

METREX Oslo Autumn Conference 18-20 September 2013

Regional planning goals, policy and reality
Sustainability



"The blue and the green and the city between"

Proceedings 2 - am

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Moderator

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EU



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am - Sustainability

Sustainable cities in times of crisis

- **Alberto LEBOREIRO AMARO**
President of METREX





SUSTAINABLE CITIES IN TIMES OF CRISIS

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METREX Oslo-Akershus autumn Conference

Friday 20 September 2013 The Old Lodge



ISSUES

Urban sustainability

The urban sustainability is the search for sustainable development that does not degrade the environment and provide quality of life to citizens, a concept that arises from "Our Common Future" or better known as 1987 UN Brundtland report

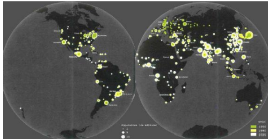
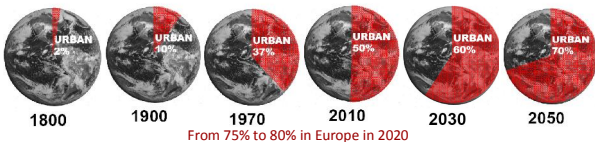
Sustainable development is a philosophy with dimensions scientific, economic, political and social

"Europe has enjoyed many decades of growth in wealth and wellbeing, based on intensive use of resources. But today it faces the dual challenge of stimulating the growth needed to provide jobs and well being to its citizens, and of ensuring that the quality of this growth leads to a sustainable future.

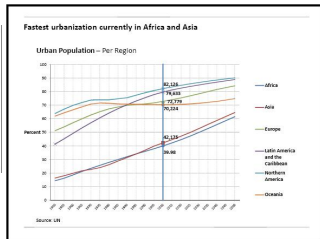
To tackle these challenges and turn them into opportunities our economy will require a fundamental transformation within a generation –in energy, industry, agriculture, fisheries and transport systems, and in producer and consumer behaviour" **Roadmap to a Resource Efficient Europe**

GLOBALIZATION

In the world



In the next 15 years, many cities in AFRICA and ASIA will nearly DOUBLE in population



Source: UN and Frédéric Sotier

GLOBALIZATION

EFFECTS OF GLOBALIZATION

- Population
- Employment
- Imbalances
- Climate change
- Necessity of governance

are our cities only a business?

- Cities produces more consume of land not only occupied but footprint, pollution waste contamination, cities are the problem but at the same time the solution
- In Europe more than 75 % of the population live in cities
- Compact city generate a model of city more sustainability
- Policies must be focus on:
 - Protect the identity
 - Cultural heritage
 - Green network
 - Biodiversity

METROPOLITAN AREAS

MANAGE METROPOLITAN AREAS

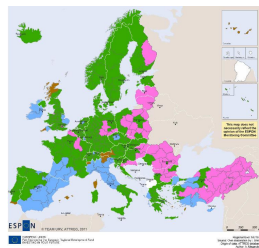
Constraints of Metropolitan Areas and Regions

- European Migration
- Social cohesion
- Climate change

Competitiveness

Suburbs where concentrated the poorest populations and recent immigrants, local authorities do not have resources, while social services, police, schools and public transports are insufficient. Those places are weakly governed.

Core cities where a exist derelict and deteriorated housing, concentrate a lot of immigrant and disadvantaged people.



Typology classes *

- CLASS 1: low net migration rate (2001-07) and low volatility rate (2001-04)
- CLASS 2: low net migration rate (2001-07) and high volatility rate (2001-04)
- CLASS 3: high net migration rate (2001-07) and low volatility rate (2001-04)
- CLASS 4: high net migration rate (2001-