, Milan, Brussels, Barcelona, Wien, Copenhagen or Stockholm.



## 1.2 Design of the expert survey

The survey was composed by 10 questions presenting upcoming initiatives in Europe, and eventually in the world.

Participants were requested to express their beliefs in relation to their possible interest at European level, and the likelihood in which such solutions could fully develop in the future. This was done with predefined options.

Additionally, participants were requested to provide qualitative insights on the likely impact of such solutions for the particular territories they are better acquainted with.


Next figure shows an example page of the survey.

Background information on analysed initiative

Illustration materials

**Sustainable building: 100% self-sufficient energy?**

100% self-sufficient buildings are aimed at functioning 'off the grid', self-catering for power, water, sewage treatment, and so on. Examples: Ecocapsule is a Slovak solar powered pod-home commercialized for 80.000€, with a wind-turbine and a rain water storage allowing for living in it up to a year with no need to have water or electric power infrastructure. It can be transported and used in different locations. BioCasa82 in Italy was granted the LEED award for being built by boasting the 99% of recyclable materials, 100% of the rainwater collected and the 100% energy production from a photovoltaic system and a high efficiency geothermal plant for the production of heat, hot water and cooling. The house has a below 30 kW/m2 per year energy consumption.



Ecocapsule is a solar powered pod-home designed by Slovak company

How likely is that the initiative is implemented on a large scale?

- ☐ Totally certain
- ☐ Very likely
- ☐ Somehow likely
- ☐ Not very likely

If implemented, how effective it could be?

- ☐ Totally effective
- ☐ Very effective
- ☐ Rather effective
- ☐ Not very effective

Likelihood and effectiveness of solutions (predefined answers)

To what extent this initiative can be implemented in your city or region? Why this initiative could be interesting where you live?

Likely impact and comments (qualitative input)

[NEXT PAGE](#) [Previous](#)

Figure 4. Example of a question of the ESPON 2020 Possible Territorial Futures expert consultation



The next figures present the ten questions asked to experts:

**Q1. Sustainable building: 100% self-sufficient energy?**

100% self-sufficient buildings are aimed at functioning 'off the grid', self-catering for power, water, sewage treatment, and so on. Examples: Ecocapsule is a Slovak solar powered pod-home commercialized for 80.000€, with a wind-turbine and a rain water storage allowing for living in it up to a year with no need to have water or electric power infrastructure. It can be transported and used in different locations. BioCasa82 in Italy was granted the LEED award for being built by boasting the 99% of recyclable materials, 100% of the rainwater collected and the 100% energy production from a photovoltaic system and a high efficiency geothermal plant for the production of heat, hot water and cooling. The house has a below 30 kW/m<sup>2</sup> per year energy consumption.



**Q2. Industrial symbiosis: cooperation for sustainability?**

An industrial ecosystem is a local collaboration where public and private enterprises buy and sell residual products, resulting in mutual economic and environmental benefits. Example: Kalundborg Symbiosis in Denmark is pioneered in the creation of industrial ecosystem in which the by-product of one enterprise is used as a resource by another enterprise in a closed cycle. For instance, organic waste from company Novozymes is made into agricultural fertilizer; smoke from DONG company is made into gypsum at Gyproc company. It was estimated in 2010 that the system helped save 3 million m<sup>3</sup> of water through recycling and reuse, plus biogas was made out of yeast slurry from the production of insulin. According to promoters, the Symbiosis has been founded on human relationships and fruitful collaboration between the employees that have made the development of the symbiosis-system possible.





### ***Q3. Self-sufficient cities: Smart Grid system?***

A SmartGrid is an electricity network that can intelligently manage the actions of generators and consumers connected to it in order to efficiently deliver sustainable, economic and secure electricity supplies. Example: The “Smart Grid Model Region Salzburg” is an urban pilot carried out by the local distribution operator with the goal of creating a holistic smart grid system that manages energy intelligently. The system provides feedback on residential electricity use to the automated cycling on and off of household controllable appliances with the goal of better synchronizing demand with a supply of renewable sources or avoiding load peaks, and increases the hosting capacity of the grid.



### ***Q4. Solar energy on the rise: from macro plants to agrivoltism?***

Solar energy in Europe accounts for 75% of total worldwide photovoltaic capacity. Solar plants are increasingly large and use a growing number of technological solutions. Examples: "Gemaspolar" in Spain generates electricity even at night, as the heat stored during the day is released overnight or during periods without sunlight. Another initiative "Desertec" aims at creating a massive grid of solar plants in the north of Africa and transferring energy to consumption centres in Europe. In Montpellier



producers are testing agrivoltism, a concept that could trigger decentralised solar energy production in Europe by coupling the installation of solar panels above shade-tolerant agricultural crops; because of energy and crop productivity increases, the value of farms could rise over 30%.

**Q5. Agritecture: vertical farming?**

By 2050 urban population will represent 80% of the earth's population. Agriculture aims at increasing urban food production and growing urban forests by using living walls and small hydroponics systems. Examples: "Vertical Forest" in Milan is a building boasting a hectare of plant life, with more than 700 trees and 90 different species of plants, aiming at reducing smog and noise levels while producing oxygen and regulating temperature inside the building. "Urban Barn Foods" is a Montreal based food processing company that grows lettuce, kale and assorted micro-greens in a former car park building, where plants are now arrayed on vertical conveyor belts programmed to move automatically, ensuring that vegetables receive enough water, nutrients and light from custom LEDs.



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**Q6. Less space for cars: more for community uses?**

New kinds of urban public spaces are being created in cities across the world promoting civic and environmental uses for underused or vacant spaces. Examples: In 2015, American artist Agnes Denes transformed a 5 hectares empty plot in Milan's Porto Nuova neighbourhood into an agricultural wheat field. "Pla de Buits" in Barcelona is a municipal program aiming at revitalizing unused in the city lots through educational, environmental and cultural activities. The pilot superblock initiative also in Barcelona has converted 9 urban intersections into pedestrian squares with a variety of new uses.



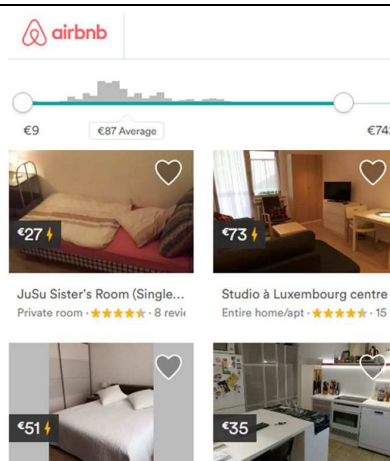
### Q7. Co-housing: collaborative housing?

Co-housing is a type of collaborative housing in which residents actively participate in the design and operation of their apartment buildings or residential neighbourhoods. Examples: "LiLac Co-housing" in Leeds begun when an organised group of people reached consensus on the financing, design, construction and management of their own community to decrease investment costs and maintenance. "Alte Schule Karlshorst" in Berlin is another example of a multi-generational co-housing in an old school building converted into 21 apartments for youths and elderly, with a handful of common relational spaces. In Deventer (Netherlands) college students are set to live rent-free alongside elderly residents in exchange for spending at least 30 monthly hours with senior co-residents.



### Q8. Carrying Capacity Management: taxation for temporary residence?

Tourism represents 10% of the EU economy, with 8 EU cities ranking among top-20 global tourist destinations. New tools emerging from the collaborative economy allow accommodation deals set out directly between citizens and visitors. Fearing this new offer is impacting on the accommodation business as well as on the real estate market, cities are conceiving new regulation mechanisms to manage it. Examples: Paris has negotiated with Airbnb the collection of the 0,83€ local tourist tax from apartment owners; in Amsterdam, guests booking through Airbnb will pay up to 5% of the listing price; in Lisbon, the tax is 1€ per person per night. While Airbnb collects local tourist taxes it provides to municipalities with exhaustive listings of tourist flats in the market, allowing for the identification of informal offer.





### Q9. Crashing the Bubble: taxing Real Estate fast profits?

Large cities are testing new policies to tackle investment-driven real estate markets weakening the capacity of citizens to rent or acquire homes, while leaving large stocks of empty properties. Examples: In London, some boroughs have opted for council taxes up to 150% on empty properties, having led to 35% fall of abandoned properties since 2012. In Vancouver, a speculation tax on empty homes is being brought forward for slowing down price escalation, while tax revenues are reinvested on social housing programmes. In a context of low economic return from the banking system and unstable stock market, real estate markets in the global economy are subject to far more pressure than before.



### Q10. Adopt this land: putting aside land from Real Estate markets?

The decline of natural ecosystems around the world has spurred governments and NGOs to acquire or adopt valuable natural areas for conservation in order to sustain their unique sets of intrinsic values. Examples: "Hercules" is a 2013 EU funded project with €3 million budget aiming at bringing together civic organisations to promote land stewardship to preserve agricultural land in Europe; "Apadrina un Olivo" is one of this projects targeting to preserve century-old olive trees in Spain. The "Royal Society for the Protection of Birds" in Scotland purchased in 2016 16 hectares of the Dunnet Head for protecting birds. In the US, "Access Fund" is an accredited land trust buying and managing climbing areas across the nation since the 90s in partnership with local organizations, landowners, and climbers.



### 1.3 Repository of Best Practices

At the end of the consultation, participants were provided access to the background repository of best practices produced during the preparation phase of the consultation. The European Territorial Futures repository of relevant practices (<http://projects.mcrit.com/esponfutures/>) aims at identifying best initiatives paving the way today for establishing a sustainable future for Europe.

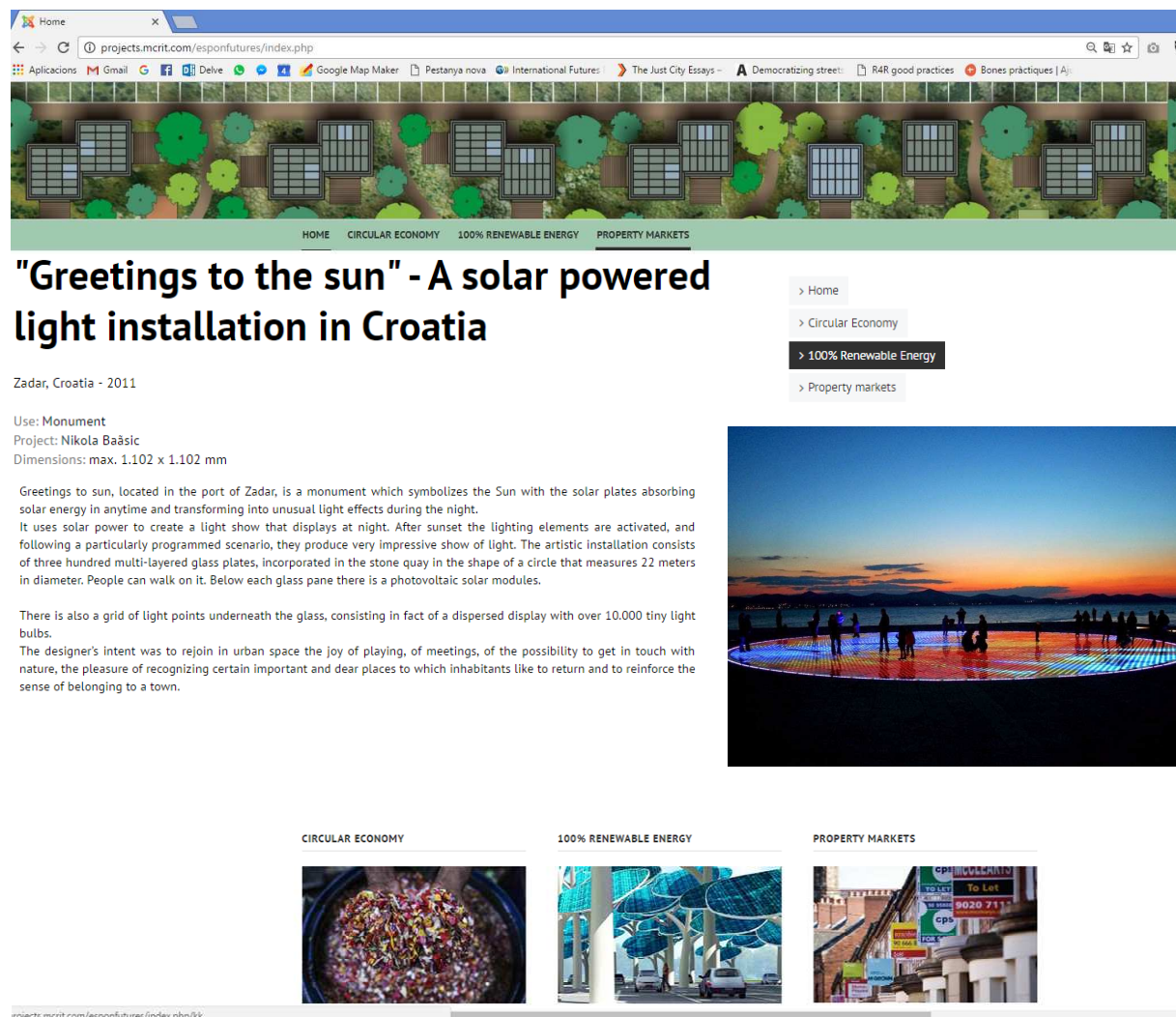
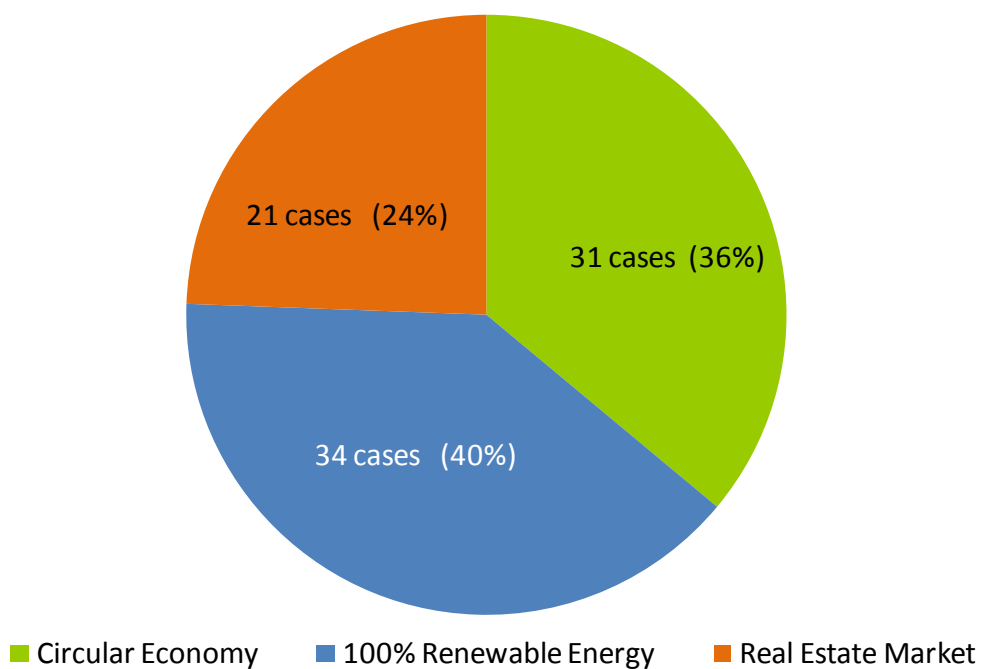


Figure 5. Best practices and initiatives repository. <http://projects.mcrit.com/esponfutures/>

The work is mainly focused on best practices about a new placed-based economic organisation as part of a circular economy, a European 100% renewable energy supply and consumption and a collapse of the European Real Estate markets. Moreover, the website is complemented with information about these foresight topics and future trends of them.

Examples of best initiatives are aimed at describing today's situation in various European regions and cities and to point possible pathways to achieve the European goals about these topics. The website comprises around 90 examples of best practices and initiatives around Europe. These case studies are currently classified in the three foresight topics: 31 of each are about Circular Economy, 34 of

them are about 100% Renewable Energy and the other 21 are about Real Estate Market. Case studies have a common structure, including initiative description, domain of application, the current state and links to access to more information about it.



**Figure 6. Best practices for three foresight topics**

## 1.4 List of Participants

178 experts participated from 142 institutions in the Possible European Territorial Futures on three foresight topics selected. The participants represented the following institutions.

Institution
Aarhus University in Copenhagen
Abertis Infraestructuras Barcelona
ACCIÓ Government of Catalonia
Adam Mickiewicz University, Poznan
AEIDL - Association Européenne pour l'Information sur le Développement Local, Brussel
Agència Ecologia Urbana, Barcelona
Ajuntament de Mollet del Valles
Ajuntament de Vilafranca del Penedès
Applied Economics, Copenhagen
ARC, Sofia
Tarragona Transport Authority - ATM Camp Tarragona
Barcelona Transport Authority - ATM Barcelona
Autonomous province of Bolzano
Barcelona Chamber of Commerce
Barcelona City Council
Barcelona Provincial Council
Bundesinstitut für Bau-, Stadt- und Raumforschung, Bonn
C100, Barcelona
Cardiff University
CEG-IGOT Lisbon University
Centre for Urban and Territorial Development, Bucharest
Citatis Engenharia, Ribeirao Preto
Collaborating Centre on Sustainable Consumption and Production, Wupperta
Comboios de Portugal, Lisboa
Consiglio Nazionale delle Ricerche Area di Ricerca, Milan
Crowdsourced-transport, Vienna
Copenhagen Institute for Futures Studies, Copenhagen
Delft University of Technology
Department of Human Geography, Stockholm University
Department of Land Economy, Cambridge
Department of Town Planning and Housing, Ministry of Interior, Republic of Cyprus
Diputació de Barcelona, Barcelona
Diputación de Ávila, Ávila
CEU European Council of Spatial Planners, Brussels
Soest, Netherlands
Emilia-Romagna Region, Bologna
EPN Consulting Limited, London
European Regions Research And Innovation Network, Brussels
Escola Europea de Short Sea Shipping, España
Estoril Higher Institute for Tourism and Hotel Studies, Estoril
ESPON EGTC, Luxembourg



Institution
Etc-Universidad de Málaga, Málaga
European Commission, Brussel
European Environment Agency, Copenhagen
Faculty of Architecture CTU Prague, Prague
Ferrmed, Barcelona
Finland Futures Research Centre, University of Turku
Flemish Government, Brussels
Fomterv, Budapest
General Direction of Information Technology, Bucharest
Gmp - Enfoque patrimonialista, Madrid
Green Alliance, London
ICLEI - Local Governments for Sustainability, Freiburg
ILS - Research Institute for Regional and Urban Development, Dortmund
Institut d'aménagement et d'urbanisme de la région d'Île-de-France, Paris
Instituto de Geografia e Ordenamento do Território
Institut for Environmental Studies, Delft
Institute for Development, Gdynia
Institute of Socio-Economic Geography and Spatial Management, Poznan
Institute for the Spatial Planning of the Koprivnica-Križevci county, Koprivnica
Institut für Ökologische Stadtentwicklung
Institut Ignasi Villalonga, Valencia
International Institute for Applied Systems Analysis, Austria
ISINNOVA, Rome
ISOCARP, The Hague
ISSM-CNR (National Research Council), Naples
ITF-OECD, France
KIT, Network Economics, Karlsruhe
Kth Royal Institute Of Technology, Stockholm
Lappeenranta University of Technology, Finland
Lombardy Region Italy, Milan
London School of Economics, London
Loop Connections, Edinburgh
MCRIT, Barcelona
METREX, Glasgow
Ministry of the Environment and Spatial Planning, Ljubljana
MKmetric GmbH
Motor Transport Institute, Warsaw
MZKZG Gdansk, Gdansk
NIDI, The Hague, NL
Nordregio, Stockholm
Northern Netherlands Alliance, Groningen
Oakdene Hollins Research and Consulting Limited
ÖIR GmbH, Vienna
Orkestra, Donostia
Panteia, Zoetermeer

Institution
PEMB, Barcelona
Politecnico di Milano
Politecnico di Torino, Torino
Polis, Brussels
PRé, Amersfoort
Relionvetenskap, Goteborg
Roubaix, France
SEURECO, Paris
Significance, The Hague
SINTEF Technology and society, Trondheim
Som Energia, Girona
Spatial Foresight
SPECTRA CE EU at STU Bratislava, Bratislava
Spiekermann & Wegener Urban and Regional Research, Dortmund
Stockholm County Council, Stockholm
t33, Ancona
Technische Universität München, Munich
Tecnia, Donostia
TMA United Kingdom, London
Town planning institut of Zagreb, Asociaton of Croatian town planers, Zagreb
TRT Trasporti e Territorio, Milano
TU Berlin, Berlin
TU Delft, Delft
TU-Wien, Wien
UNEP/MAP Plan Bleu, Marseille
Universitat Autònoma de Barcelona
Universidad de Valladolid
Università di Firenze
Universitat de València
Universitat Politècnica de Catalunya
Universidad de Castilla La Mancha, Ciudad Real
University College London
University of Birmingham
University of Cambridge
University of Colorado (USA)
University of Eastern Finland, Joensuu
University of Gdansk, Gdansk
University of León, León
University of Lisbon, Lisbon
University of Liverpool, Liverpool
University of Ljubljana, Ljubljana
University of Sheffield, Sheffield
University of the West of England, Bristol
University of Turku, Tampere
University of Twente, Enschede

Institution
University of Zagreb, Faculty of Science, Department of Geography
University of Zilina, CETRA-Centre for Transport Research, Slovakia
UNU-MERIT, Maastricht University
Urban Planning and Sustainability, Amsterdam
Urban Transport Group, Leeds
UVEK ARE, Berne
Vlaanderen, Belgium
Vienna University of Economics and Business, Vienna
Warsawa School of Economics, Warsaw
Wroclaw Regional Development Agency, Wrocław
Z_punkt GmbH, Berlin

## 2 Synthesis of Results

Most interesting initiatives according to participants are presented below. Most of them are found to be realivly likely as well.

- ✓ 77% consider that industrial symbiosis having a potential impact
- ✓ 74% consider that taxation for temporary residence is likely to fully develop but 46% consider that it could not be effective
- ✓ 67% grant that smart grid systems is likely to fully develop and 65% that it having most potential
- ✓ 63% consider that less space for cars and more for community uses is likely to fully develop 60% consider that solar energy is likely continue on the rise and it has most potential
- ✓ 58% consider that taxing Real Estate fast profits has most potential

Lower performing initiatives according to participants are presented below.

- 21% consider that self-sufficient building is a strategic solution and 78% not really take it into consideration
- 27% consider that vertical farming is fully develop and 70% not really take it into consideration
- 35% grant that collaborative housing is a strategic solution and 51% that it having most potential
- 39% consider that putting aside land from Real Estate markets is a strategic solution and 55% that it could be effective

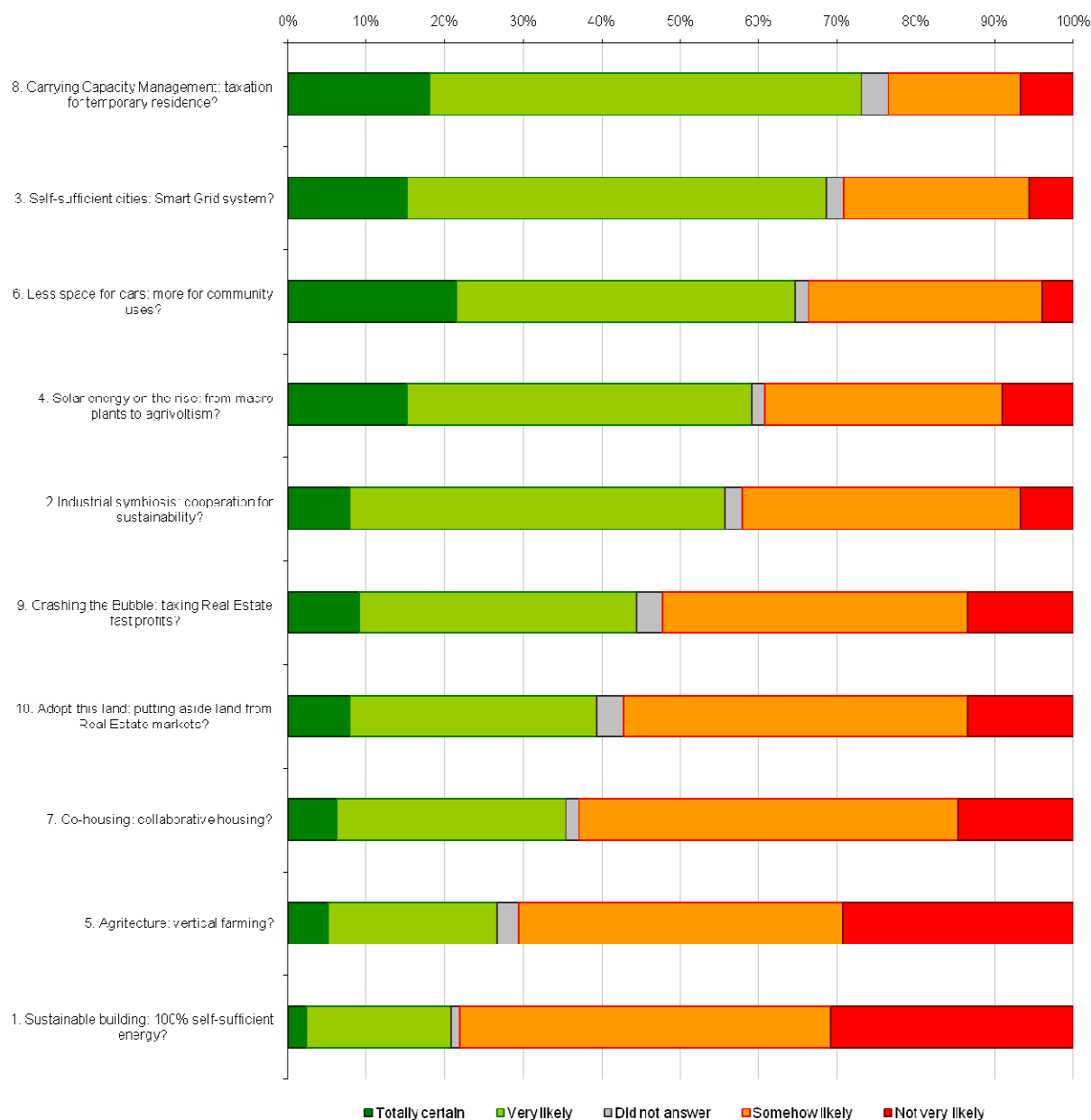
	LIKELY (*)	EFFECTIVE (**)
Q2. Circular-Clusters. Industrial symbiosis?	✓	✓
Q3. Smart grid system?	✓	✓
Q4. Solar energy on the rise?	✓	✓
Q6. Less space for cars: more for community uses?	✓	✓
Q8. Taxation for temporary residence?	✓	X
Q7. Collaborative housing?	X	✓
Q9. Taxing Real Estate fast profits?	X	✓
Q10. Putting aside land from Real Estate markets?	X	✓
Q1. Self-sufficient buildings?	X	X
Q5. Vertical farming?	X	X

**Figure 1. Synthesis of participant perception in relation to proposed initiatives**

(\*) Likely initiatives correspond to respondents answering totally or very. Not likely initiatives correspond to respondents somehow or not very

(\*\*) Effective initiatives correspond to respondents answering totally or very. Not effective initiatives correspond to respondents rather or not very

Next figure presents the degree of likelihood stated by experts for the initiatives to fully being implemented at European level.



**Figure 2. Likelihood of 10 selected key initiatives, distribution of answers**

Next figure presents the potential interest stated by experts for the initiatives to effectively addressing current challenges, if fully implemented.

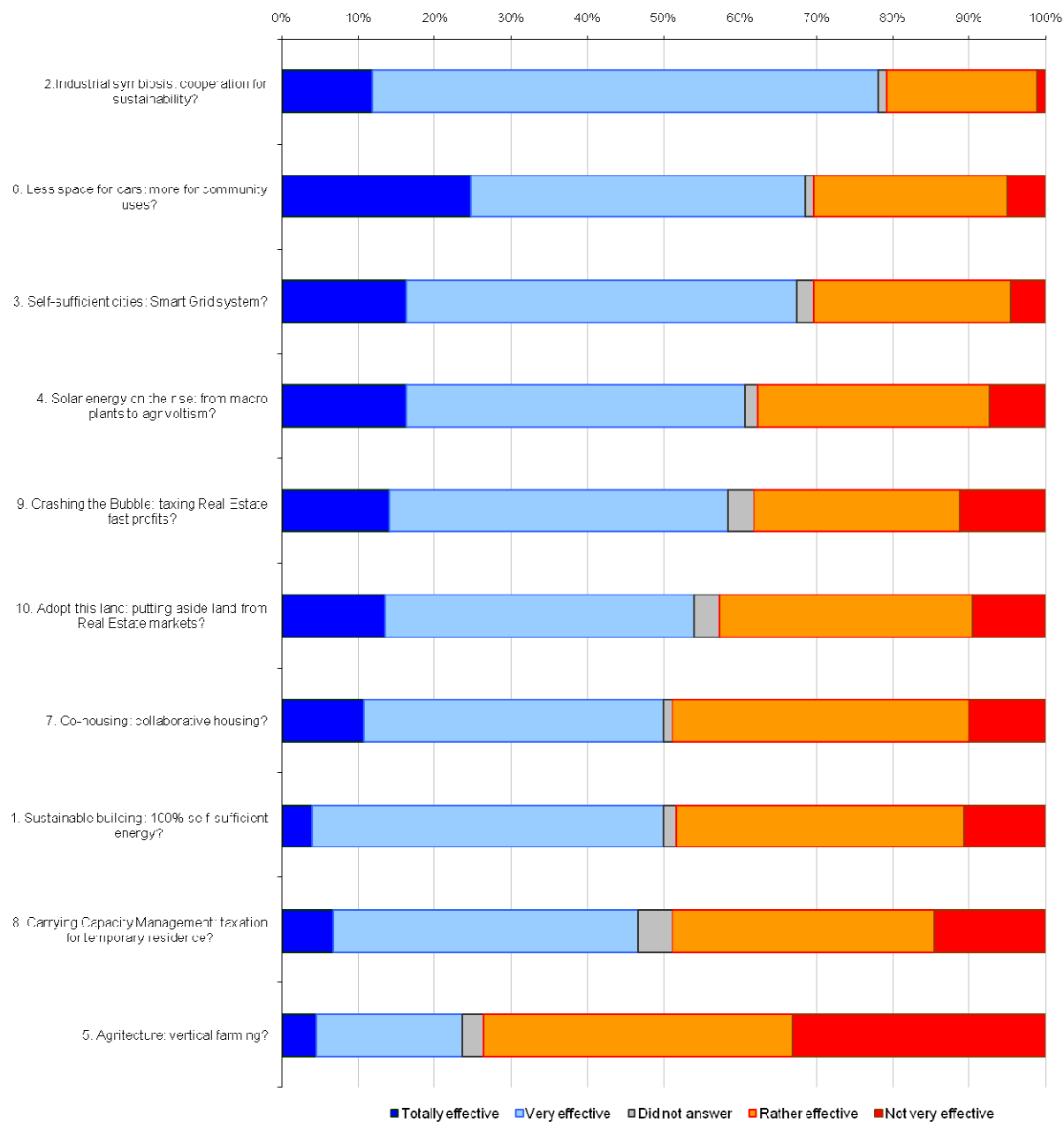
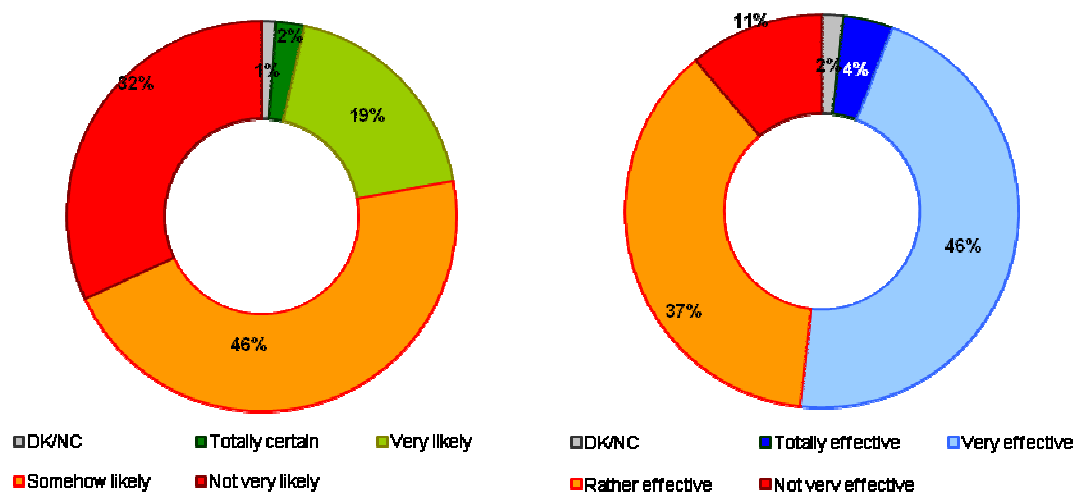


Figure 3. Extent to which initiatives could be effective

### 3 Detailed Answers to survey, question by question

#### 3.1 Solution 1. 100% self-sufficient energy buildings



#### Detailed comments

- If it is promoted as a project it will lack integration into any strategic plan which is needed it is to have a major impact in terms of its aggregate effects
- There is a lot of rainfall in the UK, but I am not sure there would enough solar irradiation for energy self-sufficiency from solar panels.
- In a region where there is already 5 million dwellings and around 50 000 new dwellings built per year, it would take 100 years to built the same amount of new buildings as existing ones...Not speaking about cost difficulties and multiproperties issues.
- However much I like it, I don't see it happening, as the capsules are rather small, and land available for such initiatives are scarce. On a per individual level the implementation would be effective, but on the national level it will make little difference as there are too few opportunities.
- Insufficient density for most of England, never mind London; limited potential resale value in a country obsessed with property prices.
- Spain had its construction boom two decades ago, so that presently there is almost no need for new construction. The measures should have been implemented then, now there is a need for retrofitting that people cannot afford.
- The impact on use of surface and mobility could be enormous
- I think these initiatives would be seen as an 'experiment' to demonstrate methods of sustainable living but they would not be rolled out on a large scale. In my region which is highly urbanised



there is greater need to retrofit existing housing which is less energy efficient and low demand for 'off grid' systems. There may be a limited market for people who want to move out of the existing urban area to a more rural or natural setting without increasing their ecological footprint.

- There are many people interested into building their own houses, since the investment into public housing is almost non-existent, the loans can be obtained relatively easy with a small interest rate, so the solution for many young people is to invest into housing and as young and technologically prone generation they are in favour of using the latest developments, which may lead to better environmental parameters, saving of the costs and lowering energy consumption.
- Technically it could definitely be applied and it would be very interesting for the region where I live because it would save significant energy consumption and emissions. However, unless a large public plan with massive public funds is put in place and binding regulation is also established there is no way that a significant number of these buildings are built.
- In my region (Flanders) most houses are already built. Here it is about renovating the existing housing stock. Different renewable energy sources (wind, solar, biomass, geothermal) and storage facilities (i.e. wind energy would fill artificial lakes in the sea that can produce energy when other renewable sources don't produce enough) would be needed. This would need an interconnected system. Buildings might become 100% self sufficient or even become net producers, but mobility would continue to require important amounts of renewable energy. 'Off the grid' seems more appropriate for remote areas.
- I think that this solution is much more viable on the countryside, in the cities more distributed solutions would be more likely to be implemented and more successful.
- 100% self-sufficient buildings are very expensive, and are not a realistic option for my region. The electricity grid is a 2 technology for reducing emissions and costs, and there is little reason to not use it.
- There is no doubt that it can be implemented here (Copenhagen / Denmark). Probably best outside
- Interesting, inter alia because there is no doubt that the signal value (story-telling value) of this type of construction is high.
- Whether it would be technically-economically interesting is another issue. Some things are done much better (more cost-effective, more environmentally efficient) on a large scale - for example, having windmills far at sea (and we have a lot of sea in and near Denmark!), where they disturb nobody and where wind speeds are much higher, is becoming much more efficient."
- Buildings may not be the optimal unit. In urban areas, blocks may be more efficient as management units.
- A Mediterranean approach is needed (sun / rain / wind / temperature / density)."
- This is a utopian solution beloved of designers and obsessive but not of great general application. Moreover even if it could be implemented it would not be a solution to the crisis of global warming since it would take far too long to have a significant effect. Even conventional building only replaces between 1 and 2 per cent of the building stock in EU countries on an annual basis.

100% self-sufficient buildings would take years in the most optimistic scenario to form even 5% of total build. But the global warming challenge is now. #Therefore the only practical policies are to take actions (such as pricing carbon and other greenhouse gases; regulation) that affect everyone's behaviour. Within that better energy use in new building has a small part to play but probably much smaller than improving the insulation of existing buildings - 98 to 99 percent of the stock in any year.

- I hold the view that in all the Polish regions - including mine- people are strongly attached to traditional houses which make them feel affluent and well-off. More cosmic-looking housing facilities- such as Ecocapsule- seem to be more popular largely with eccentric people. Unfortunately, such people account for minority in every society.
- This initiative can be implemented where regional and local policy makers are fully aware of challenges related to climate action, which is not the case at present. One important pitfall is the lobbying action of traditional energy suppliers (electricity and nuclear power in France) against it.
- Could be implemented, but there is high resistance, high barriers to get to 100%. Less ambitious initiatives to increase self-sufficiency are more likely and more interesting for the people where I live.
- METREX is the Network of European Metropolitan regions and Areas. The decreasing costs of photovoltaic means that Europe's urban areas can become the green power stations of the future. Decentralised, low cost, renewable energy is the key to self sufficient urban areas. This is a 2 future.
- The realisation of self-sufficient buildings is to be seen as a part the solution and can be from a place-based perspective, mostly in more rural areas, the perfect solution in some cases. The cost-efficiency should be taken into account and also the availability of alternatives as reusing spill-over warmth from e.g. industries.
- The problem of individual houses is relatively minor. The key issue is about cities and apartment blocks...
- In my Region we have plenty of sun hours. We also have droughts; to collect the rain water and to use it it's a good idea.
- Not very likely due to weather conditions. Some touristic issues.
- Hard to say. It may occur in specific neighbourhood due to bottom up initiatives. High costs, institutional inertia (in providing and managing incentives) and civil society dominant paradigms are big constraints for this to become mainstream.
- It can be interesting in low populated rural areas although there alternative more traditional systems that are nearly as efficient already exists. I don't see it interesting in urban areas where a higher density is more desirable, and some mixture between individual and collective systems should be more efficient.
- Planning regulations and local impacts limit appeal
- In small communities it might be implemented since you need a general consensus of local population.

- Could work in very specific cases, for instance refugees or other temporary needs
- ERRIN ([www.errin.eu](http://www.errin.eu)) is a network of regions interested in research and innovation. This response is therefore from a general regional perspective. These self-sufficient buildings will be of interest to regions who need to face up to housing crises such as migrant accommodation and also for victims of earthquakes and floods who need temporary accommodation.
- There is potential for implementing self-sufficient buildings but more likely in the shape of standard property types and for permanent rather than temporary use.
- I am absolutely convinced that the grid, connecting buildings, can substantially contribute to reduce embedded energy in the overall system, in particular for storage (batteries). Thus, 100% autonomy on building level (and also on municipal level) is no sensible target.
- Houses in rural towns in Queensland usually have rain water storages as water supply is not always guaranteed. Being energetically independent would also be a plus, but it needs to be calculated for an average family usage, with no shutdowns.
- To a limited extent due to harsh climatic conditions in northern Europe.
- This initiative seems interesting to apply in very low density areas and in touristic activities like camping and rural tourism.
- It can be implemented as a pilot project. In spite of description, some important information is missing (what are spatial requirements - probably locations different than ordinary settlement patterns due to follow RES potential is needed which opens the question regarding accessibility - roads, land consumption, various climate adaptability - snow, icing, identity etc.)
- This initiative can be interesting for specific living conditions (i.e. mountains) where close circles of inland out energy and materials is required or accessibility to energy supply is difficult, as a specific touristic offer or as testing case for living in such building for several days (socio-behaviour aspects of individuals and families)."
- Only to very limited extent as the city (The Hague) and region (Zuid Holland) where I live are very densely populated and 'free land' is scarce and very expensive. Therefore this initiative is of limited interest where I live.
- I think it is not a real method of producing energy; it is only an experimental field (certain, but scarcely effective). One thing is to test this type of buildings at a local level, and other very different thing is to implement them at a large scale.
- Spain does not promote self-generation of electricity with tax measures and difficulties to the business development of the sector of alternative energies
- It is an imperative to find proper balance between total environmental footprint and energy self-sufficiency and to express it in the economic environment following the social dimension as well
- The built environment of my city and region has an heritage value. despite the fact that the most part of the recent settlements has a poor quality, the social attitude towards buildings is strongly affected by traditional models, so that even contemporary architecture is not characterised by innovation, and is very similar to ordinary buildings.

- In Italy many families own their own house, and they want something very ""solid"" and traditional, so that it can be inherited by their heirs.
- In Italy the building sector for the most part is made by small enterprises, not familiar with new technologies.
- I doubt about Poland. The main barrier are higher costs in comparison to the standard buildings which is still not affordable to many families. If we want to succeed we need financial incentives.
- I love the concept, but I think very few people would be really willing to spend time and money on developing its implementation. Maybe someday, at the longer run, but the coming 5-10 years not.
- The Netherlands is highly urbanised with a well connected infrastructure. Most housing are terraced housing (houses that share walls) or are apartments. The most likely solutions consider complexes of buildings, not individual ones. These kind of solutions can have a small share, like trailer homes or houseboats. So, but only on locations where there is some space around the structure. So, to make this a success focus on those two markets, and additionally the container studio market, used for some student housing, etc. I do not expect millions of these structures to be built in the Netherlands.
- The soil intake would be too important for a small country like Switzerland
- The extent to which sustainable building can represent an option depends on the capability to apply the concept to existing stock. In Rome, most of the building are old and due to economic crisis, the construction of new building proceeds at slow pace. If the sustainable building concept could be applied to existing stock, through specific cost-efficient intervention, energy savings could be very high.
- It's for independent people that love living in contact with nature. The idoneous site of placement is essential to get the optimal benefits of this technology.
- Not very effective. People are used to live in houses or buildings with a standard sized concept. Such kind of initiative is a shift on this "living" concept.
- There is a well established energy and (waste) water infrastructure available, no need for self-sufficient solutions.
- Lombardy Region has great interest in these themes. For instance, we have simplified administrative procedures for geothermal installations and we have also a geothermal map with existing pumps showing also potential areas.
- It seems more adapt for rural areas then metropolitan ones. it could be very interesting for emerging countries where there are areas still off grids and/or rural/peripheral european areas
- This initiative can be implemented in my region because we have some experience with sustainable building and this is a reason why this initiative could be interesting in my region.
- Unclear in the question: Is the term "this initiative" used for the specific examples, or for the general application of zero energy housing?? Higher density urban solutions are more likely to be developed

- Land availability and a inflexible planning system make such an initiative in Cambridge, UK, very hard to realise.
- This would be an interesting idea to adopt, however current trends in Romania show that small houses are are not that attractive, making this type of investment (referenced to €/sqm building price vs. revenue) not that attractive. Considering the rising costs of energy this is an attractive solution, but lack of clear reglementation regarding energy production makes it difficult to adopt.
- Similar projects, especially using wood and natural materials are highly popular in tourism development. They follow the trend of nature-based tourism, glamping (glamours camping) experiences etc. Since Croatia is highly dependent on tourism, these trends are more and more visible already (in Slovenia especially). On the other hand, I am not sure that for permanent living these initiative would get great interest unless they prove to be economically significantly affordable.
- Might be possible to implement but would need to be tested in winter conditions and with more diverse energy production system.
- Clima-house initiatives are implemented in my Region since years already and they are coupled with special grants for builders. Starting with 2017 all new buildings will have to be constructed in enery-class A or superior (A-nature)
- It's implemented but in a little scope because of local natural conditions and economic conditions (a limited budget).
- Such initiatives are very interesting, however rather exceptional and experimental with a large amount of subsidies from taxpayers money. How far they will be implemented will be dependent on how economical they can be without subsidies and on a larger scale. As with innovation in many cases, there is a risk that those will be able to afford it, who are not affected that hard by high energy prices. Where I live (West-Europe) they could have a better future than where I originally come from (East-Europe).
- Impressive performance by this pod home - however, access to sun light and space appear to be a challenge for people who would inhabit it, also potentially whether it can mange temperatures far below zero dg celsious.
- Questions such as who and what type op everyday life is the pod home designed for? need to be clarified"
- As a concept and showcase it is interesting, but not immediately commercial
- This initiative will have no impact on my region. However, the region has great conditions to adopt these models.
- I am not sure this initiative is suitable for large cities such as Barcelona, Paris, London, etc. Taking into account that cities are attracting people and 50% of world population lives in cities I do not believe that initiative could be implemented in a large scale. Therefore, nowadays people move more around the country and with the current housing policy I do not think they would be willing to spend extra-money in sustainable houses when they are likely to move in a few years/months. Institutions such as Cooperatives or the Dutch Housing corporations, however, may be more willing to implement initiatives like that with their housing stock.

- In our city buildings are in a 99% multifamiliar, which obey the principle of compacity and efficiency on the use of soil, proximity to services, consolidated public space, a.s.o, so it's quite unlikely to have 100% self-sufficient buildings. But we have a lot of work to do to decrease energy consumption, mostly on thermal isolation and distributed generation of renewable energy, nowadays penalized by our particular law..
- This initiative is very interesting, however it is only applied on low density housing or in rural area's. Larger European cities have to cope with the need of affordable new houses or affordable refurbishment of large existing housing stocks.
- This initiative certainly shows what techniques can be applied, however the scale and the density of housing is not targeted at the large scale of the problem all over Europe.
- Thirdly, the design is very interesting, but not adopted to the urban development pattern of European cities.
- I reiterate in advance that I am not an expert on renewable energy and sustainability so this is my layman's view. I imagine that the success of policies enforcing that all new buildings be 100% self-sufficient in terms of their energy requirements would rely on a) the technology being available to deliver the same in all locations concerned (different climates, topographies, ability and permission for off-site setting off measures e.g. off-site renewable energy generation etc.) and at any density required (detached houses with lots of land to high-rise office towers, shopping malls etc.); and b) the financials, i.e. is the construction and / or maintenance cost greater and if so are markets prepared to pay more for such buildings or will subsidies be required and are those sustainable? While I am aware of the ever more demanding building energy efficiency requirements I do not know if there is a joined up policy across member states for 100% energy self-sufficiency or a timeline for when that might be introduced. I think for such an initiative to be successful central policy or policy direction will be required setting self-sufficiency as a minimum requirement. Subject to this and points a) and b) I believe such policies have the potential to be very likely for new buildings. There is of course the issue of the existing building stock which will not be energy self-sufficient (hence why I selected only "somehow likely") unless retrofitting / improving it is also obligatory and points a) and b) above still hold true (in which case it might be "very likely").
- Although, very interesting and environment friendly the initiative will be, in my opinion, hard to implement at the level of my city from at list two point of views. First the cost to implement the solution is prohibitive for countries in the eastern Europe. Second, cities are based almost exclusively on tall building structures with apartments which will make difficult the process of transformation into ecological habitats. The buildings were not designed to sustain a circular economy. That doesn't mean we shouldn't try to transform our habitats to environmental friendly place of living.
- It is interesting, but at high latitudes the problem is mostly related to energy storage (from summer to winter). There are being built 0 energy buildings (offices) here, and the scale has to be reasonably large in order to be cost efficient.
- Densely populated area makes it challenging
- Not so much the pod-home in the example but more generally self sufficient buildings can be expected to be a very strong growth market in an uncertain world.

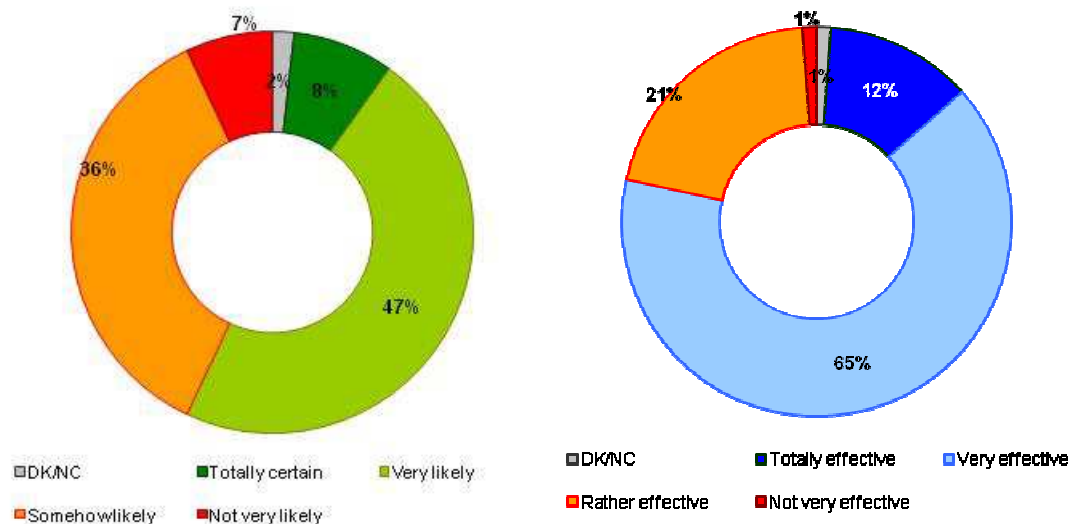
- For eco-minded singles rather than families. Evidently an urban form of housing, probably in suburban areas.
- Living in the city of Munich, the challenge is not to implement efficient capsules but to develop resource efficient city quarters with alternative transportation modes.
- These ideas are very convincing. Their implementation on large scale, though, must be supported by local/national funds to become real strategy and not an excellent project only.
- After awareness raising and community involvement, Malaga as an example of a Mediterranean city with high solar resources and little water resources would benefit highly from this initiative
- This is already happening though not at a large scale
- 100% self-sufficiency solutions on a large scale in our area are most likely to be dependent of their inclusion of infrastructure and transport solutions as part of it. Not likely it will be implemented to a great extent due to the climate restrictions (long frozen season)
- Norway has a sufficient water for drinking and electricity production. Off-grid solutions do not seem very attractive as centralisation and urbanisation is thought to continue, and it should be attractive for home-owners to be able to sell surplus energy on the grid.
- This initiative could be interesting as vacation homes in remote areas, or as a statement that you care about the environment.
- I think this kind of solutions should be used in the areas damaged by earthquakes (as currently in the center of Italy), to provide a comfortable enough and resource efficient homes to people while their towns are being rebuilt with anti-sismic criteria. There could be other "niche" markets, otherwise I do not think they have a lot of chances to develop in already densely built environments.
- It may work in my area (Austria) because we have enough wind and rain (rather similar climatic conditions as Slovakia). I'm however wondering whether this would also work in other areas (less wind and/or less rain), such as in Greece, Spain or southern Italy?
- Difficult to see how 100 per cent new housing can be introduced in existing urban spaces. Maybe good for new cities? Unless we explore a complete change of urban area notions. Spreading out at the expense of open fields?
- Lots of sunshine and rain, expensive power and water.
- Less government, more independence.
- I think this kind of examples are difficult to implement in a highly dense urban area
- All these initiatives have no impact in very dense urban areas, with a high rate of old buildings, condominium and social housing, that is, where the biggest population lives.
- Limited scope, given the concentration of living in cities - other forms of sustainable building are likely to be much more significant.
- In my opinion, in a large city could be also interesting create local greeds 100% self-sufficient as a whole, complementing different needs and uses



- It is doubtful that this initiative will be implemented in my region. Local development plans do not account for this type of buildings. There are no procedures nor regulations which allow for safety, fire safety and other technical checks. Moreover it is unlikely people would like to live in this type of house. It is small and design leaves a lot to be desired.
- I think that decentralised "off the grid" energy innovations are very relevant but the description sounds like more than one system and therefore it is confusing which one you should be responding to - the Slovak system or the Italian one!!!
- It is unlikely for this initiative to be implemented in Cyprus in the near future due to the high construction costs involved. However, such schemes prove that self sufficient buildings can work and could trigger the discussion for more incentives towards implementing similar schemes (perhaps not 100% self sufficient) . These pods could also provide a solution to the continuing housing crisis of refugees and immigrants.
- Quite unlikely to be implemented in my city at least on a larger scale as building space is scarce and geographical conditions seem not very favourable. Could be interesting as energy performance of existing housing stock is disastrous and air and water quality are mediocre.
- The implementation of this initiative on a large-scale mismatches with the redirecting of the urban development towards the regeneration of existing urban systems.
- Certainly the implementation and dissemination of best practices would also help urban regeneration."
- Such initiatives are to be respected but they have no chance of being generally implemented unless fossil energy becomes much more expensive.
- Difficult to implement in a compact city model. If feasible, only for a minority in rural or peri-urban areas. A building-scale (several storey) solution would be needed to have a medium-high impact in local and regional real estate markets. This seems to me only an "emergency" solution for sparsely populated, low-density areas
- This could be implemented only in a very minor way for enthusiasts. And it is not needed in densely populated areas with existing networks of infrastructure. It may be useful in more remote rural regions.
- What happens with the waste? How is electricity stored?
- At first sight it seems very inefficient - and ugly.
- Not to a very large extent but rather at the point as pilot due to the high price of the existing prototypes. It could also be a community sponsored project.
- In leading economically regions of Poland with higher level of perception of importance much more often
- It could be a solution for emergency situations but it could work as a perspective.
- In our region we already have civil interest of some scale. Besides that people from all over the country settle here with sustainable ideals. There is a high level of government support for these initiatives.

- In suburban areas could be implemented.
- Not an interesting solution for larger cities like e.g. Vienna. But an approach for remote, sparsely populated areas - effective only in these areas.
- Not to a large extent due to the high commercialized cost of this type of initiatives.
- Place-centred local economic development.
- Plugging the leaks getting more money into the territories.
- Reducing pollution.
- The initiative could be implemented for new urban developments in Vienna. Sustainable building standards to a certain degree are applied to most new urban developments in Vienna. However, most innovative approaches regarding energy saving and decentralized energy production can't live up to the expectations because of the dichotomy between building and operating costs versus social housing standards and the desire to provide affordable housing. In addition to that, to implement the abovementioned sustainable building standards in existing housing stock is not realistic in Vienna and can only partly be reached.
- I do not see it being implemented in my region because of the structure of the house building industry here and the pressures on land for development.
- The potential for renewable energy makes it interesting here. Scottish Government has ambitious renewable energy targets.
- In the future, an even greater part of Europe's population will live in cities. I don't see a need for off-grid solutions
- There are also interesting examples in the Netherlands, e.g. <http://www.regenvillages.com/#>

### 3.2 Solution 2. Industrial symbiosis



#### Detailed comments

- Not this initiative but manufacturing ecosystems 'yes' - it will allow scaling up and transformation of regional economies
- Large industrially-dependent cities and regions have enough production capacity to make this go round. Greater Birmingham, West Midlands, England is one of such city-regions, heavily specialised in manufacturing.
- There is a direct economic advantage of implementing this for companies. Nevertheless it takes time to identify the potentialities, even with neighbours and the question of confidentiality is also a drawback.
- In our Region there are potentials that could be mobilized, we think the public action could help identify them and help partners to work together. One of the greatest resource in that matter is the waste from the large urban regeneration and new transportation network.
- I am especially positive about the opportunity to copy the concept multiple times rather than making one very large cooperative. After all, collaboration requires a human dimension, which is lost at some scale.
- The UK is increasingly interested in place and the circular economy. The main challenge for Kalundborg-style collaboration is the different expected lifetimes of businesses that use each others' byproducts.
- There is interest in this topic in the administration and in companies and there is a tradition of collaboration among companies in the regions. The main interest is probably on the use of biomass and other residues, as well as waste heat.
- Possibly, but not in the near future because it is only likely when there are significant levels of

investment in new industry.

- As an old industrial area with declining heavy industries (chemical, manufacturing) this type of development could demonstrate innovative reuse of resources and ways to reduce costs (e.g. through using heat generated by industrial processes for district heating). To become effective this would need a strong collaborative governance approach that includes science (academia), industry and local/regional economic development actors working together to facilitate innovation and investment.
- The Yilina region is quite industrialized with various kinds of industry - from large scale car manufacturer and his suppliers of different sizes to paper production, etc. Industrial symbiosis could led to better utilization of their by products and improve also their efficiency and effectiveness.
- I suspect that there are no so many cases of by-products of industry A useful for industry B but and even in those cases industry A and B are not necessarily located in the same region. It is an interesting and useful concept but not necessarily at regional scale and I don't think it would change the picture that much
- These are exactly the kind of initiatives my region is trying to promote. These win-win solutions seem the way forward if we want to achieve a circular economy.
- This is really an excellent initiative, it has many possibilities for implementation. The main problem is lack of imagination and one company not wanting to get involved in any additional complexity. But with the right partners and incentives it should work very well. Large steel plants have done things like this for years.
- In some cases, the technical potential is there, but due to energy taxes, regulations etc. it has not been implemented (or not implemented fully).
- In other cases, the barrier is lack of knowledge, being too busy, having no funds to spare and being limited by the \_general\_ business risk (even if a 'symbiosis' style project is technically-economically attractive, there is still the risk that one or more of the members must close down and the investment may be wasted.)
- In other words, many (perhaps most) barriers to this type of cooperation are not related to technology, knowledge or attitudes, but to societal circumstances, including uncertainty.
- Again utopian: could be helpful but requires great local commitment and leadership and very favourable local circumstances for it to be implements. Trying to make this 'the solution' would divert effort and resources from far more effective solutions. If it arises more or less spontaneously - fine. But potentially a major distraction from solving a real and present problem.
- I suppose that this initiative might be put into effect in my region provided that regional and central governments would take some action and encourage businesses to get involved in such collaborations. Special economic zones in my region could perfectly serve as laboratories for that sort of cooperation.
- The real issue here is the input/output system at the metropolitan level. What comes in, what is sourced locally (including the reuse and recycling of materials), what is made of processed, what is used internally, what is exported, what wastes are created and how they are processed or

used. This is the wider context that all metropolitan areas should understand. They need to know how their economy works and the extent to which they can become self sufficient. Trade would then be in surpluses or knowledge. The consequential future of employment is another key issue.

- The region of Flanders has major Industrial sites and harbours that form a territorial potential that can be tapped.
- It requires quite a lot of flexibility in the regulatory environment, which is presently quite rigid and prevents many initiatives that are not conventional such as this
- The initiative could be interesting but possibly the authorities would only implement it if they would get funds from the UE.
- Use of biomass for energy creation. Politically interesting.
- It depends on the type of industry as well as on the attention of the public authority to promote this approach (smart city paradigm). EU incentives would favor this to happen
- I think it could be implemented in agricultural companies. There are some examples in reusing agricultural by-products as fuel.
- A business led approach to regional development could see this being popular
- Region with clear economic orientation could be an appropriate ground for this type of initiative. Problematic is coordination of different stakeholders. Strong project governance is needed.
- Industrial symbiosis is of interest to most regions. With more emphasis on the circular economy, industrial symbiosis is becoming more important/ Organisations such as NISP in the UK <http://www.nispnetwork.com/> are a good example of organisations stimulating industrial symbiosis.
- It is very difficult to establish symbiotic clusters, in particular in times of higher economic and in particular political uncertainty. However, once established such a symbiotic cluster is very beneficial for all involved parties.
- To a large extent; forest-based industries (pulp etc) are important.
- My town is other example of good practice. The recovery of industrial water that does the chemistry cluster is a good example of sustainability.
- It can be implemented in economic zones, but it would require use of specific planning and management tools in order to attract companies that can build symbiosis.
- Nowadays, prevalent symbiosis (to my knowledge) is (re)use of waste heat (energy) but rather as a lucky coincidence not as something planned or foreseen in advance.
- It could bring new views on reuse concepts, mixed land uses, planning and management of industrial zones...
- Given the different industries and short distances in the region where I live, this may be an interesting initiative for this region.

- Really I think that it is very difficult to implement this type of industrial collaboration and it is more difficult in my region, because, on one side, it lacks of many industry; and, on the other side, the actual industries do not priorities this type of collaboration.
- The creation of new business opportunities created on waste will continue to increase in the future, also in Spain
- One of the main trend in our region although facing many problems. The competitiveness of the industry without this is rather problematic.
- In Italy, big industrial areas are a few, an heritage of the past century, suffering for abandonment of that kind of enterprises.
- These areas could be regenerated, but the previous activities left environmental problems to be solved and the investments for regenerating brown fields are high. (see, for instance, the Sardinia Region)
- Due to the morphology of Italy, the most part of industrial areas are small, and sprawl. this situation is a hard obstacle to the implementation of the model of industrial ecology.
- This also means that the Consortia among enterprises are not the rule.
- Nevertheless, in 1998 a National Law addresses the implementation of ""APEA"", ecologically equipped industrial areas.
- The problem is in high transaction costs. If those costs are covered from external sources even in Poland we can have some types of such circular systems
- Old-style chemical plant locations work in this way. Like for example in Delfzijl. Here salt is won from underground. Chlorise is produced from this salt. Factories that need Chloride position themselves on this location as it may be hazardous to transport chloride.. These factors have by products that are used by other plants, etc.. These kinds of Chemical plants are not very much renewable, but are based on the fact that there is scarcity of certain goods and that transportation is expensive. This also worked for Cokes, iron and steel industry. At the end of the economic lifecycle this is not that sustainable at all.... An experiment that is also not flying very fast are heat production by greenhouses (as massive sun collectors in which also crops grow) to be used to heat housing. It is all like, a chain which is forged and breaks at the weakest link. More durable are structures with a common infrastructure.
- In Switzerland we have similar projects in the field of pharmaceuticals...
- Two or three large companies somehow competing... but the competitive environment also makes them very creative and powerful.
- Symbiosis might sometimes be difficult to anticipate, but I think that public money should give some incentives to support this happen"
- In Italy, there is a long-standing network of smal-medium industries organized along specific economic sectors, i.e. the so-called "Distretti Industriali", in the field of shoemaker, textile, etc. Relationships with local communities are strong and therefore the pre-conditions to share business models in the recycling sector are significant.

- Great. Isolated industries often don't recycle their leftovers. Public managers have to be more flexible with industrial symbiosis.
- this is already practice in some industries; the same concept is also implemented within agriculture where waste products (e.g. slurry) of one firm are used to produce energy by one other firm, whereupon their waste products are then sold as fertilisers to third parties
- As Lombardy Region the only boundary is represented by classification of waste. What is waste cannot become a resource, but it remains a waste! We are trying to give a second life to building materials (iron, wood, ...)
- Yes, it could be but it requires strong political commitment for a medium-long term accompanied incentives, effective organisational framework- especially to coordinate small and medium enterprises work- an upgrading skills and competences.
- It depended about more stakeholders in region and it's not easy to answer. But, this initiative could be interesting for some companies that deal with waste for example.
- Such initiatives are partly realized in my country and will be more generally be realized, Why? combinations of industries with different needs of heat, cooling, half products.
- Cambridge does not have a very diversified economy. Hard to see which byproducts the research, high-tech or biotech companies could exchange.
- This type of approach has already been adopted by some big enterprises as well as small startups. I know of a particular startup that is using recycled big truck tarps to produce hand-bags. This is a rising trend considering current pollution issues.
- At the moment, Croatia is industrially very inactive region still suffering from deindustrialization in transition period of the 1990. Main issues concerning our industrial development are survival of few left oil refineries and shipbuilding sites. In my opinion, foreign investments and know-how are vital for such initiatives to take place.
- Closed cycles in the industrial (and energy) sector are becoming more and more the norm and not the exception. New examples and creative solutions do help exporting best practices elsewhere.
- This initiative is not only logical, but also a rational choice for enterprises. The basis for this is the improved information flow, backed with the boom of information technology in the last decades. I find it very likely to spread, similar initiatives are planned in other fields as well.
- Incremental implementation and dependent on the right businesses and people taking initiative
- symbiosis and circular economy thinking will be imbedded in any business and infrastructure in the future
- This initiative will have no impact on my region. The region has a great diversity of sectors and this would potentiate the advantages of systems like these.
- Barcelona has strong environmental problems and therefore, would be very positive to implement initiatives like that. using all the waste for producing more energy is the only way to achieve a circular economy. However, a change in law and regulation is needed, as well as



regional planning with environmental criteria.

- We had to analyse industrial ecosystems in our region, and otherwise we had to guarantee that this re-use is done with all the environmental conditions. Sometimes it's prioritized the economic benefit over the environmental. For an instance, the re-use of domestic waste as a fuel in cement factories in our country is done without the total accomplishing of the environmental and public health parameters (dioxines emissions...), but it's considered convenient by some public administrations as it reduces the amount of domestic waste and the incomes of fuel consumption by factories.
- Amsterdam is working on comparable initiatives, e.g. phospaat generation from sewage water. We have carried out a study on the circular economy which shows as well very promising results for new business models and a contribution to a more socially responsible economy and contributing to social cohesion.
- Again, my layman's view. Not sure how widely such initiatives are being pursued but sounds like they have the potential to be very effective.
- The initiative could be implemented; no doubts about this. And it should be as fast it as possible. The initiative definitely is interesting in any regions not only in the region I live.
- Not exactly here in Trondheim due to very little industry (mainly high tech / tech design that is exported), but around Steinkjer (agrobusiness where traditionally 30 % is offall/waste), Mo i Rana (industry)
- Concentration of Industries allow economies of scale
- After strong growth in establishing a sustainable business ecosystem from 20 to 10 years ago growth has slowed due to perverse action by government to shore up an unsustainable economy rather than regulate new circular economy systems. We can be optimistic that a new business eco-system will once again flourish but better governance systems are needed.
- It seems relatively difficult at a large scale, as it will be necessary to relocate industries with potential synergies i.e. find new spaces where the implementation is feasible and restore previous sites.
- It is possible to achieve cost-savings, which is a powerful driver of innovations (not obvious in all cases).
- Yes, I am starting to work with kind on local initiative in the city of Tampere.
- living in a larger city, we need to first integrate production facilities around the cities and then move certain applications again into the cities, combine with mix-use and low-energy transportation systems.
- It is a very interesting initiative that requests accurate studies and evaluation before being implemented in several geographic areas
- Lots of evidence should be collected about the environmental and health implications of these measures before such a step would be accepted by the local community
- Interesting initiative. Partly taking place in the Netherlands

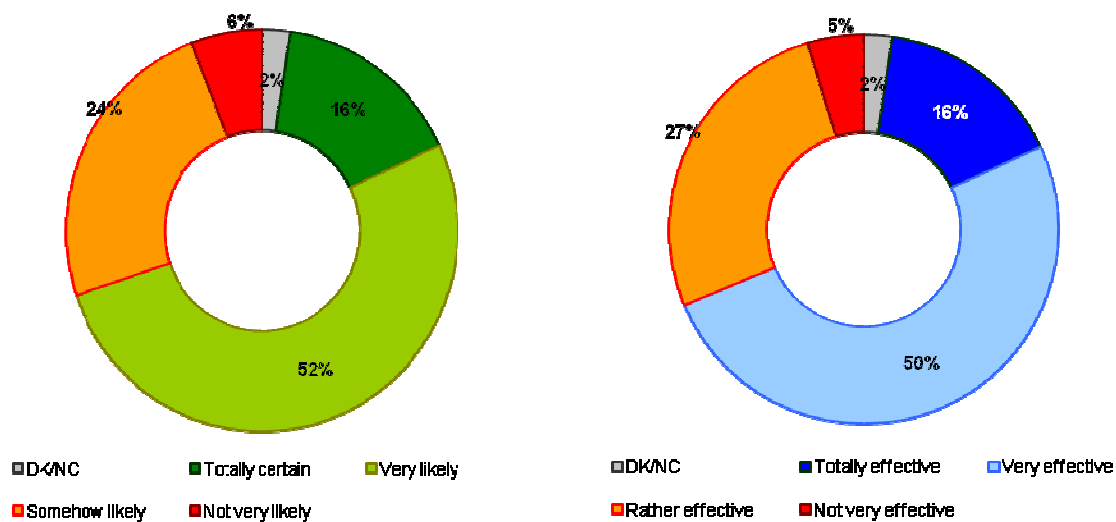
- This initiative requires overall coordination which I don't see in my region. Industrial production is a relatively low share of the economic system here. In places where waste of one company can be reused in a valuable product or process by another, the initiative would be beneficial.
- To what extent could this initiative be implemented in your city or region? Why could this initiative be interesting where you live?
- These "closed loop" solutions could be developed at a larger scale, but they are in any event strictly constrained by geographical proximity/density factors to be convenient, there is no "one fits all" solution.
- Marseille-Fos = Large industrial area with different types of industries producing high amounts of different waste types that could be reused thus also preserving the environment nearby the area.
- This initiative would work anywhere where you have the appropriate industries (with "matching" outputs/inputs). It will be less effective if transportation over large distances is involved.
- There is a lot of potential supply, but limited financial benefit in implementing. It needs financial incentives with minimum regulation or administrative burden.
- This initiative demands for high levels of cooperation and a definite change of business attitude. Disseminating best practices at local level whereas clusters already exist would provide a fertile background for the creation of new industrial ecosystems.
- Very interesting for the Basque Country (pilots are already in place in some places in the region), given the strong industrial structure and the diversity of activities within that structure.
- This in turn potentially is very likely but application barriers make it only somewhat likely to be implemented. The main obstacle is need for companies to be located in close proximity. This could be applied when new industries are developed but to impose this solution on existing industries seems rather difficult.
- The Kalundborg case is starting to be one of those overexposed best practices examples that need an alternative parallel to be convincing. Yet I think it is a wonderful example of industrial symbiosis. I really question though the terminology - calling an industrial region and its characteristics an ecosystem is highly susceptible.
- Unlikely as Cyprus does not have major heavy industries and perhaps due to the size of the enterprises, it may not be viable. However, there are merits to the system and could possibly work to a certain degree - or perhaps in a slightly different manner - given the appropriate incentives.
- There is some potential for that in my region and some small scale projects might be already under-way.
- This initiative could be promoted and implemented for the qualification of the existing industrial districts, originally developed and still based on fruitful collaboration between small enterprises and employees.
- Such initiatives are to be respected but they have no chance of being generally implemented unless heavily subsidised.

- Could be implemented to some extent if cooperation and concern for sustainability were developed enough among local stakeholders and, in particular, entrepreneurs. Many of these initiatives have no possibility in contexts of struggling industries and low concerned governance structures, as it happens in many industrial environments in Spain and other countries hardly suffering the effects of the crisis. This should be strongly promoted by States and EU legislation via compensations, bonifications or obligation
- I live near Rotterdam where such circular systems are already implemented in part.
- I would argue it can be implemented to a low extend due to the specific distribution of industrial production in the city, which is not planned to be aligned with effective further use of waste resources.
- Dependent from regulations and will of partners to cooperate in Poland very limited
- Not so much extent because of the economical crisis (it needs important investment for infrastructures) and the high number of operators inside the most industrial zones.
- Our region is currently forming closed value chains with 'no waste' principle. These are embedded in our circular economy development.
- Our region has a valuable natural space and even a vast World heritage natural reserve. We invest in safeguarding the ecological qualities."
- The current organization doesn't allow to spread this proposal in an easy way
- Very interesting initiative - problem is that it mostly needs contacts and trust between entrepreneurs/companies to start such initiatives. Good examples might (hopefully) help to convince further actors.
- Limited initiatives: Barberà-Sabadell, Granollers...
- Increase local resilience.
- Expand aggregate demand into the territorial scale.
- Strengthen industry and innovation.
- Such a symbiosis needs appropriate areas with attractive features to attract businesses and industries suited for such collaboration. In Vienna this can be partly implemented in new development areas with a management plan regarding type of businesses and also initiatives to attract businesses. In other areas, cooperation between industries rather develops "randomly" or by private initiatives and is largely influenced by existing framework conditions and is not guided by some sort of public strategy.
- The example given is a familiar one, but does not seem to have triggered a response in my region. There may be a lack of political will or commercial interest.
- To address challenges of recycling.
- The idea is very good, but business location decisions are not only taken based on grounds of complementary with the businesses in the neighbourhood (especially since many SMEs in Europe are locally rooted and don't easily relocate). So it might be difficult on a large scale to establish

clusters of symbiotic businesses.

- There are many issues like surplus heat usage, e.g. from chemical industry to heat the municipal swimming pool or the buildings. Also many waste trade circles are existing already. With digitalization the transparency of resource streams could help to match the waste and resource needs for a better symbiosis.

### 3.3 Solution 3. Smart grid systems



#### Detailed comments

- ... but only in the medium term i.e. not in the next 10 years
- I have not installed a smart meter myself...a lot of behavioural inertia involved...
- In a region that is more than 90% dependent on its electricity import from other regions, developing local production and driving it through a smart grid makes sense. There are already experiments within the region such as "Issy grid".
- Big brother likes to watch, so there is an incentive to monitor people, hence the smart grid is, more likely than other options.
- Readily doable technically - the main challenge is incentives, market models, and consumer support.
- Smart meters are deployed all over Spain and the network is being equipped with remote control appliances, including MV and LV. But the objective of this is that of better controlling (and billing) consumption, it is not benefitting final consumers or renewables.
- UK utilities industries is interested in innovations if they make money out of them and the Government is keen on such initiatives.
- As far as I know this kind of technology has only been tested in very small, closed systems (e.g. industrial parks, ports) and although successful would need to be proven to work on a

larger scale without any disadvantage/loss of supply to users. Public perception of how the system works and whether it produces real efficiency gains will be key to success.

- It is a matter of investments. Who should pay for the households appliances?
- Such 'smart city' initiatives can indeed have the potential to improve efficiency and reduce energy use. It is rather likely to be employed on a larger scale. Also smart solutions to traffic management might reduce congestion and therefore energy use. But its implementation might not be so effective as 'old fashioned' planning solutions that just need some political will to implement, e.g. reducing sprawl will reduce the need for mobility, good public transport of cycling infrastructure will increase sustainable mobility. Living in smaller houses/apartments will reduce energy and land consumption, etc. Besides technological solutions are only as good as their users. Users need to be educated and willing to adapt their attitudes.
- This should be implemented today. The technology is ripe and the benefits would be high. The problem is lack of trust in the people who control data from the smart meters. This is a huge problem much bigger than energy ... unfortunately the solution will involve a lot of politics ... I think there are good solutions, but the strong interest in data by private companies makes it very difficult to implement these solutions (i.e., the companies who can get this data by providing smart meters are already considering the profits they can make using the data ... they will not want to give up these profits (even if they are imaginary because people will reject smart meters without adequate privacy) ... also this will be a very messy legal area that hurts implementation.
- My region lacks the urban density needed to make this initiative cost-effective, but could still make for an interesting case study or demonstration project.
- It can and should be implemented. The barriers which means that it is not fully implemented already may relate to technical (but increasingly less), political and economic systems, traditions etc. - but I am quite sure these barriers will be overcome, since the increasing attraction of efficient, not-too-expensive renewable sources will mean that the share of renewables (with more variable supply) goes up.
- Technically not too difficult but requires the correct pricing incentives (absent in the UK). And if implemented gives useful savings but not major ones.
- It seems to be very attractive in the region I live in since it is one of the fastest developing regions in Poland for which secure electricity supplies become increasingly important. The initiative could be implemented using the EU funding. In the 2014-2020 EU financial framework special emphasis is put on energy management.
- The management of decentralised renewable energy supply and demand will involve a smart grid system.
- The smart grid is to be considered as a part of the solution - but smarter use could end up in

increase of energy use.

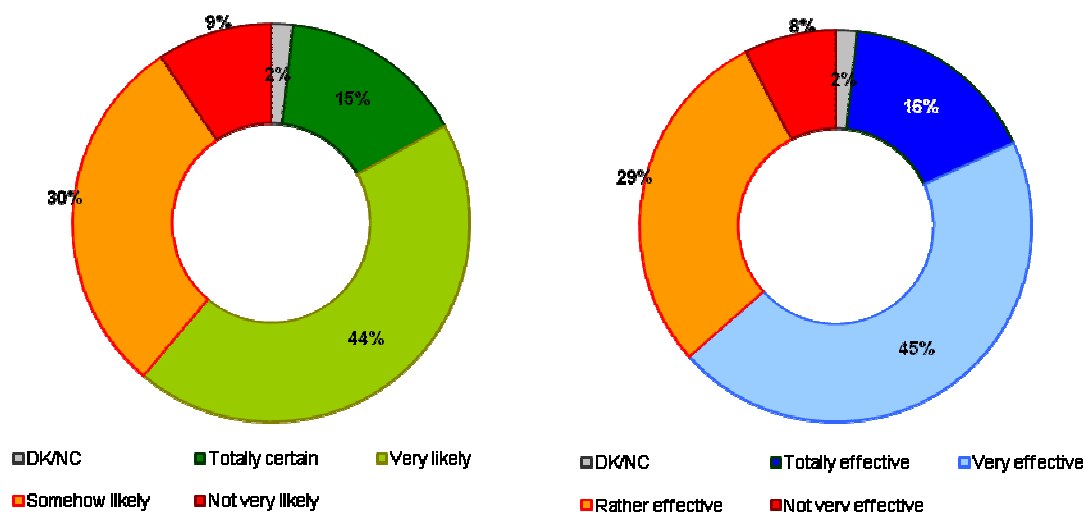
- The policy should be first energy reduction followed than by a set of smart solutions.
- It would be necessary to reduce the lobbying power of major utilities.
- Environmental policy is driving the market and people are already sensitive to the topic. a lot of old stuff need to replaced in the coming years.
- Strongly dependent on national decisions
- The legal frame is a key issue in this matter, specially in Spain.
- If all of our washing machines etc. are connected to the internet, is quite easy to sincronize its working times. We already pay different prices for the electricity depending on the hour, so it could be easily implemented anywhere.
- Multiplicity of providers requires collaboration
- I am mostly dealing with rural regions; I support this type of initiatives, but are more addressed for urban regions.
- Depends on the required infrastructure and data collection devices, and on the ownership of those (who pays and maintains?). Additionally, data collection should be sorted out legally (is it "personal" data?). Regarding the effectiveness, it depends on many variables including climate conditions (rain, heat, low temperatures...), TV shows, sports events, etc...
- The concept is a good starting point, but needs further improvements.
- First, cities cannot be energetically sustainable, they always need their surroundings, which is not explicitly mentioned but needs to be highlighted, the city is only the load center, but not the center of energy supply, which is fully missing in the text. Second, the valuable demand response loads of the mid- to long-term are not mentioned in the text but they are the relevant part, today's demand response potential is very small and may cause rather high cost or uncomfortable consequences for the end-users. Further highly effective and low-cost demand response possibilities are: electric vehicles, power-to-heat (heat pump) and electrolyzers in a net zero energy world. These most relevant demand response options are fully missing in the text.
- As pilot project(s) in new or renewal-needed neighbourhoods.
- It would be interesting, especially in dense populated areas, for optimizing the use of energy and improving energy efficiency in private and public buildings, lowering down the cost for maintenance of city infrastructure (i.e. lightening, sewage systems), allowing for greater use of electric vehicles for public and private transport and thus improving environmental



performance of the cities (air quality)."

- I guess this can be implemented, but it might need quite some effort to persuade consumers to join the initiative.
- First of all, my region is not an industrial region , although my city is industrial one. So, the possibilities of collaborating are reduced. There are priority problems, such as unemployment and depopulation.
- The Smart cities are a few points in an extensive terrain without possibilities to support these new technologies
- The question is only which time, not "whether".
- The Agrivoltism approach reduces the space consumption that is needed for energy generation. Initiatives like Desertec will not work, as long as the energy hunger in the North African region is not solved (the current solution in Marocco is a more local energy provision for the neighboring city from a thermal solar plant also connected with a heat storage). Thermal solar plants are only applicable for very hot regions. In Germany, only (the more cost efficient) solar PV solutions that can be applied at any scale are implemented.

### 3.4 Solution 4. Solar Energy



#### Detailed comments

- Sun light (lack thereof) may be an issue
- Again, every solution to reduce the regions dependency on electricity import should be used. It could also help to solve an other great issue : the competition for land. If the value of agriculture rises, then it has more power to resist to urban sprawl pressure. In return it helps to reach the aim of a more dense urban development and so to make a more sustainable city (less commuting, more public transports because more dense, less individual housing...).
- It might be my own wishful thinking, but PV are the most promising RE sources in my opinion, and as such I see both the largest potential and the most likely implementation. Moreover, synergies exist, due to a decrease in evapotranspiration, while in dryer areas it is at least not in competition with other land uses, and thus more likely to be implemented.
- The latest reform of the Spanish electricity market have rendered large-scale PV systems uneconomical, due to retroactive cuts in subsidies. Many of them have been sold by their owners to investment funds and bought up by the utilities. Unless the EU obliges the Spanish government to change the regulation, it will be very difficult for PV to flourish under this regulatory framework.
- Interest in solar energy seems to be decreasing in the UK, due to poor management by the Government.
- New solar energy catching technologies needed

- I'm not an expert of these systems but the region where I live is very densely populated and if some natural areas free from human intervention should be preserved (and I think they should) I suspect there is not much room for this initiative.
- Technological advances in solar power seems poised to make this technology very dominant. It could also make Europe less dependent on foreign providers in unstable regions of the world. In this sense Desertec seems more unlikely. Even in not-so-sunny regions such as Flanders, solar power is an increasingly important source in the energy mix. It also allows multi-use in densely populated regions (panels on roofs). There might be an issue of recycling but I am not an expert in this.
- Sounds like a neat idea, but I am skeptical of large scale solar solutions.
- Solar PV use is growing rapidly in my region, and will soon account for a significant fraction of total electricity generation. Expected cost decreases will further add to its economic appeal.
- Agrivoltism is probably less interesting in Northern Europe, because the sunlight, even in summer, is not nearly as strong as in Southern Europe. If plants have too much shade, they simply grow less (of course, some plants grow well even in the shade, but most relevant, commercial crops grow better without shade in this climate. (In Southern Europe, shade would probably also mean that the plant will lose less water, which is advantage in some of the regions with too little water). But perhaps I am being too pessimistic regarding use in the North. If plants are selectively bred for shade, maybe some crops would be suitable for this type of co-production with photovoltaic in the North. But that is speculative.
- More effective in southern Europe than Northern and at best only a part of a solution.
- With support of the EU funding this initiative seems to be quite likely. However, in my region where agriculture does not dominate regional economy the idea might not be so popular.
- Solar panels on buildings is more likely and effective.
- Low cost, decentralised, photovoltaics will be the key to the European renewable energy future.
- Solar energy should not lead to additional land take but be a part of a more efficient land use strategy. The region of Flanders has many opportunities for solar energy on roof tops (Industrial buildings mainly).
- The examples provided are not very good, but as the cost of photovoltaic goes down many initiatives (such as Tesla's roofing) will be implemented alongside storing facilities (batteries?) and smart grids.
- Too less sun, too less effective, too expensive. subsidies are cut down at the moment.

- The legal frame is a key issue in this matter, especially in Spain.
- Nowadays, in Spain there are quite a few obstacles to use solar energy (mainly legal), but in the future this should be the kind of roofs everywhere, as this is a very sunny country.
- Central government party politics need to be overcome
- Solar energy was extremely popular in Slovenia over the last 5-7 years because of subsidies. Now, the locals are a bit more cautious on this issue. I find the idea great, but in my region people are not very keen on "big" infrastructural inputs.
- Solar energy has a great potential in the EU. However, there is a need to make sure that there is regulatory certainty in the market so that investors can be confident of a long-term return on investment.
- I do not really understand the question. What do you mean by "this initiative"? The text mentions several very different applications of solar energy plants. I gave my response based on the assumption that you mean in general "PV".
- Prices are still high, so unless it is subsidised it's still not profitable. Subsidies are dependent on each Government and if they are not sustained it becomes a risk (as it has happened in Spain). Until it is profitable without the need of subsidies, I don't think it will be implemented at large scale. Efforts should be put in place to lower the price of the solar panels. It may be cheaper to invest in technology investigation to make the solar panels more competitive than to subsidise the electricity generation.
- Critic on the text: The authors of the text are obviously not aware of the current status and base the text on outdated information. This needs to be overcome! The time that Europe had 75% of global solar PV capacity is now several years in the past, currently Europe is among the lowest performing regions in the world, due to lobbyism-induced policy rollbacks. Updated information is of utmost relevance! No one is talking anymore on Desertec. This approach died 3 years in the past. Again, latest information is needed, not outdated stuff. Agro-PV is quite interesting and should be further intensified and pushed.
- Climatic conditions set some constraints, but not to a major extent.
- Solar energy is an attractive energy source (clean, relatively easy to establish), but it is associated with several issues (consumption of land versus use on degraded land or buildings, priority for multipurpose settings - shade for cars at parking lots,...; use on historic buildings, architectural ensembles...), price issues (subventions needed which brings up questions of rationality, sustainability and others...) In this respect we are struggling between providing sufficient subventions to support solar energy production and where to direct possible investments not to jeopardize other aspects (identity, land consumption,...). This initiative could be interesting more when a nearly closed circle could be attained (additional source of energy in overall consumption) contributing to positive energy performance of building, economy, city,... embedded in their structure and production.

- Solar energy is rising in our region, but at the same time of limited interest given the highly urban character of the region and the relatively limited number of hours of sunshine compared to for instance southern Spain.
- In my region there are a lot of solar plants, but they are been establish for economic and speculative reasons, nor for environmentally arguments. So, I am not a believer in this alternative, though I think it is possible to change the actual situation.
- Solar energy will be the next black gold of the Mediterranean countries
- The question is whether there are not other more efficient possibilities e.g. use of already build up areas for increased photovoltaic capacity
- My opinion is that similar plants may be used in countries where large open areas are still available, preferably where the land capacity is low, such as desertic regions. In my context, open land is a scarce resource, preserving agriculture is a political priority, and landscape preservation too. In my opinion, photovoltaic plants should be used in industrial areas and not in rural ones, because they are a form of soil sealing, inevitably.
- Can be interesting in Poland where agrculture forms an important part of economy. A key is a price of solar instalations. For me unclear is an ecological foot print of solatr devices. The question is what materials are used to manufacture them and whether we have suffcient amount of those materials to expand production of the solar systems . in an exponential way. Soothe ecological footprint of the solar devices is unclear for me
- Again we lack the space for this at a large scale, but scattered over many small plants there is potential.
- I live at 52 North. The sun is too precious to put crops in the shadow. Energy producing greenhouses is much more likely development.
- In Switzerland we would not really have the necessary territories for striving for large solar power plants. But we believe that there is a potential using the building surfaces for gaining solar power.
- In Italy, weather condition are conducive towards the development of solar energy, particularly in the southern areas. Implementation depends on the long-term sustainability of subsidies.
- Totally certain. There lot of energy companies invest on such kind of project.
- Photovoltaics will play a strong role in our future energy supply. But initiatives like Desertec, which you mentioned in your text, show also the difficulties of such mega-structures. Photovoltaics may have a strength in decentralised systems.
- A large part of our region is agricultural. This goes to the right direction preventing soil

consumption.

- Small solar energy on the roofs represents a good opportunity for renewable energy especially in Italy. It offers also a way for reducing energy costs for farms. The region is not adapted for large scale renewables.
- It can be implemented like small pilot action in region, because this is agricultural area.
- Shade tolerant agricultural crops in the UK? Not so sure about whether they are viable.
- This approach could be implemented across the agricultural fields from Bucharest to Constanta and in the Dobrogea area. However, current interest is limited due to the fuzzy legislation and state support in developing the proper framework for large investments, making these less attractive.
- After wind power farms, solar plants are probably among the most important source of renewables in Croatia. However, they still tend to be connected by small private owners and with inadequate state support. Due to our climate and days of sunshine, solar energy is very interesting option for Croatia.
- The life cycle of photovoltaic panels will most probably not make these solutions economically feasible especially in the medium-long term. Landscape protection rules will be another issue to install large plants. The problem of transferring energy at long distances will make other (local) solutions more attractive. Reducing overall energy demands will anyhow become the first goal.
- In limited extent because of local natural condition.
- This initiative could help to decentralize energy production and therefore to decrease energy dependence. Especially in rural areas, on farms, this could be a solution. However, even if the return on investment is high, financing solutions (revolving funds, loan) have to be developed to allow the initial investment also for those, who have capital as a scarce resource.
- When engaging agriculture, the initiative is dependent on the cost efficiency in market terms
- The production of the PV still needs to be done using materials and technologies limiting the use of scarce material and lifetime needs to go up and ideally to be integrated into tiles and textiles
- It could be implemented on a large scale. It is a region with agricultural landscape with conditions to implement this system.
- I am not sure a massive presence of solar panels can have an impact in the local climate for the stored heat and Catalonia is a very dispersed population. Therefore, there are no large empty spaces where to locate those panels. Also, the current Spanish law does not support

initiatives like that.

- Today we have a law that doesn't facilitate the installation of photovoltaic plants, so some of them in Spain have been closed because of this law. This kind of decentralised generation with renewable sources will not have future in our country since the legal scenario changes.
- Studies show that if we want to decrease our Co2 emissions to the level agreed in Paris during the COP climate summit, we will not be able to only use locally generated electricity and heat/cold energy, even if we reach our reduction targets for energy consumption. As urban area's, we will largely depend on ALL possibilities to generate electricity, double use of space is one of them together with large installations of solar power. Of course, for all installations, locally specific criteria have to be applied to also consider other environmental aspects, like harm to recreation possibilities and cultural value of landscape.
- Again - not my area of expertise. However, it does sound like pursuing different approaches to solar energy (different technologies, scales, locations, synergies with other activities) holds the possibility of maximising effectiveness.
- Solar energy is very poorly exploited in my region due to it's high price. May be we need Elon Musk here.
- Can be used at summer, but then electricity prices are low (low demand, hughe supply due to water stored in hydropower basins from the spring melting of snow)
- The installation of solar panels in single houses is still expensive, but they can be more easily installed on warehouses or parking roofs. We have plenty of sun in Italy, we have to use this renewable energy source as much as possible, without damagin landscape.
- On rooftops, already being implemented in the Netherlands
- The main problem of my region is the relatively weak solar radiation that limits the extent of solar energy. Nevertheless, at a large scale such initiatives make sense and especially the transportation of solar energy from the South of Europe to the North. But once again, the electricity storage capacity is a key issue in potential sucess of such initiatives at large scale. Finally, it remains the question of the sustainability of the materials used in the conception of solar collector.
- Winter in the north of Europe is dark and cold. Feasible only during summer.
- In Finland there are small scale pilot projects in this field.
- I assume these infrastructures are land-intensive. In urbanized areas one would need vertical schemes to not distort real estate market and provide some visible complement to state-of-the art energy providers.



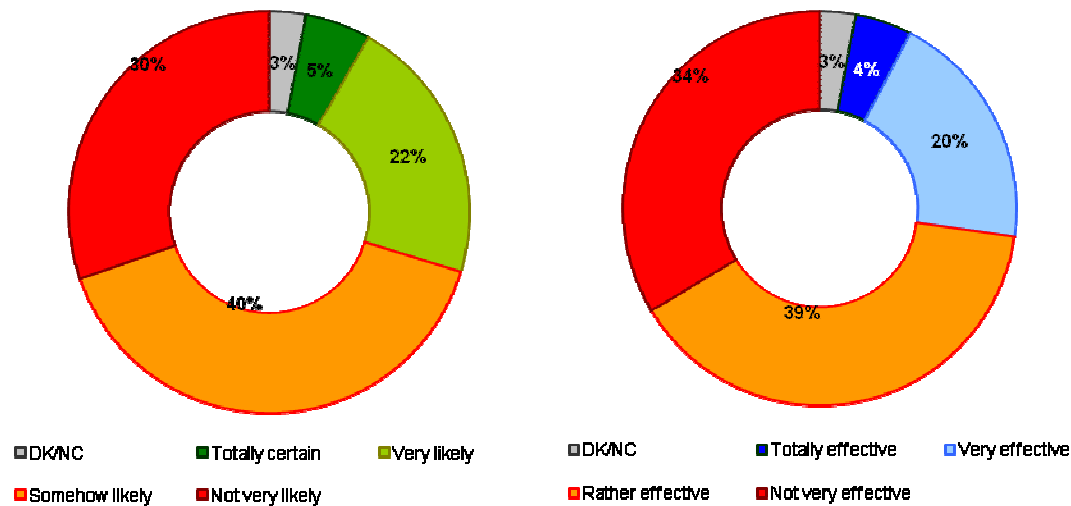
- Difficult to implement this initiative due to wide spaces available to the scope
- I guess this is a win win
- Effective but less in the Netherlands, due to limited space and solar radiation
- Solar energy is currently too costly to be implemented on a large scale in mid-Norway. Snowy winters is another obstacle here. We might see solar panels on rooftops as costs go down, but I don't see any potential for covering large areas of agricultural land, mountains or forests with solar panels.
- A large scale adoption will create serious problems of land consumption and landscape degradation. Solar energy is "infinite" but land is finite. The aesthetic value of green landscape should be preserved from excessive exploitation. This will constrain the development of this solution.
- Only partly applicable in Austria (due to a lack of sun, in particular in autumn and winter).
- It is already being implemented, but the incentives depend on faith in government rebates over 20 years, which is longer than the expected life of the equipment!
- The solar energy potential is appreciable, the political will has still to emerge. Question of time?
- Solar energy in Europe has already a massive production, but demands for space availability and research the best solar exposition (see Africa). Therefore, this initiative should be considered at global scale, and not at regional or local one
- Limited scope here given the limited sun, but strong scope (already in advanced development) in other parts of Spain.
- Solar energy is climate dependent. in Pomerania region there are simply not enough of clear weather, sunny days for solar energy systems to be efficient. This solution could be treated as additional to other energy sources and mostly reliable only during summer.
- Living in the Northern hemisphere does not have to mean that solar power is extensive- especially in the summer season (24 hour daylight) - I look forward to the day when solar panels will be part of the window glass.
- Hopefully in the future it will be implemented. In a country like Cyprus, which is almost completely dependent on imported fossil fuels for its energy supply, coupled with hot summers and limited rainfall (thus increasing energy demands and restricting the potential of conventional agricultural crops ), systems that promote solar energy and sustainable agriculture would definitely be of high value.
- Could be implemented at a smaller scale. However geographical and weather/climate

conditions are not ideal.

- Agrivoltism is a likely evolution of PV fields already widespread in the region. They will be very effective in terms of clean energy production and agricultural development. Impacts on soil consumption, environment and landscape need to be very carefully evaluated.
- Solar energy will be an important source of renewable energy if more efficient energy storage technology will be developed.
- Very interesting and feasible. But also depends on education, governance and legislation
- It may be implemented because of the possibility of perverse incentives, but it is not efficient in this part of Europe. It is very damaging to the landscape and sterilises agriculture - the idea of 'shade friendly crops' is far fetched. This is a quick fix promoted by industry when we need longer term research on more environmentally friendly renewable sources. Large scale energy grids connecting Europe and Africa are the opposite of what sustainability principles require.  
This may be acceptable in desert regions of China - and the future Spain.
- I cannot judge the level of effectiveness that can be achieved but it is certainly doable due to the favourable solar conditions in most of the regions in Bulgaria.
- The initiative becomes interesting and can be implemented, particularly by the diffusion of Montpellier's practice which avoids the soil consumption (as a problematic effect), and is connected with the agriculture production.
- It is implemented on factory roofs, agro barns, waste lands and even floating on water in lakes. It is a far more sustainable solution than windmills and has less impact on the living environment and natural habitats.
- With a building market depressed and without perspectives of improving, it's not very likely to see many initiatives of this type in the near future
- Lots of agricultural land in the region of Vienna might use such combined solutions as well.
- There are regulation problems. The accommodation of these proposals needs a policy landscape because it has an important interest in cultural, environmental and social fields.
- Vienna has a significant amount of inner city horticulture for a metropolis. Therefore, initiatives like "Agrivoltism" could be implemented. Also, the use of solar energy in buildings is on the rise in the city and supported by different projects and tools of the municipality.
- My region has less solar energy potential than other parts of Europe. This could constrain use of this technology. Scottish government strongly supports renewable, and relies on Green Party to carry votes in our parliament.

- All depends on the price development of the solar cells how fast this will spread.
- Probably this will be one among many solutions, incl. solar panels as house roofs etc.

### 3.5 Solution 5. Vertical farming



#### Detailed comments

- It will grow as a form of production but always be marginal in terms of needs
- In my experience as a small urban allotment holder, it is hard to grow anything on land in an urban area, not to mention vertically.
- It makes nicer buildings, helps to regulate the water cycle and the temperature regulation in buildings alongside with cleaner air and will certainly bring a more enjoyable cities if this gets alongside with shares farming. But concerning the food supply issue, it would be marginal. The Paris city already has launched such an initiative on some roofs and whole buildings.
- The investments are too high to implement this on a large scale. It helps to make people aware of food production, but it won't solve the problem.
- Currently limited to high value, low volume, highly perishable niche foods for premium customers. Hard to see how it scales significantly beyond this in the absence of extremely cheap electricity.
- Yes, there is a trend towards using the private spaces for gardening and growing plants, but this is not yet a mainstream activity
- This may have some limited application in my own region; however we are currently well-resourced with agricultural land and this is not under extreme pressure. Interest in agitecture systems may be driven by demand for products that cannot be grown locally.
- This could also be implemented and some pilots are probably under way. Urban farming with

citizen involvement is taking off. I also see the added value in relation to air-quality. But the examples mentioned seem a bit niche for the moment.

- These will start in niche markets and food production is a great area for niche markets (local, bio, etc.) so it should be able to get started. There is a very neat program at MIT's media lab on highly controlled agriculture that I think has great potential for these sorts of urban farms (vertical or not).
- This option is interesting, but has very limited applicability in my region as we don't have tall buildings.
- 1) Note to the answers above: rather effective is my answer in relation to reducing noise, regulating temperature etc. in cities, but *\*not very effective\** would be the answer for farming!  
 2) 'Green buildings' have some technical advantages. On top of those mentioned, also to 'catch' strong rains and reduce the need to increase the capacity of sewers in relation to climate change-induced 'monster rainfall'. But: In relation to the other issues, this is less relevant in Northern cities. It does not get as hot, houses are well insulated, trees are nice in parks and along the streets where you can walk and ride a bike and ... - so there is no need to have them on the houses too. And it is usually windy, so pollution is blown away (in any case, with district heating, bikes and electric cars, cities will not be particularly polluted - why should they be?) And: There is a question of resource efficiency. Growing plants in soil is very, very cheap (they do it by themselves, after all!). But building houses that can carry plants, where it is efficient to harvest plants, where the roots of the plants do not damage the house (which can be a big problem if you have trees on your roof - let alone on the walls as in 'vertical forests') can be quite a lot more expensive than building 'simpler' houses'. (Use of an old industrial building this way may make sense, of course, if the house already stands there and does not have other uses. But even in this case, the installation and operation of LEDs etc. makes it very doubtful as a large-scale solution). Also note that the use of photo-voltaic surfaces on houses may be a lot more efficient than having plants there (especially as photovoltaic gets cheaper by the week). Having e.g. walls made of photovoltaic panels will not cause the house to become heavier (unlike soil + trees), will only cost a fraction more (in 2030), will not require leaves to be clean from the street, etc. etc.
- Much more confident on taking profit of the roofs at first stage.
- There is no evidence of running out of land and again a 'headline' grabbing diversion. More a rich persons play pit than serious agriculture.
- I think that Polish regions are at the very beginning of "being green" story. The idea of vertical farming seems to be attractive, however, there are more fundamental actions to be taken in the Polish regions in order to make them more environmentally friendly and self-sufficient.
- Already happening, also in public building (green procurement).

- My region is too rural, green as a whole, without major cities.
- It would seem more likely that building surfaces will be used for photovoltaics (thin film solar etc.) than for agriculture. The management of a largely self sufficient metropolitan food supply would seem to be more likely at the level of polycentric metropolitan clusters. A plentiful supply of renewable energy, and water, would open up possibilities for intensive food production for staples and feedstock.
- This is a niche that is nice and may add up to urban life quality but is not efficient as strategy to feed populations.
- The idea does not allow the required economies of scale in agriculture, but could improve the urban landscape. This is the interest of the project, more than the elimination of smog (which will go down with electrification or other non-polluting technologies being implemented for mobility and heating)
- Most balconies in Portugal would be used for garden flowers. I also believe that the vegetables production costs on the country are lower than in cities.
- Owners are reluctant due to damages at houses and to expensive maintenance.
- Our region is too dry . If these forest become gardens, then there is little advantage, as the maintenance becomes difficult and expensive. It's a nice idea, but hard to implement in dry areas, as the plants are likely to die unless the system to keep them alive is too complicated and expensive.
- Limited appeal to investors
- Very likely to be well accepted, since people in Slovenia practice small-scale food-provision in urban and rural areas.
- There is now increasing interest in urban farming and short food circuits. Land waiting for redevelopment can be used for short-term urban farming and there is now increasing interest in real 'green belts' that provide a break on sprawl but also exploit market gardening for a local market in the city.
- Vertical gardens are very difficult to maintain, expensive and not very successful (high replacement rates). Additionally, not all species grow well in these conditions, including climate conditions such as wind. Consideration has to be made also on the need to elevate all the water needed for these vertical plantings. It is nice and beautiful, but I don't believe it is effective.
- Let's see how this approach is locally accepted. Weather conditions in Finland may be too harsh for that approach.

- Not to a major extent in conditions of non-congested towns/cities.
- On small scale - urban gardens. Initiative can have educational effect - to learn how human, built and natural elements are interdependent, to promote responsible living.
- This sounds interesting but probably not as top priority.
- I think that this "experimental" architecture" is that: experimental, but not profitable. I think that the expenses are much higher than the benefits it provides
- The impact of gardens and vertical forests is visual and anecdotal, nothing more. The cost and maintenance make them unsustainable, when we also have as much horizontal surface wasted
- Vertical Forest and vertical farming are two very different phenomena (and models, if you want). The vertical forest might be considered urban green but not an habitat. from the point of view of urban ecology, its ecological value is low: the number of species does not mean biodiversity, because the ecological processes are the most relevant aspect. a vertical surface, a garden roof, et similia, cannot substitute natural habitats with their cycles. they only can mitigate environmental problems in urban areas. they area solutions in existing environments, not a a model for our future. Vertical farming is a different kind of problem, linked to urban agriculture. In developing countries, it may have a function in terms of provision. To summarize, my response can be expressed in terms of ecosystem services. A) cultural services; B) provisioning. But, in both cases, regulating services are still missing.
- Can be interesting in Poland, although we have a lot of gardens on the outskirts of the cities. Many urban families cultivate them to have own fruits and flowers. If the "building" gardens are equally affordable they can become popular in Poland
- Creating such a building costs a lot of energy.. Landless farming can take place as pig flats or so, but this kind of meat production factories are not very much align with ideas on organic farming. Which is already a fact is that greenhouses producing vegetables are taller and taller. This is how crows are grown economically, but these greenhouses have only one floor, but a roof at 9 meters or so.
- This is still very costly. probably there are still other possibilities in spatial planning to have the same effects with smaller costs.
- It's interesting for great cities without much green zones, or urban orchards. Not the case of my place.
- There's the issue of Cold climate in the North of Europe (where I reside). However, on the other side, in densely populated areas it's often several degrees warmer than in surrounding countryside so this is a great possibility to prolong the growing season. Also there is clearly a growing interest in growing your own, ecological vegetables, and the municipalities in my home city try to promote this, even for people in multi-storage housing (but so far mainly for



growing on the ground).

- Somehow likely. It could be implemented by local government force during project approval
- In agriculture we see a strong tendency towards automatisisation and increased efficiency. This requires easily accessible land. Vertical farming is just the opposite - small pieces of land and a lot of hand work.
- Milan, as you show, is an excellent example with its vertical forest. This is good for quality of life and also for the hydraulic invariant.
- In my opinion, urban farming is interesting for its social and education values more than the production per se. School farming and social farming helps to have knowledge on food production and raise awareness on the citizens. Rome has currently practices of urban farming and farm markets.
- This initiative can be implemented in City of Koprivnica because City police makers live souch initiative.
- The climatic conditions for growing plants/trees on high rise buildings are not favourable in our region.
- We have plenty of excellent farmland in the vicinity, so the exact product niche still needs to be found but I presume that specialist crops would med sufficient demand to be economically viable.
- The current building infrastructure is unlikely to be able to sustain this type of farming on a long term in Bucharest or Romania. Vertical farming has gain a small following at the moment, but investment costs vs. revenue are problematic for private developers, considering the return on this initiatives is limited.
- Very large areas of agricultural land lay fallow in Croatia and are not utilized for farming. Our food is usually more expensive that imported. For those reasons, I am quite sure that vertical urban farming is certainly not high on levels of priority or possibility in Croatia.
- Vertical greening will be applied in architecture because it looks nice (although the maintenance costs are higher), vertical agriculture doesn't seem to become so effective considering the increasing trends towards organic, bio-dynamic agriculture and local production, etc.
- In limited extend. It can be interested due to the reduction of pollution but not due to a food production (accumulation of dioxins in plants).
- The vertical forest in the picture beside the question does not seem to be easy to make any harvest. I could imagine such an initiative in my region, however I do not find it realistic on a large scale, as it should be operating under free market conditions. In urban areas green

spaces have an important recreational function as well, it shall be guaranteed for the citizens.

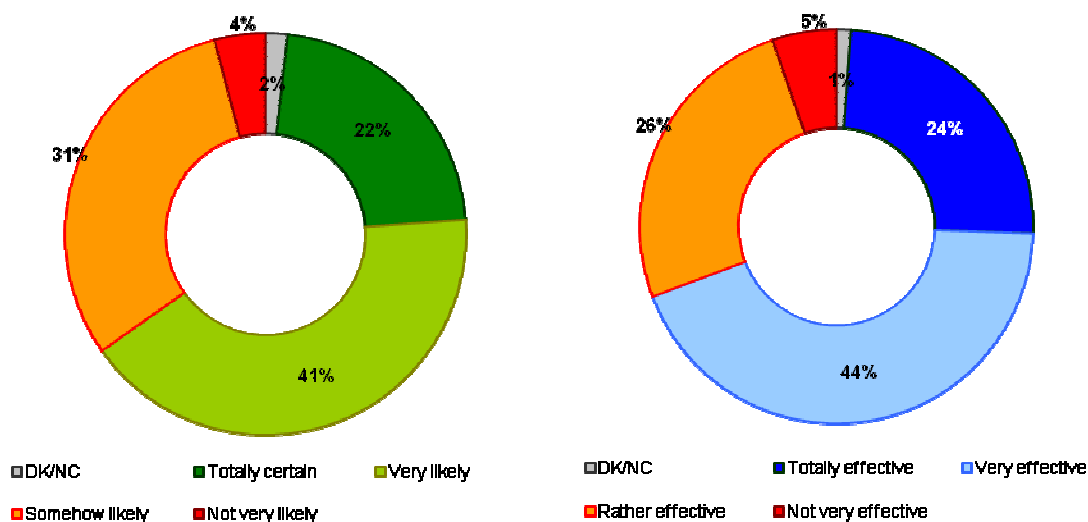
- Climate and wind dependent, but a huge potential also as protection against urban heat islands
- My region has no need to implement such systems. The high density settlement system occupies a residual part of the landscape.
- Roofs in Barcelona are not prepared to support a garden or forest, and also as ownership is very fragmented it is not likely that buildings could be massive converted to vertical gardens. The initiative would be awesome and would help in fading the urban heat island, but there the need to public intervention and cooperation between stakeholders.
- It could be nice, even to get better air conditions in the urban space. The existing buildings, therefore, sometimes could not have the best conditions for this. The most suitable development could be done in public buildings, or even in new construction buildings.
- Initiatives like aquaponics and urban farming are also tested in the Netherlands, e.g. Rotterdam and The Hague. Other experimental (temporary) initiatives have been in place in Amsterdam previously. Varied ways of food production (other than from the traditional farm) will be more and more common, innovation in the agricultural field is already very far in the Netherlands (work by Wageningen University). However, this must only be one way of production, efficiency and behavioural change are as important (less meat, less food waste etc.) to more sustainable way of feeding the planet. As to green buildings, the sponge effect of greening the city also with regards to climate change is taken up in Amsterdam also (initiative Rainproof). This is however mostly still experimental and has much more potential in being taken up.
- The infrastructure already exist in my region. We only need to try to do things that for the moment seems to be out of the basic common sense here. We do not have enough open minded people here.
- A cost issue. Just outside the big towns the cost of land is low - so transport costs are not that high which makes it unlikely that production of agricultural products would move into the cities in Norway...
- 'Vertical forest' in Milan represents at present a solution not affordable to most citizens. The price of flats is very high, as well as the maintenance costs, are very high.
- Costs might be too high
- There are cheaper ways to better farm currently low yielding land in our area
- Not really vertical farming. But vertical gardens to regulate climate and humidity and temperature in large cities

- There already exist several projects on urban farming relocation. Nevertheless, the extent of these projects seems limited by numerous issues such as soil pollution, air pollution, water needs, fertile land requirements, maintenance, etc . Even if deployment of urban agriculture should not be ignored focusing on new agricultural practices seems much more efficient than large deployment of urban agriculture. Perhaps, the real interest of such initiatives is more on the social links that they create than their ecological benefits.
- Not all urban residents want to become farmers. In cold environments the constructions may become damaged due to moisture maintained by the vegetation.
- Stefano Boeri from Milan will build a similar edifice in Munich. From the standpoint of overall resource efficiency these stand alone activities are necessary but not sufficient conditions to render urban concentrations more 'sustainable'.
- Unsure whether this initiative could convince the construction industry and become widespread
- In a Mediterranean setting I don't expect it to be a very likely remedied
- The Netherlands has a high agricultural productivity (may highest in the world). Vertical farming is costly and not very effective (little amount of space per floor).
- I know some initiative of vertical gardens in Barcelona. It would be interesting to apply more in different areas of the city, improving the quality of life, image of the city.
- Removing pollution from the air presumably means the pollution goes into the plants? Is this healthy for food crops?
- Nature-based solutions and urban agriculture should spread everywhere (e.g. promoting urban horticulture on the roofs of condominiums etc.)
- I don't see where this could be implemented in Austria (except probably for Vienna). Also, what about fertiliser and water use for vertical farming? I'm not sure whether this approach is really more efficient than "conventional" (organic) farming ...
- We are a very rural region, but development is happening more on the coast. Soil coverage is a danger.
- The Vertical Forest is an evident failure in terms of greening. It is not by developing a visual green or creating automated urban farming that our society can reduce urban and industrial pollution or create food, but by changing population culture
- This could be effective, but would need significant public policy push in my opinion. Unlikely to be implemented in the short term in my region given the strong urban-rural links already in place and the focus on those links to boost consumption of locally-grown food.

- In my opinion a better option is conservation of fertile soils in large areas near the cities
- It is unlikely to be introduced in my region. There is sufficient space for traditional agriculture and vertical agriculture is limited to specific plants and is much more expensive than traditional one. This solution is only applicable in areas with limited land available for agriculture.
- Limited due to the climate of Cyprus (Hot summers and limited rainfall)
- Could be implemented also to a large extent in my city and would be very interesting as green spaces are scarce and biodiversity is threatened/ declining.
- Emilia-Romagna region has a strong agricultural tradition and has a lot of good quality agricultural land. The future of agriculture in the region will be likely linked to a better exploitation of these agricultural lands. Vertical greening would be more effectively implemented as a mean to improve the quality of urban environment.
- Nice thing for rich countries. But vertical farms will not solve the upcoming food crisis due to climate change in Africa.
- Do not believe in the effectiveness of this type of initiatives. Technology must allow for better solutions to green urban, congested areas
- Dreaming. If we managed the territory such silly ideas would be completely redundant. The land was 'designed' to grow plants - water, nutrients, etc. So we put solar panels on good agricultural land and then put plants on building. This is nonsense on stilts.
- I have not seen any piloting of this initiative even, so I think it is unlikely to take much root in the region.
- It could be interesting because of the Italian climate and a diffused green culture.
- In our region we only do research on this. Since we don't have big cities, lots of green areas in our cities and a vast rural area, the need isn't there. We see some initiatives in the city of Groningen.
- It's not very likely to see many initiatives of this type in the near future in the current building park
- Rather unlikely in a larger extent because of large areas of agriculture near Vienna. Question of cost and sustainability, also in terms of "bio" products. Nevertheless, niche products and some enterprises will certainly start also in Vienna (example: existing mushroom production in Vienna on the basis of coffee grounds).
- Increase food sovereignty. Reduce pollution in air. Renaturalization of cities.

- In the outer districts of Vienna with less densely built up area, vertical farming and urban farming are often part of new developments. In the inner city such initiatives are difficult to be implemented due to legal restrictions and due to lack of space.
- High land prices and fragmented, mainly private land ownership will limit available urban sites. I would see it mainly on brown field sites in areas where there is little demand for commercial uses of land. It could link to local food networks, which are a popular idea now.
- Crazy architect's idea. Town planners should rather ensure that there is enough green space in the city and trees than resorting to this idea.

### 3.6 Solution 6. Less spaces for cars and more for community uses



#### Detailed comments

- Less space for cars does not sound a sustainable transport solution.
- This is actually one of the great trends in the Region, especially in Paris (see the express lane along the Seine River transformed into a pedestrian area).
- We need the other intersection for traffic, nonetheless, removing a few spaces from traffic and handing it to people already makes a difference in liveability of cities.
- Depends on road user charging and increased sovietisation of cars (eg via Uber or carsharing)
- This is happening on an ad hoc basis in the UK.
- Qualitative public and semi-public spaces most needed in cities
- These sorts of projects would be very likely in my city/region as there are many sites within the city that are derelict and difficult to repurpose for other uses (due to lack of infrastructure, condition of surrounding buildings). Attempts to make cities more pedestrian-friendly are already occurring but require good alternative infrastructure (public transport, cycling routes) to reduce the potential disruption to existing road users.
- It is already partially implemented with large scale pedestrian area in the middle of the city.

- Some car-free areas are created here and where in the region where I live and I guess new ones will be created but they do not change significantly the mobility system
- Yes, effective to increase the liveability of a city and reduce air pollution and traffic. The Brussels example shows however that it should be very well planned. If done too abruptly without proper investments the public support is not so high and local businesses are hostile.
- This will depend on whether we can politically reduced automobile use. The complexity in Europe is that so much of the GDP is generated from automobile production. The automobile producers will resist (although pretend otherwise, as they do now) any reduction in automobile use (even in cities where it makes complete sense). The question of the moment is whether we will share self-driving cars ("green" preference) or whether everyone will own their own self-driving car (automobile company preference). We could be starting now but the political fights in EVERY city over reducing street space for cars are daunting. If we did it we'd see huge reductions in energy use as people shifted to walking, biking and public transport.
- It is already happening (but far too little). The need to create more livable cities is very big all over - and here too (although we have actually moved quite a way, so much more could be done). This is also about getting people to move, to meet each other, etc. etc. - and the more we use the internet, the more we need something else! So: Communal spaces, some which are open for all and 'not demanding', others which require you to be an active participant (like some shared gardening schemes) are very useful to enhance the social fabric of a neighbourhood, creating better quality of life for all.
- Already working in progress at city level (Barcelona), with superilles' plan. A strong coordination with investments in mobility is also required (public transport & parking policy).
- Open space, especially urban open space, is valuable for amenity and recreational reasons - even for health - but back gardens and allotments order of magnitude more effective for food production.
- It might be fully implemented in my city and region since there are many places to be revitalized.
- There is far less 'unused space' in my region and it's cities, compared to US. But in the parts of my region with decreasing population the initiative is more interesting.
- The reuse of urban land and buildings should be a major strategic planning function. The recycling land and buildings should be major and ongoing source of urban space, facilitated by the planning system.
- Reducing car use requires (polycentric) urban concentration combined with a smart TOD (transit oriented development) strategy. Cities can only be car-free if suburban citizens have alternative transport modes to enter the city. The strongly fragmented and scattered urban fabric of the region of Flanders makes this a huge challenges to be addressed in strict spatial



planning policies.

- The number of cars in urban areas will be reduced by car-sharing and driverless car technologies with less need for parking, in particular. There are also brown sites (existing and created by changes in the urban economy) that require remodeling and adaptation for public use.
- There are already directives in place for public and private areas.
- Mostly depends on the improvement of public transport as well as on the change of civic society perspective. In Italy i see it rather hard. However, Turin is indeed making steps forward.
- Little by little cars should leave their place in urban mobility, because they are not spatially effective (plus the air pollution problems). On the other hand, in the rural areas cars will continue to be the only alternative for many.
- Dominance of car and transport engineer mentality limits use
- Great idea to reuse brown fields: especially small and scattered ones that prevail in Slovenia. Problematic would be the land ownership (mostly fragmented and individual).
- The temporary use of blighted or unused development land is of great importance. Unused land remains an eyesore and can encourage vandalism and anti-social behaviour. The temporary use of land for public gardens or public space should be encouraged. More attention should be put on 'shared space' where pedestrians, cars and other users share space with consideration to all road users.
- The "likeliness" depends so strongly on political framework. In particular in this case, this might be very different between municipalities and even between different areas within the same municipality.
- It is a trend almost everywhere now to give more space to people instead of cars in the cities. The effectiveness depends on the new proposed use (and who is the targeted people). Other initiatives already in place in Madrid for example (Calle Fuencarral) is to ban traffic in certain sections of a wide street on Sundays (when there is less traffic) so that people can use that space (particularly good for kids). This is advantageous because during working days (not many people free for leisure) traffic is not restricted and during Sundays (not so much traffic) people can use it.
- I live in a rather rural city, where people are immobile if they do not have anymore a car, therefore the approach is rather unlikely. Even autonomous cars for transporting here and there may be not of much help due to the rural status of the town. In metropolitan areas this concept may be of high relevance, however not such much for families with very tight time schedules and many different needs for transport.

- Implemented mainly for aesthetic reasons in the conditions of overabundance of empty urban spaces.
- It is and can be better implemented in cities where is more vacant space, but introducing community uses is lengthy process, which require also transformation in heads. There is an initiative to introduce so called "temporal" use on areas or in buildings which are (long-term) foreseen for specific uses (land use plan) but that cannot be implemented (yet) due to different reasons (lack of money,...). The initiative could be interesting to start switching behaviour (using cities, planning cities).
- They are good initiatives, but they do not bring real solutions.
- The success of measures such as those carried out in Milan, Barcelona or Pontevedra depend on committed leaders who are not always well received by neighbors
- reuse, renewal of brownfield and vacant spaces is a priority, if we want to stop soil sealing, and regenerate existing urban environment. Social uses can be multiple. and maybe temporary. Infill should also be considered. In my city a relevant best practice can be observed: the transformation of a large industrial area in a urban park. Nevertheless, public investments are needed , and in Country is not able to give financial support.
- We need that. This is an ongoing trend in urban areas in Poland
- I could see this happen in The Hague at some scattered locations
- This is happening for some decades. The idea that cars can travel anywhere has gone . In Europe there are many example, but also elsewhere. The high motorway through Seoul is now a park, Squares that are used for street parking are public spaces, etc. In my city this development is a slow process that has transferred many areas, and is most likely to develop further.
- We have similar projects (may be on a smaller scale) that are a huge success... and certainly necessary in order to balance the densification in urban centers.
- Urban redesign should be part of a comprehensive strategic visions about mobility. Saving urban space for citizens in inner areas and letting commuters spent hours in congestion or waiting for public transportation should not proceed together.
- Use of empty lots for communal purposes has been also implemented in my town.
- This is surely a trend for cities with a high population density. Its implementation will depend on the quality of public transport systems.
- Unless public transport is strongly improved, citizens often do not have a valid (competitive) alternative to the car use. Unfortunately, I do not see this policy in the near future in Rome

city or in the Lazio region

- This is real initiative which can be implemented in county cities.
- Because of better public transport and less pollution of the air.
- This could alleviate traffic congestion and make the inner cities more liveable.
- Considering current traffic and pollution issues in Romania and especially in Bucharest, this type of initiatives are bound to appear in the following years. The only issue for implementation is the nature of the property (public vs. private) as property rights are guaranteed through the constitution and become problematic even in common interest projects.
- In Zagreb and Croatia, Public space has been heavily endangered by private financial interest during the last 20 years. The community and NGOs are more and more proactive in opposing the loss of public space and it seems that they are being quite effective recently. There is growing citizen support for initiatives such as those presented in the question and they would certainly bring back the lost balance between private and public.
- Urban regeneration tends more and more to allocate spaces for pedestrians, same applies for new expansions where TOD (Transit oriented development) techniques are generally implemented trying to reduce the space devoted to cars and increase the public ones. Experiences from elsewhere on how to realise and manage those spaces could be interesting.
- In a limited extent because of a spatial-functional structure of the city. As more public space in a city is better.
- Fortunately there is a change in the mindsets from the car-driven philosophy to other forms of mobility and use of space. Especially in cities, younger generations tend to use alternative solutions and public space can be (re)converted into pedestrian spaces or green spaces. This is a trend that is taking place and will most probably go on in the future.
- Is being implemented incrementally and aligns with the life-between-the-buildings (Jan Gehl) thinking for development of urban spaces, as well as the multifunctional uses of urban spaces in transition thinking
- In Copenhagen this is already happening, bikes are squeezing out cars and more and more space of roads are being allocated to bike paths
- These needs are most felt in densely populated urban areas. In regions with dispersed populations and small and medium-sized cities, the pressure to implement this type of strategy will be less strong.
- Barcelona is already developing initiatives like this, as the picture displays. However, the

main problems the city does is that transportation is good in a local level but not good enough in the metropolitan level. Therefore, a lot of investment in infrastructure is needed, as well as a good strategy such as parking in the surroundings, which is nowadays not foreseen. The Catalan model of population is very fragmented, so we cannot have a train to each town. It means that a large scale of people need the car to go to the Capital City and they tend to go by car as near as possible. Current "dissuatory parkings" in places like Sant Sadurní d'Anoia are too far, The AMB should build some parking in near and good connected train stations such as El Prat, El Papiol/Castellbiscat, etc.

- It is really interesting, especially in compact cities like Barcelona, where there's a lack of public spaces of relationship. It's totally necessary in order to decrease pollution and noise, and increase environmental quality in urban spaces.
- Amsterdam is a frontrunner in using space for public use. Europe wide, London, Paris and New York have shown that implementing effective policies for cycling can take up very quickly and can contribute to behavioural change.
- Not my area of expertise. I think the initiatives described sound quite diverse so it seems unlikely that a larger scale, more prescriptive implementation is likely. Furthermore, I imagine each case's circumstances may be quite unique in terms of where the land is, who it is owned by, what its former use was, is there potential for residential / commercial use, is there a policy obligation to deliver, is the area being regenerated, who will fund it. I'm not sure how relevant it is but I am aware that property developers can be required to provide community facilities / infrastructure or financial contributions towards them and can have car parking provision constrained in order to secure planning consent for development. If this last interpretation then "very likely" and "very effective".
- The initiative can and should be implemented, but again it needs people who care; not to mention here the necessary financial funds that it needs.
- Already there are talks about banning cars (except electric/hydrogen) in some cities - and public spaces may be mandated by planning / zoning laws established by each municipality... the problem is the design of the public spaces...
- I think that the weathfield of Agnes Denes is a work of environmental art aimed at bringing the public attention to relevant environmental and social values., which is good, of course...More important it is, in my opinion, to make new urbanisation mostly occur on brownfields and to revitalise unused buildings and city areas...This is something which is occasionally done in my country and which should be supported by specific legislation/policy.
- Car mobility might be less important for younger generations but is there to stay
- Places for people will be one of the fastest growing sectors in our region.
- Such initiatives are currently implemented in the region. As for urban agriculture, such initiatives make sense for enhancing standard of living for people living in large cities

especially through social links and reduction of direct cars disturbance and perhaps less for environment.

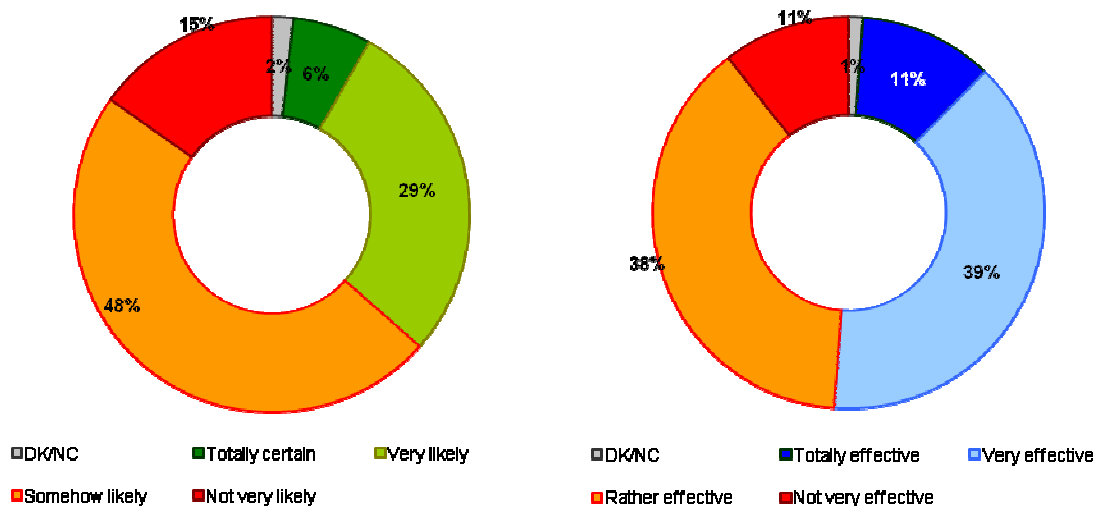
- Attractive in very urban environments, where there is lack of space. In Scandinavia, this is not the case.
- More density calls among other issues for more livable urban public spaces. Cities play a role model for suburban areas where actually the need and the opportunities to follow suite are even larger. Munich has a respectable track record in upgrading public spaces, but still a long way to go in order to be super.
- Local authorities need to be convinced about the added value these solutions may generate
- Highly probable, specially with the inclusion of nature-based solutions and social involvements in local decisions
- In NL this is happening at small scale under different names such as 'woonerf'. It increases quality of living
- Barcelona is working to improve the city for pedestrians
- Commuting to/from work and shopping will still be the main drivers for car-based traffic. Our city is not large enough for this initiative to have substantial effect. It will merely reroute existing traffic.
- Needs legislative action to make it easier to car share, or be a taxi driver... Autonomous vehicles may make this easier.
- Those initiatives are successful to the extent they stimulate a change of local communities' behaviours and develop win-win situations. The two mentioned initiatives, in that context, deal definitely with empty spaces and not with densely populated areas, realising a single-idea without having to change people mind. Not enough for up-scaling, or should we imagine that our cities are pretty empty?
- This is an initiative with very general application, that can be (and is being) taken forward in many cities and regions.
- This solution fulfils society desire for more and better public space. It is likely to be introduced in cities under the condition that private car traffic which it competes for space with will be replaced by efficient public transport system.
- Very interesting examples with a potential to be implemented in Cyprus with certain modifications (especially the scale), as one of the problems facing urban areas in Cyprus is traffic congestion and limited open spaces within cities.

- Could be implemented to a large extent in my city as distances are short and service/shopping opportunities manifold making car use not necessary. Would be very interesting as current traffic is causing heavy congestion; impeding the mobility of all inhabitants and causing the living conditions to deteriorate (air quality, noise etc).
- Space for community uses is a key factor for urban quality. Citizens and local communities are already asking for more space for community and new generations are more favourable to sustainable transport models.
- There are many such projects in European cities. They improve the quality of public spaces. But they are heavily contested if they imply constraints on car driving.
- Already implemented - very widely - but could be accelerated in some places. It is absolutely necessary to reduce the space for cars. One issue is 'ownership'. Such projects need to be implemented alongside citizen groups who must take responsibility. Evidence in Rotterdam shows that new public realm is often not managed well. The text in this item does not match the title.
- This is one of the most likely initiatives to happen as people have grown more and more concerned about the quality of urban air.
- High probability because limited space resources in bigger cities.
- This kind of initiatives are already promoted in many plans and policies for many reasons: to re-use dismissed area, to face the effects of climate change (regaining permeability), to improve the micro-climate. They are relatively simple and appreciated by people.
- In our cities this is already happening. It reduces traffic jams entering the cities and congestion inside the cities. Furthermore the Dutch love cycling so it has all the public support needed. There are new velomobile innovations in our region that further motivate use of cycling for general mobility. These can be of high interest for the rest of the world as well.
- It's very effective to spread this initiative because it's cheap and easy to manage.
- To the largest extent reasonable, awareness rising necessary. Raises quality of life immense.
- This initiative could be very interesting where I live because it can be linked with the subject of land take and soil sealing in the urban space.
- Tactical urbanism is emerging <https://www.diba.cat/web/espais-buits/experiencies>. Automobiles are one of the leading causes of air pollution in cities (and climate change). We need hard regulation and taxes, and after voluntary pollution control.
- In Vienna there is continuous discussion about public spaces and motorized individual transport in the city. Parking restrictions and the implementation of traffic-calmed spaces

and shared spaces have already led to the creation of new public spaces in Vienna. It is a long process with many different elements, such as inner city public transport development, congestion and also behavioural change. In the long run, initiatives like this are very likely to be implemented on a large scale.

- Again it may depend on competition from other uses and decisions by land owners. It is easier to do in shrinking cities than in growing ones. Also I wonder what impact driverless cars might have on the total number of cars on the road and on demand for road space? Growing interest in place making and in restricting car use in the city centre.
- I see this in many cities; I think it is an idea that is spreading. However, it is not THE solution for urban problems of lack of green spaces, urban heat islands, high rents, etc.
- Very good and effective for the quality of life, though to have an impact on our society at large it would need to go hand in hand with a complete shift in our ideas of mobility (from car ownership to other forms of mobility ...)
- Traffic in cities will need to change radically with a shift to public transport, sharing and micro mobility. This will make more place available for living.

### 3.7 Solution 7. Collaborative housing



#### Detailed comments

- It is a part of the housing response in the UK but only a small part of it having seen it in operation
- This solution helps to overcome gaps in public service provision, e.g. for payable housing, for early child care etc.
- Those actions are very effective in bringing more cohesion and relationship between inhabitants and also helps preserve resources. Nevertheless, in a region where the land for dwellings is scarce and very expensive, these kind of experiments are very unlikely to develop at a large scale, even though there are actually some dwellings realized that way.
- It is again the small-scale that is essential for success, but I believe the small scale can be copied multiple times. What is efficient? For what (not clear from the description)?
- Very likely: the cost of new housing is driving the need for innovative ways of helping people to buy housing.
- Typologies need to be adapted, so more community driven living environments can function
- This is also part of Flemish policy with many pilots under way.
- Makes total sense for social, health and economic reasons, not only for energy. The question will be whether government makes policies that encourage this type of living, while discouraging sprawl type development. As an American living in Europe I am aghast at the level of sprawl in the countryside here ... it's as if Europe has learned nothing from the US experience. (Here, as in the USA, it's a question of local government finance that drives these



decisions ... but in the long run it's bad economics from the local, regional or EU perspectives.

- This is obviously interesting (also see answer to the previous question!). BUT note that this has been done a lot of times, and very often it has failed after a period. Usually, the pioneers are eager to make it work, this becomes 'a significant lifestyle', something which defines you - and then the novelty fades away, people get interested in other stuff, the communal areas become less attractive, some groups develop irresponsible or anti-social behaviour, ... BUT: Sometimes it works and works well. And, with new, more 'fluid' family structures becoming coming, it could be that it worked this time. Maybe we can find ways of defining ground rules, making the social structure (or behavioural norms) more stable (or mainly developing in a positive direction). Maybe the increased transparency of social media and video monitoring can eliminate some of the worst problems. Let's hope so! (But experience shows that it tends to be a lot harder in practice than it sounds).
- Fully applicable. Interesting since there are lots of such facilities in my region to be converted into the cohousing space.
- Government at various levels and the (restructuring) social renting/housing sector are blocking these kind of innovations in NL over the last decade. Some social/renting organisations have developed too innovative initiatives, which failed, and now the rest of the sector is punished for this.
- In the UK there is now only a limited public housing sector. In European countries, with a better balance of housing tenures, the possibilities for collaboration are greater and more likely.
- Co-housing addresses maybe about 2% of the housing market. Even though being trending today, I have hard feelings that a significant part of the population wishes to life like this.
- The difficulties of getting neighbours to cooperate are so big that these initiatives will remain special cases
- Here exist two questions; as I just can opt for one, the fields chosen are for the last one. The first question would not be effective in Portugal because people don't have the habit of sharing proprieties.
- There is demand and the ageing of the population will be driving this issue forward.
- Turin is a very good example, also in terms of integration of public and private investments fuelling into co-housing
- In Spain we don't have a tradition of such collaborative systems. Maybe in some urban environments with specific social groups could be possible, but not in general.
- Great idea, I support it 100%. Small seniors-young communities are to be implemented in the

universities hinterland, or in the areas attractive for young families with children.

- Co-housing is one aspect of cooperative housing. It would be useful to re-examine financial models from the UK's garden city movement and some continental Europe garden suburbs to illustrate the potential of either top-down social housing initiatives or more bottom up initiatives from a community perspective. There is also a need to guard against privatisation and speculation within successful neighbourhoods as in the example of the UK's housing associations.
- This relies on the neighbours attitude and motivation, so it is unpredictable on a large scale.
- Good approach for the demographic change.
- This initiative is relevant anywhere.
- The human relations between neighbours are usually difficult to manage.
- It is hard to say to what extent, because it is obviously dependent on people and if the sea such approach as suitable for their community. The initiative would be worth promoting, because it is also about making liveable space for different generations, promoting cost efficiency and affordability together with desired quality of living, increasing responsibility for one's own and common living space..., thus contributing to better communities and better societies. Introducing upgraded "village" principles in the city?
- This can be a good solution for housing shortages and empty buildings (shop property and offices) and to provide housing and a pleasant living environment for both young adults and the elderly.
- I think that this type of collaborative economy is very interesting, because it can join people that is looking for the same ideas and purposes. In fact, it is the same idea than do plenty of cooperative groups in all the branches of economy.
- Real estate companies have too much real power for measures such as these to be developed on a large scale
- Relevant for certain forms of dwelling, not for each form, especially in core areas of metropolis. Very interesting in suburban areas.
- Italy is not used to community planning, to participative processes, to communitarian ways of life. New generations have, of course, a different attitude, but they do not have financial means (high percentage of young unemployed)
- High transaction costs but great results. I think in Poland we try to move into this direction, at least to some extent. Key obstacle is lack of free time of many people especially those starting their professional career and working more than 10 hours a day.

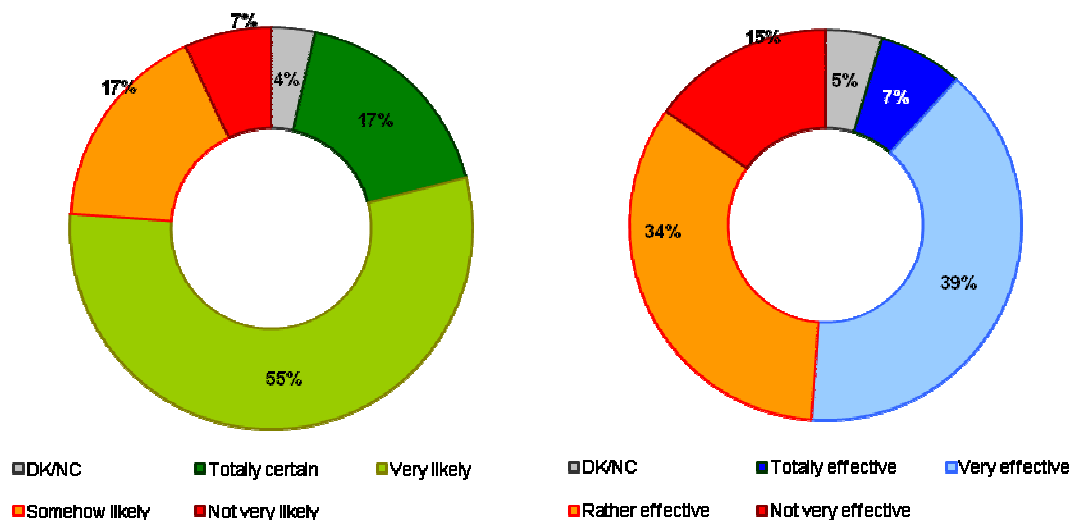
- There are a lot of niche initiatives on co-housing. This will most likely stay a niche initiatives next to the mainstream. So, interesting for people that like it, but not for everyone.
- We have several collaborative housing projects that were realised in the last few years. Sometimes the envisaged age groups and family ratio changed quite quickly. Not all were suitable for a more open and shared live style. But quite generally we can observe a certain return to the neighbourhood consciousness with a growing social capital
- In Italy, there are not significant examples of co-housing. Cultural factors area at work to ensure successful initiatives.
- It is difficult to implement, but might be very effective for young people as a way to be independent from parents, and for old people to be attended as they deserve. Very interesting.
- Attractive for a part of the population - I am not sure whether "effective" is the right way to measure this, effective in which terms?!
- Lombardy Region has a specific regional plan for financing social housing. At a national level we have to make easier administrative procedures
- In Rome, it could happen in few urban development project/regeneration projects of industrial site.
- It can be implemented in our region because we have a few similar projects.
- In collaboration with the people to design their environment and homes
- Not every group in society aims at collective forms of living.
- The big constraint in the supply of new housing is the availability of land and the planning process. This would limit collaborative housing as much as traditional construction.
- This approach is highly dependent on education and community spirit. In this discussion diversity becomes a problem rather than an advantage. In current state Romania I am reluctant to say that this type of investigat would catch on.
- Private ownership is highly valued in Croatian society at the moment and I don't think that such initiatives are likely to take stronger presence. On the other hand, I see potential for younger people living (rent-free) in village communities closer to towns, where older people forms the majority and needs help in daily life.
- Co-housing requires people wanting to adapt their life styles to living, deciding, managing things together. This is not a question of offering these solutions but of changing mentality. Some countries will have more problems than others in this.

- It's limited by a home (block) owners, It's a very interesting proposition which can help city inhabitants to create surroundings according to human needs.
- These are pilot projects with the participation of more open people, they are not representative for the society. I am quite skeptical, as I have not heard anybody saying "I have a flat in a bigger house and I enjoy the Assembly of the house because we find solutions to so many problems" - and that so that these Assemblies are also multi-generational.
- This is a starting initiative that is gradually being implemented and I believe it will work. However, there is also the need for a shift in the local culture, where housing is seen as an investment.
- It is a very interesting initiative. It requires a narrow social fabric that sometimes it is difficult to have in an urban area, but it is increasing every time.
- Amsterdam already has examples for co-operative housing construction. This development contributes to a broad diversification of housing trends, all over Europe, but not as the only form for housing. Essential will be to integrate not only the 'trendy' communities, but to develop cooperative projects in less developed areas (within countries and within Europe), economically weak neighbourhoods that it becomes truly participatory, not only for those that are most emancipated within the society.
- I'm not sure how likely it is to be implemented on a large scale. I think it depends on policy and information / promotion of the opportunities, benefits, costs and how to go about it etc. to potential house buyers, developers, etc. I'm not clear on how you would measure effectiveness (socially, financially, environmentally, proportion of new housing being of this type)?
- Already in existence. Will probably spread wider due to the "pensioner wave". Note also the Norwegian "self builder" provision in the building code - you may build your own house (villa) as long as you are competent to do it...
- In the city where I live (60.000 inhabitants, North Italy), some initiatives have been developed to make citizens manage green areas (vegetable gardens have been created). I think that we have many elderly people in our towns who are very happy to be involved in such initiatives. This is an opportunity to maintain green areas at low cost, while bringing together elderly people. Even better, in my opinion, (but, perhaps more difficult to implement) are multi-generational projects.
- Very likely to happen, smaller communities will emerge with helping each other
- It's necessary to adapt cohousing to already built cities. Adapt to urban recycling
- Participatory planning creates convenient environments instead of construction industry driven concrete blocks of flats. Asks for brave politicians to become true.

- Seems already a standard procedure in a ever growing city like Munich to also accommodate for such initiatives. Diversity breeds strength and durability. City administration begin to understand that.
- Is taking place ever since the late sixties / early seventies under different names such as 'woongroep'.
- It would be interesting in our city, because of the high price of housing and the aging of the population
- I guess there is a need for older people to live together to combat loneliness. I see that heterogeneous groups can fill each other's gaps, but don't know that there are initiatives that would allow this to happen here.
- It is obviously strongly dependent on cultural factors that are different from place to place in Europe
- There is another example of co-housing (Pomali; see <http://www.pomali.at>) close to my area. However, co-housing does not necessarily mean to live more sustainable lives ...
- More apt for cities, in a rural area people build their own homes, urbanisation is limited.
- Interesting experiments have already taken place, but the wide-scale implementation of this new model remains to be demonstrated
- Co-housing initiative is very attractive for a certain population cluster and for certain urban areas with open spaces or urban regeneration needs. It's a niche solution.
- This could be very effective, but I suspect is likely to stay relatively small-scale, given barriers presented by time constraints and inertia in present forms of organising housing.
- This is more an example than a trend. Most people value privacy.
- Could be implemented easily as the inhabitants of the city are very diverse and there is need and interest in cooperation. It is however doubtful if it will ever be a large scale phenomena.
- Collaborative housing experiences and community building initiatives can be somehow hard to start but very effective in the medium-term. To maintain these experiences alive in the long term is one more challenge.
- Nice idea, but what is the effect on circular economy/renewable energy/land market collapses?
- Another "must" based upon citizen cooperation. Almost the only way forward to reduce the current problems associated with home ownership

- This is already widely implemented. 15% of housing in the Netherlands is 'self-commissioned' - most may be single houses but there are also lots of examples of group co-housing. Note that there is a great deal of variety of co-housing typologies, management, objectives and more. Co-housing may be strongly connected to more sustainable housing, and standards of environmental efficiency may be much higher. Planning systems, housing policies and finance systems need to be amended to cater for co-housing, but quality standards must not be compromised.
- Unlikely to happen soon as social relations are still very much based on kin and it is considered that this would continue to be the leading pattern for the foreseeable future.
- It would need social and cultural revolution.
- The success of this kind of initiatives is strictly related with particular social conditions, with the presence of social capital.
- This will stay small scale because in the Netherlands individualism still wins from collectivism. There is no reason for most people to give in on their freedom to live on their own in their self selected/designed house on their own land.
- it's not very likely to see many initiatives of this type in the near future in the current building market
- Good initiative, also implemented in Vienna. Nevertheless, probably a question of education and interest - not interesting for all people, also still more expensive than "0815" flats
- There are incipient initiatives (Sant Cugat, Cabrera d'Anoia, etc.)- More money available that could be used in other sectors. Rebalance local economies.
- Demographic change and increasing costs of social services for society will have to lead to some sort of change in the current system. However, initiatives like the one described above mostly depend on singular projects and the drive of the body or community implementing it. In the Vienna city region segregation of social groups (also age groups) and privatization goes side-by-side with collaborative approaches and community spaces. These collaborative approaches seem to be a minority approach and also concentrated in certain social groups (i.e. rather young, successful and people with higher income)
- Maybe the housing associations could take the lead. Private house builders own or have options on almost all the land with development potential, so innovations like this are difficult to implement. It addresses housing need and community well-being, both are important.
- I just read an article about a similar case in Berlin. There the future residents had huge problems a.) to reach agreements collaboratively and b.) to get the necessary financing (banks were very reluctant to fund the project).

### 3.8 Solution 8. Taxation for temporary residence are not



#### Detailed comments

- This is not a policy but a market mechanism
- Collaborative economy should not mean no tax paying...When renting your home means getting money without contributing to the nation's budget something goes wrong. That is the sense of what the city of Paris has engaged at its scale with the local tourist tax. at the national level, these temporary residences should also pay the VAT on the value of the rent (and not only on the benefit of airbnb).
- If government can make money, they will do so. Effective for what, the definition of effective becomes increasingly worrisome in this questionnaire as the goal of the implemented measures is not given (effective for whom?)
- We do not have tourist taxes in the UK, but they could be introduced, probably starting in London.
- This is an important tool for managing what is quite an 'unregulated' market that drives up rents in desirable areas. In my own area landlords who rent properties have to be registered and accredited by the City Council who inspect properties for health and safety purposes and also ensure that fair procedures are in place for resolving disputes between tenant and landlord. It is highly likely that such a scheme could be extended to cover Airbnb transactions as this would generate additional income for the City.
- My region attracts many tourist and if Airbnb becomes more popular some form of

regulation will emerge. However revenues from any tax of this kind would not be relevant for local budgets if not in some villages.

- Which initiative? Airbnb or taxing Airbnb? It seems likely this the sharing economy style Airbnb is here to stay and that cities will need to take action to manage it. It might for example push local residents even more out of the city centre when the Airbnb offers become too numerous.
- Why shouldn't AirBNB pay the same taxes to the municipality as any hotel? This is fair. I don't think this will change the impact of AirBNB though, the individual owners can still keep the prices low. The only solution for affordable housing in cities is for cities to build more and try new ideas like the previous question of cooperative housing estates.
- It is relevant and could be implemented. The barriers are probably mainly political. (some parties might claim it would infringe on privacy - and of course, the real reason could be to protect tax evasion). it is interesting simply because AirBnB-type renting has grown a lot, and the need to get revenue from this is important (getting it out of the black economy). At the same time, banning this type of renting (as some cities have done) does not seem such a good idea, since it is in everybody's interest that societal resources are used well - including using my apartment when I'm away myself. With sufficient taxation, it should be possible to overcome the risk that apartment owners become 'small hotels', owning flats simply to hire them out to tourists and earning un-taxed income (which is what is happening at the moment in some places), and displacing the natural inhabitants of cities by driving prices up - and at the same time, get the advantage of flats being used by somebody when the owner is away for good reasons (i.e., this is the owners standard place of residence).
- Reasonable as a source of tax revenue given that such more intensive use of buildings and increased tourists imposes costs on urban public services.
- Applicable. However, even though our region is characterised by several touristic landmarks, tourism is not among the main determinants of development in the region of Lower Silesia which I represent. It seems to be more applicable in its capital Wrocław.
- Could be extended to include a social inclusion strand (fight against poverty), and a migrants' strand (fight against homelessness).
- The sharing economy is something that makes economic and social sense, which is why it will thrive in accommodation and other sectors. It ties in with the concept of "portfolio" occupations, with personal activities in the market, sharing and voluntary sectors.
- The sharing economy requires major changes in the legal framework and cultural mindset.
- It is an effective system to take advantage of available living space. The problem is how to incorporate this into the formal economy. Unless the necessary transformation of fiscal policy to adapt to globalization and information society is defined and implemented, there will be a severe stress between users of the cooperative economy and the various



administrations.

- Next year the Portuguese government is going to raise a lot the airbnb landlords - during last year's many buildings and apartments have been restored for business; up next year many will not consider it a good business anymore.
- Touristic region around and a lot of students.
- The legal frame is a key issue in this matter, especially in Barcelona.
- If this kind of taxes appear, I think people should look for alternative ways to elude them, at least in Spain.
- Depends on ability to raise 'local' taxes - limited here
- Finally; airbnb need to have some community obligations as well. Lately, they played unfair game, and other tourist stakeholders complain.
- There is a great deal of tension between the established tourism infrastructure (hotels, bed and breakfast, etc) and new 'sharing economy' models such as Airbnb. There will be a need to balance new and established business models. Unregulated letting for tourists can create problems such as 'carrying capacity' - e.g. water and waste where incoming tourists create shortages of water which affects the indigenous population (e.g. Majorca).
- I cannot answer the right column (effectiveness): effective for whom and effective in reaching which target?
- It makes sense that platforms such as Airbnb match better supply and demand of accommodation, but also that local municipalities can earn their local taxes.
- The tourist tax is practising in Slovenia. It can be implemented on a large scale when legal accommodation providers are in question. In relation to unexpected or undesired consequences of new trends in tourism, I am not sure whether this tool is effective enough. Maybe it would need to be further developed (higher taxes for most visited areas?).
- This already is implemented in our region. It works and therefore may be evaluated as effective, but the question is 'effective in what respect'? I don't know the long-term effects for tourism.
- It is an interesting but ineffective initiative. May be a good idea for discovering the illegal leases.
- The collaborative economy will continue to expand across different sectors, including tourism.  
In Spain, tourism will continue to evolve and increase the number of tourists and incomes,

including in this development new forms of collaborative economy

- This is the instrument which is broadly used just for collecting the money but without following real additional goal, especially by spending the collected resources.
- In some cases, Italian historic cities suffer for the abandonment of local residents, who prefer to rent their apartment to tourists. This phenomenon has a series of detrimental effects on local society, quality of life, and historic landscape.
- So far in Poland we have an opposite problem. We need more tourists. Perhaps in some cities like Cracow such taxation is necessary even now, but it would not be supported by local people earning money from incoming tourists. Our problem are tourists coming without night accommodation only for having exciting weekend in some of our cities.
- It is implemented in Amsterdam. It is just a touristic tax you are obliged to pay everywhere, so also in an hotel. It is very likely that everybody pays the same tax. Less likely is a higher tax for AIRBNB. The ability to rent to temporary housing will make housing more expensive (the market will take this capacity into account), so you will also pay property tax on this extra value. It will be so a must to do so, otherwise you cannot afford your home in the town anymore. So it is very likely that cities will issue regulations.
- After having had the referendum on "secondary homes" limitation the discussion is still very vivid as the secondary homes are becoming more and more also a problem in city centres. To have a limitation in numbers or to manage them in Airbnb kind is a hot topic. And this goes very well with the taxing of such tourism offers. Or by taxing the owner
- In such a field, the governance at local level really makes the difference. In Italy, due to the power of lobbies, i.e. hoteliers, the trend is toward a non-collaborative approach towards sharing economy (the same happens with Uber, virtually not existing in Rome, due to the strong opposition of the local Taxi drivers organizations).
- It needs to be implemented in towns like mine as a way to decongest the next great city, which is congested by tourism.
- A trend but many cities councils try to ban Airbnb because it shortens living space and causes rising rents of the domestic population as well as displacement.
- This is initiative as the highest opportunity to be applied in Rome - as highly turistic and with already a well developed Airbnb network
- Hard to monitor and enforce. Also, somewhat at odds with the concept of home-ownership and the freedom to let property.
- This depends on the political party in power and legislation. At present Romania lacks appropriate legislation to regulate this kind of services (e.g. Uber functions in a legal grey area). Adoption and interest depends on how the current taxing system would change - as in

present declared incomes are already taxed. In this case, the idea would be of interest as it could reduce grey market rentals, where owners do not declare their Airbnb incomes.

- Tourism is of great importance for Croatian economy (some calculations state up to 20% of our economy). Therefore, there are numerous measures to prevent grey economy (predominantly in private accommodation). One of the most used is lowering the annual taxation for private owners renting flats in order to get them into system.
- Economic activities (like tourism) have to respect a large deal of norms while collaborative forms of economy simply disregard them. It is not only a problem of taxation but of granting minimal qualitative standards to clients.
- It's a very attractive. It can help to increase the income of urban (money for public expenditure).
- Airbnb is new by giving information about available private accommodation. The phenomenon of renting is not new and has been regulated before. However this information platform has increased the supply and with the trade-off with permanent rent, it affected real estate markets to a great extent. Therefore the need for public intervention cannot stop by raising minimal taxes, especially in areas where rent prices are already increasing rapidly, making living in the city unaffordable for a growing number of people. This will further cause migration challenges.
- Even with high taxation, tourism in cities such as Amsterdam or Barcelona make the business still attractive. Another kind of regulation would be more effective. For instance, making not possible to rent an entire apartment on Air BNB would prevent speculation for 1 owner to have several flats. Being forced to live with the tourists would come back to the real sense of AirBNB and, as the owner is in the house, would prevent problems such as noise, parties, etc. Of course taxation as any other tourist would also be effective as complement, but not as single solution.
- It exists a tourist tax in accommodation, but since I know Airbnb or other tools are not included. And they have (at least Airbnb) a lot of management taxes for users as intermediaries... it is shameful that local governments are not having revenues for this, when local people are the ones that suffer the consequences of this tourist expansion!
- Regulating speculative mechanisms in cities will be essential to be able to keep positive effects of these innovative initiatives of the sharing economy. Only when the disruptive effects are regulated in some ways, our cities can counter the enormous real estate speculation that comes along with e.g. Airbnb.
- It sounds like several locations are already taxing temporary residence. On how large a scale it can be implemented I think will come down to whether it is "already taxed" by hosts declaring the additional income, whether governments (local, regional, national) need to substitute falling hotel tax revenue, whether the same governments want to incentivise or disincentivise the sector, how they choose to tax (e.g. host tax returns or automated

deduction via portals like Airbnb if they effectively capture the whole market).

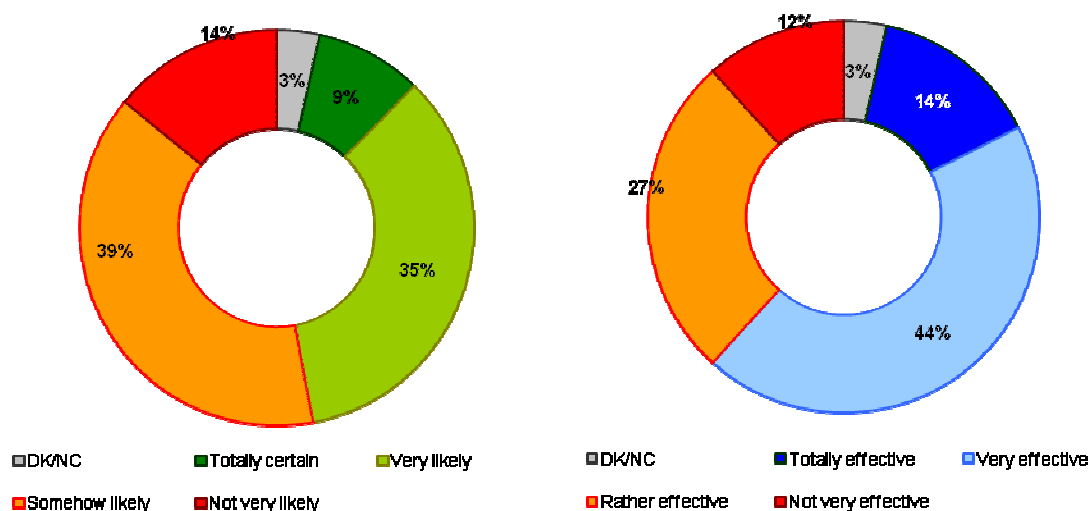
- The initiative is supposed to refer at houses that are at list comparable at what means the conditions of living in all Europe, which is not the case. The houses (the majority) in Eastern Europe looks terribly; not comfortable at all.
- Easy to evade taxes really - but yes, as long as the airbnb activity is primarily an income generation thing and not something you do a week or two (renting out your apartment/house that is) it should be taxed as any other business...
- The Financial Law 2016 is currently under discussion in Italy. It has been proposed to require citizens providing for accommodation to register and making Airbnb (and similar bodies) a withholding agent paying a flat rate of 21% (to fight tax evasion). Some cities (e.g. Firenze) have concluded agreements with Airbnb on the collection of local tourist tax.
- It is difficult to conceive how major restructuring of taxes and charges can be avoided and charges on temporary residents would probably be part of that.
- Tourism is one of the reasons for the rising prices in real state
- Even with such taxation, more traditional accommodation business remains largely impacted. Other solutions must be drawn.
- Munich has not yet implemented such regulation/taxation. Probably will do soon. The real estate market in such cities is swamped by 'cheap money' and thus apartments are bought as asset investment but not used. Leaving it to Airbnb may help to liquify the otherwise blocked market.
- Increase in pricing is not effective anymore, specially that the prices in specific places, cities when it comes to tourism is already overpriced
- This is a growing sector, which is becoming increasingly popular in hte Netherlands.
- Allowing for the identification of informal offer. It isn't clear from the text examples that the offer is informal - from the Paris Amsterdam and Lisbon cases this reads as a formal tax.
- The taxation of AirBnb is an "hot" issue. To the extent that AirBnb attracts tourists that would had not travelled otherwise because the cost of the journey/staying at hotels would had been not affordable, the new AirBnb offer is creating indeed a new market with positive spillovers on other activities in the place as well (e.g. restaurants, etc.). Local taxation should not "kill" this new market, and should be also justified by the local taxation authorities providing some additional services for the tourists (or at least to keep the quality of the place higher). Sharing homes (without any money transaction) is also to be considered as a solution that could spread widely (there would be no room for taxation of such form of barter)

- Difficult to answer the questions in this case - which kind of "effectiveness" are we looking at here? Effective for increasing municipalities' budgets? Effective in terms of building less hotels by more efficiently using existing space?
- Less for the freedom of people to find accommodation, more for tax raising...
- Airbnb and similar brokers are becoming more and more attractive for both apartment owners and tourists - the system guarantees a higher offer flexibility than the hotels (less costs) and at the same time better prices. The initiative is developing new businesses, such managing companies for check-in, place-accessibility, cleaning, etc., and quickly increasing without large investment the local offer of low cost accommodations. Naples has greatly increased its tourism thanks to an impressive Airbnb offer.
- Moves are already being made here to implement some form of temporary resident tax given tourism pressures in the city (San Sebastian). Effectiveness will be limited I think, as people find ways of circumventing measures.
- If local authorities introduce this type of taxation there is really no option to avoid it hence it is very likely. This type of solution is already implemented in the my region. And it is rather common practice in more touristic destinations in my country.
- rules for AirBnb that prevent crowding out fair competition conditions for fully registered tourism accommodation need to be implemented in popular tourist receipt areas also to prevent property market for housing not to become a bubble
- As an economy that depends to a large extent on tourism, it is possible that such a tax may be implemented in the future.
- Taxation for temporary residence can partially address the impacts on real estate market. In tourism-intensive cities more effective measures should be implemented to avoid that un over-increase in the real estate market values undermines affordable housing for citizens.
- As noted in the text, this is a very risky development, not only for hotels but also for inner-city population. In Venice, there is a dramatic loss of indigenous population because of tourist accommodations. And, how is the related to circular economy, renewable energy or land market collapses?
- The concept is valid (tourism should be controlled somehow). However, the solution represents another way for taxation. A more comprehensive solution should be implemented to respect the carrying capacity of places
- The taxation for temporary residence is a condition for reducing the competition with the hotel trade and for security. Anyhow temporary residence is a complementary system.
- The value of family privacy will still keep this to a small scale. Although we see a growing number of single households where rooms might be available and the likelihood of

acceptance of guests is higher. It is not a large scale development to be expected in our small cities.

- Exists in Vienna of course, not very effective in the sense that it will rather not contribute to energy saving.
- Taxation has to be related with territorial conditions (gentrification, regeneration or peripheral urban areas). Tourism is not a summer activity in our context so it cannot be treated from the exceptionality.
- The emergence of Airbnb and other providers put an additional strain on the already tense housing market in Vienna. Initiatives to control these developments will need to be implemented.
- My city is a major tourist destination, though it has no powers to levy a tourist / hotel tax. My city is facing further cuts in its budgets under austerity policies, and it depends on national government for 80% of its money. Other sources of revenue are desperately needed to sustain essential services.

### 3.9 Solution 9. Crashing the bubble



#### Detailed comments

- The market will find ways round it so impacts will be short term
- This has been implemented in cities and towns governed by the Basque left-wing party. It addresses a very serious problem here, where a large percentage of housing is either used very sporadically or simply bought for speculative reason.
- The right to housing needs a helping hand in too market driven environment like real estate speculation
- I strongly support this type of initiative and I think that in principle it could have positive impacts on city liveability but real estate bubbles have been (and still are) one of the few engines of economy growth in the last twenty years so fighting against them needs a more comprehensive strategy on the macroeconomic side to be sustainable.
- Such taxes already exist in Flanders for decades, but they should be important enough to make a difference.
- This is a difficult policy to implement ... there is a lot of money to be made in keeping the policy from being implemented. Again I think the only solution is building more affordable housing in cities. We really need to increase the supply, not reduce the demand. We also should have let the banks go bankrupt for making bad loans, then it would be less likely that they make dumb loans that just raise the overall price until the next bubble bursts. But, that

just goes to show how hard making sensible policy in this area is.

- This field is a political minefield, so it is extremely difficult to foresee how likely it is. If it is communicated the right way, large groups would perhaps be in favour - and it would be possible to implement it - but this is challenging. Also, a lot depends on the levels of taxation, possibilities to moderate or postpone the payment (until you realise the gains by selling, for example, or by having deferred tax as a mortgage, or plenty of other ways). There is no doubt that this could be interesting - but a lot depends on national taxation codes too.
- Reasonable to tax all homes at same rate but underlying problem is a policy failure to provide enough housing to meet demand leading to rising real prices so an incentive to treat houses and other real estate not as providing housing services and as a factor of production but as an investment asset. In countries with sensible planning systems so stable prices such as Germany, this is not a problem. While property and land should be taxed these measures fail to address the failure to supply housing where regulation is too restrictive.
- It seems to be a very interesting idea. However, the problem of abandoned properties is not of overriding importance in our region and its capital city of Wrocław.
- This is a very complex topic, to be connected to regional and governmental planning systems as well as fiscal law.
- Cities cannot survive, or thrive, if their building stock is primarily for investment rather than use.
- The revision of the property taxes (KI - kadastraal inkomen) is on the agenda ever since the mid 1990s and has turned out to be too politically sensitive that it never came to a breakthrough.

The measure would be interesting as taxes are high in cities and (very) low in suburban communities.

- I find it's a good idea and should be implemented in the largest Portuguese cities (up 100.000 inhabitants).
- There are constitutional issues to be solved. an owner can or cannot use his property, like he wants.
- In Germany, recently the Mietpreisbremse was introduced to avoid rising rents. However, it was not successful. The policy makers are trying to find a way around, but the lobby is strong.
- There are too many empty houses, but on the other hand, there are no homeless. The problem in Spain is that real estate becomes an investment product for too many, but not because of its benefits, but because people don't know where to place their money instead. We have traditionally used real estate properties as piggy banks



- Real estate market is still managed by several stakeholders, lacking is the active role of state of urban municipalities.
- Urban housing systems often establish an ecosystem based on the context and the effectiveness of local administrations. In Brussels, we have examples of social housing unoccupied for over 20 years and of course falling into total disrepair due to problems of planning permits and investment. All too often there is a lack of a joined up approach at city level regarding housing. Low interest rates should encourage investment in social housing but there is always the need to balance return on investment for landlords and the need for upkeep and renovation of the housing assets. Low returns often mean a private rental sector that is not renewed and of course too high returns means that rents may be too high for a section of the population.
- This is only effective if there is a good legislation on renting properties. If there is no established culture for renting, like in some countries such as Spain, the increase in the tax can potentially cause a rise in the house pricing, as it won't be a matter of by how much the property will be sold, but when.
- In the short and medium term it may be an effective measure, but in the long run, once the supply and demand again stabilize, it will become just one more element to be taken into account by the owners to establish the price.
- There is relatively high share of empty new properties after the crashing the real estate bubble, but things are getting to normal slowly. Namely, most of real estate is now on "Bad bank" which has been established in the saving of the banks process, which is now trying to make best out of it. So it is a powerful player in this field, with the priority of solving bad investments as much as possible, while other aspects might be second priority.
- In Spain there is a big problem with the lack of a law to let apartments and flats. It would be better to develop that law than incrementing the taxes on empty properties.
- As a councillor in the opposition I tried to approve such a measure and the rejection was widespread in a city with more than 35% of empty houses and less than 50% permanently occupied.
- This is connected with many questions regarding the implementation and effects e.g. in the context of urban sprawl, compact city and other issues.
- Yes, Italian government is trying to implement similar financial tools. Nevertheless, the existence of many "second homes" must be considered. Many Italian families hold a home for holiday, and thirds is not compatible to a empty property, available for housing opportunities and needs. It is not easy to distinguish these situation only by cadastral tools. Moreover, the national reform of cadastre is under discussion but with strong opposition.
- I doubt. This is not a problem that preoccupies minds of Polish people. Instead we need taxes that would encourage people to build new houses and rent them to the others.

Another problem is to stop urban sprawl.

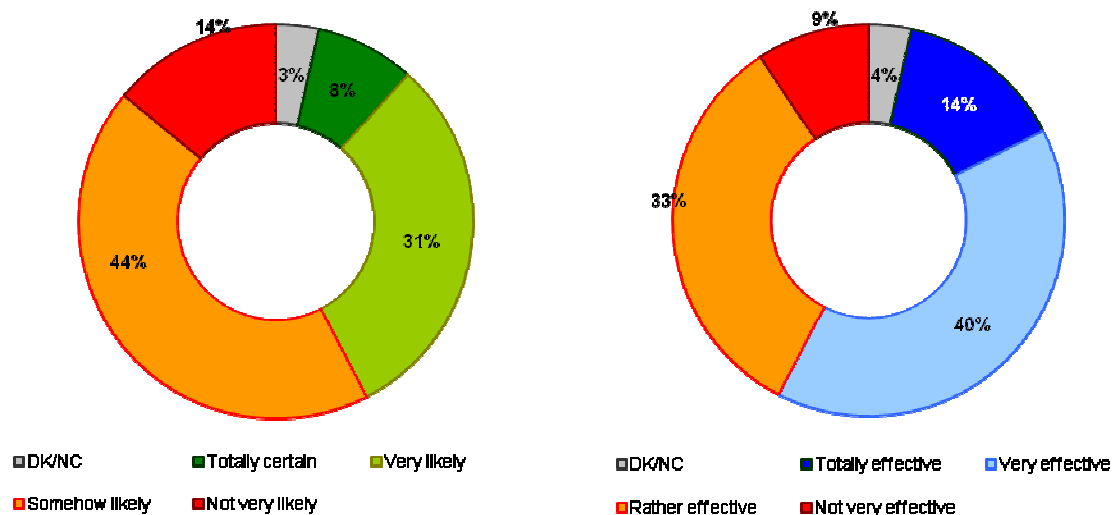
- I would love it but the real-estate lobby will fight it
- Taxation is a slow instrument to implement. Massive changes in tax measures do not happen too often, and I do not expect it here. There are also taxes on leaving building plots empty. There are also rules about reuse of empty properties, etc. There will be a need of a set of instruments to address these issues. In my regions a set of instruments are used to keep vacancies low and there is much pressure to reuse vacant properties.
- We are now taxing the soil that changes the value quite heavily. this tax is used for services (streets, water, etc.) or public spaces or social housing
- In Italy, the financial crisis started in 2008 has not been affecting too much property market. The high share of owners and the general low cost of lending (low interest rates for mortgage) represent a protective cushion for most of the citizens. However, in the big cities, home's rent is still expensive and a more decisive and uncompromising policy toward speculation and empty properties would exert a downward pressure toward rent.
- It's a need. There are a lot of empty flats and some of them are illegally occupied.
- People want to have their properties.
- The statement presented above is not presenting a single initiative and is ambiguously stated. Some of the initiatives are bordering populist window-dressing, while others might work. The best solution is to build new units.
- As these initiatives are dependent on local economy and frameworks it's unlikely to be adopted in the near future. The financial framework and political interests would limit this type of approaches in Romania.
- There are problems with vacation apartments along the Croatian coast. Most of them tend to be empty for the 7-8 months and full during the tourist season. However, as far as I know there are no special taxes in those cases. I think that permanent residence and vacation homes should not be treated equally in these matter.
- Renting or selling should always be more convenient (both for sellers and for buyers) than keeping the stock empty or building new homes. High taxation / or incentives are normally very efficient tools for mobilising estate markets.
- In limited extent. Most of empty properties belongs to the local authority.
- This has been a topic for a while, and it has to be regulated. However, taxation may be just incorporated into the financial decisions, but under current monetary conditions (low interest rates) this may not have an effect on the local real estate markets.

- The liberal housing market promotes speculation and taxation will only increase more the price for inhabitants who want really to live in the city. What is needed is a shift in the housing market model, with intervention of housing corporations as it happens in Netherlands. The Dutch model is not perfect and has a lot to improve but it can teach us a lot and I believe we are now going to the opposite direction. Public housing should not be only for poor people, but also for rich. Just paying a fair price depending on the income.
- When some cities have shown the way forward, others can easier follow.
- You have already mentioned that it is happening in London. In addition stamp duty (a tax on acquisition) has recently been increased for second homes (investments). I am not yet aware of the effectiveness as the policies are quite new and have coincided with other shocks (e.g. UK-EU membership referendum) and trends (market peak in 2014/15). It would be interesting to see what types of residential properties it is that are being kept vacant by investors. For example very high value properties held by the "global ultra rich" as a pied-a-terre where such policies may have an effect but the stock of such properties is relatively small. On the other hand if for example you factor in new apartments being bought speculatively "off-plan" prior to being built by international investors only to sell them on for a (hoped for) capital gain after completion or even during construction policies to discourage this could be quite effective.
- Not the case in my part of Europe. We have lots of free apartments nobody wants to buy.
- A general sentiment here that you don't tax properties (too) hard. Few instruments at the regional level, but yes some instruments to tackle this should be put in place (it already is to some extent here - if you buy property and sells it within two years a person would be regarded as having undertaken a business transaction and taxed as such).
- Aren't there any negative consequences, my economic theory that I was thought reasons against these measures
- Most political parties in our region have changes such as this in their manifestos so there is already an appetite for change
- As an idea this is ok, but there are so many specific situations where a house may be empty for a natural reason (e.g. illness of the inhabitant) other than speculation that this would be hard to realize.
- Not in the Netherlands. Population is still increasing. Leaving houses empty is not a viable option. However, discussions were started in peripheral regions to tear down villages (Province of Groningen). Protests have prevented this up to now, but this might be discussed again in the future.
- This initiative would be interesting because of the high price of the real estate market in Barcelona. Although I think it would be difficult to apply

- Investors buying property for holding value, while not renting it out, is not a concern in the city of Trondheim, Norway.
- I cannot find any evidence of the London example - it is certainly not widely known about in the UK
- Possible to do similar initiative on secondary residences? In the South of France many secondary residences remain empty most of the year and drive the real estate market thus hindering locals to acquire houses.
- Easy to implement, raises revenue.
- This question is extremely difficult to answer, because local circumstances may greatly vary between the various countries
- The examples of London and Vancouver are not representative, on the contrary we're assisting to a relevant crisis of the real estate market with a slow down of prices, a lot of unsold properties (new and empty) as well as old properties abandoned because of high taxation, little rate of return and high maintenance costs.
- Implementation of this type of initiative here is again a hot topic for discussion, but I am sceptical of the effectiveness of these schemes in most places, given the powerful interests behind real estate speculation.
- It will be very effective if implemented but the question is whether this effectiveness is desired? This is artificial market regulation very far from free market economy principles and as such it is very bad.
- My answer is that hopefully this will happen - I really saw the ills of empty houses in Vancouver a couple of years ago. I embrace this attempt of developing policies in the field and think that Nordic urban regions with similar trend should take a better look at the London and Vancouver examples to learn from them
- Real estate crisis is still affecting medium-size cities lowering housing prices and causing big concern in real estate operators not to depreciate the values of unsold and empty properties.  
The initiative is one of the most effective to reactivate a citizens-oriented real estate markets.
- Good idea, but not likely to be implemented in cities because of vested interests of local politicians.
- Depends on the moment. At present, the real estate market is hardly recovering from a long crash. Therefore, this is not the type of policies that would help..... but it would do in contexts of "normal" functioning of the real estate market

- In principle easy, politically often very difficult.
- Unlikely to happen in the region as there is very high degree of home ownership, which means any such measure would impact a rather wide part of the population and is likely to produce a popular backlash as it has happened in the past.
- In Italy the pressure of empty properties is high only in some cities, and taxes should be very high to compete with the risks connected with temporary uses.
- Our region hardly faces this problem since the housing market in the Netherlands is rather well regulated and in balance from tradition.
- There are different proposals in BCN region and all Catalonia about this topic. There are some legal problems to implemented these initiatives
- It is necessary to change the stakeholders system. Avoid financial shocks in the future, and limit speculation (that has not economic value).
- Empty properties and property speculation is also an important topic in Vienna and still an unsolved issue. However, this initiative is very likely to be implemented and would be very important for city development.
- Scottish Government has already introduced new taxation on more expensive property sales. However, there resistance from the property and financial industries is still strong. Shortage of other sources of revenue for local government. High house prices excluding many from living in my city.
- Effective, but unfortunately not likely to be implemented due to a lack of political will.

### 3.10 Solution 10. Adopt this land



#### Detailed comments

- Useful tool but answer to the problem is more than marginal acquisitions - the example is not useful to the question you are asking - the story of Cunigar Loop in Glasgow is more relevant
- Quite an asset specific and location-context driven to have a broader appeal
- Providing agencies are willing to organise and manage it, this can happen in the UK.
- Common ground for common valuable goods like nature and clean air
- I would not be surprised if this type of initiatives are launched in my region but I don't think this is an effective way to proceed. If land grabbing is a menace the State should intervene.
- You know, we do this a lot in the USA. I have the feeling in Europe that most people expect the government to do this for them and they should not have to pay. Therefore I am pessimistic that it can be implemented in Europe on a large scale. Also, regulation is necessary, we cannot depend on residents raising their own money to save land. The government could help the process by giving tax breaks to organisations that save land (that is how it works in the USA).
- In my own region, there is very little land where this would be relevant - simply because nearly everything is already farmed, or being used for other purposes (e.g. managed forest areas). At the same time, the state-owned forests discuss reducing the (short-term) economic efficiency in management, instead focusing on providing habitats for wildlife,

experiences for people and good catchment areas for safe drinking water. At the same time, moving beyond the borders of the city-region I live in, this could be quite relevant, also for companies: There could be a lot of PR value in this for some organisations. For the same reason, this might not be totally effective, since the focus is often on stuff which is highly visible and which seems to be attractive to people, rather than that which is important to ecosystems from the biologists' point of view.

- Already working in progress at regional level (Catalonia), through Xarxa de Custòdia del Territori, with limited resources.
- The important point is that such policies should target land which is environmentally significant or important for amenity. A more serious problem is the blanket restriction on building anything on environmentally worthless land in for example Green Belts or as a result of growth boundaries. But the case for active preservation of environmentally or scenically important land is very strong.
- It sounds interesting, However, in my region the network NATURA 2000 plays an important role in this regard.
- This is also happening in the context of strategic investment for carbon market speculation...
- The best form of safeguarding for environmentally sensitive areas is public ownership, properly funded
- No tradition. Destinated zones for housing not yet build on (= 5.8% of our total surface) need do be bought. Probably bit expensive.
- Effective to protect some valuable natural land, but not a general solution everywhere
- On the long run the engagement of people will become lower over time. Taxation is already high and people see the state in responsibility.
- Private ownership limits general use - see national parks in UK
- Great idea. Planting the trees should be a community supported activity, connected education system on all levels. Afterwards, broader results might be expected.
- In the UK, the National Trust is an excellent example of the conservation of buildings and landscape. But we have to be careful regarding preservation (often an unnatural freezing of the use or design of a building) and conservation which can align usage to new contexts. Increasingly, the need for nature based solutions is being accepted. However, rather than a selection of different unrelated sites, it would be more useful to link nature sites through green corridors and linkages to increase the movement of wildlife.
- It would be easier if governments just protected the rural land as rural, agricultural only or

"non constructible".

- It can be implemented in some severe conflicts between nature conservationists and spatial planning development, being at state or local level. There has been one such case in the coastal area which resulted in protection act adopted by the parliament for specific areas and is nowadays (state) natural reserve. But the dispute is not necessary on specific protection, but it also could be between the local development vision and the state project that, according to locals, would jeopardize such vision by i.e. specific (state) project.
- As land use is very high in our region, we don't have much land left to adopt.
- NGOs can not substitute for institutional action, nor do they pretend to put patches on all the failures of the capitalist system. It is the system itself that must be self-regulating to ensure its survival
- Good idea, the question are available public resources/capacities of civic society so far
- Recent legislative innovations go in this direction. nevertheless, in our Country the role of private sector is not a social habit. Our attitude towards natural or cultural heritage is completely different from the anglo-saxon one.
- Perhaps gradually, but we need to change perception of the nature by the Polish inhabitants. They should start regarding it as valuable asset
- We have had the ecological main structure programme in which quite some more money is invested than the examples above. It is about 200 million a year over 20 years and it is still after these 20 years 100 million a year as extra to provinces to implement it. The idea was to buy precious natural areas to connect biodiversity areas in the Netherlands to ascertain biodiversity. Many area where to small as stand alone. It is about 540,000 hectares of land . There is much written about it
- We have several initiatives and legal acts that make that already happening. but sometimes we face now rather difficult conflicts between protection and hydroplans or others with the pressure of a growing population and little soil we will have to find good solutions for many conflicts
- Such kind of initiative are quite popular, but no substantial evidences on impacts are available.
- It can be implemented very difficult because the land is very valuable for private owners and on the other side it is very complicated doing this on public space.
- Again, the statement is a little misleading. The aim is not necessarily to remove land from real estate markets but to remove it from European agricultural subsidies. This is mostly a CAP story, not a real estate market story.



- NGOs are currently keeping a close eye on the environmental issues in Romania. Considering the current context of mass (illegal) deforestation this type of approach would be of special interest in Romania.
- Land pressure is very high in tourist areas along the coast and in the vicinity of some national parks (Plitvice lakes for example). Such measures could help ease the stress there.
- These initiatives do not seem appropriate for my region where land is considered a value and large areas are already protected
- In a wide extent. It's necessary to protect natural reareas especially in the city region.
- Protection of land is in place and even though in many cases under pressure from the real estate market, it can be implemented. (Spatial) planning coordination in my (current) region is an important asset. (As compared to many other regions in Europe)
- Very reliant on public budget and to have a high position on local policy agendas
- Needs political or corporate backing, the current political climate in Europe is unfortunately not very green
- I believe those kind of initiatives consume large proportions of money in just controlling systems. Forests should be seen as a resource and state (society) + owners should cooperate with the maintenance in some kind of cooperative.
- It has to be carried out by public administration, as ecosystem protection had to be a public value. But anyway where public policies don't arrive, it is important having private organisation with this aim
- Growing pressure for housing needs are momentarily predominant over the natural aspects. Intensive farming delivers more revenue than natural projects, resources have become scarcer in the past ten years.
- I don't have expert knowledge of this but it sounds like through different mechanisms it is being implemented broadly but on a national or local / regional level. I'm not sure whether a larger scale implementation is likely.
- We still live here in my region like in 19th Century. For the time being we don't have this problem. At the country regions farmers here still make agriculture using cows and horses not tractors like in Western Europe. We are the only country in Europe that still has wild animals in the forest. Maybe it is the time Europe should preserve the unique habitat in Romania.
- A lot of land here - much of it government owned - but perhaps some interesting habitats/ecosystems could be "saved" in this way here as well...

- I have no information on such initiatives on my region even if it is very likely that it exists. (The problem is very difficult, how to manage urban development : enlarging buildings areas, reducing area of dwellings, increasing vertical construction or excluding people from the market by high housing prices.)
- This does not violate basic rights of ownership and promotes fair conduct rather than socialization of private property for "noble" purposes. For this reason, this approach might be considered legitimate.
- A strong policy need to be put in place, followed by effective monitoring
- Could be effective, but in NL different organisations already buy land for nature preserve (Natuurmonumenten)
- Voluntary conservation of valuable forest areas are implemented in our area, based on economic compensation from the government to the owners of the forests.
- The governmental regulation does a good job in protecting valuable land in Norway.
- Minimal in a rural area since transactions will be low. More effective would be sterilising wild cats!
- Much will depend on the availability of public funding to acquire natural areas. It remains to be demonstrated that sufficient amounts may be made available to reach a critical mass of means.
- That kind of initiative has a real symbolic value, supporting a transitional change of the civil society. They are not new (see Israel for trees) but are always welcome.
- This is something that takes place here, as in many places, and will continue I think, but not on a huge scale.
- This type of initiatives is useful and allows for preservation of more natural enclaves within increasingly urbanized territories as such it is welcome by citizens. It is also effective if conducted in cooperation with local authorities. This type of solutions has already been introduced in my area and is well accepted by citizens.
- To acquire or adopt valuable natural areas for conservation is an extreme measure, very difficult to implement in a scenario of lowering public finances. Suitable urban and territorial planning measures can be more effective on a large scale in preserving land from real estate markets.
- Fine, but what is the effect for over-heated land markets in major cities?
- Depending on the form of management, there are high risks of speculation with the money from small investors in this type of initiatives (see the example of Maderas Nobles de la

Sierra de Alcaraz, for instance).

- It may be implemented as it is elsewhere, I know that it already happens for building in NL. But it is not an efficient way to spend public money. It would be more effective to strengthen controls over land to limit development and secure responsibilities or duties, which if not met result in expropriation. Civil society organisations can take on this role with charitable funding,
- Not yet taking root. Due to the rather small market for community initiatives it is likely that there might be pilots funded through EU projects first.
- In our region this was and is a well regulated and controlled development. There are strict natural areas and housing pressure isn't that big in our slightly declining population.
- There are a lot of small initiatives in this way (Terra franca, custòdia del territori, apadrina...) but not linked. Guarantee multifunctional territories.
- It is already being undertaken, eg the RSPB example quoted. Ownership is the most effective way to control land use.

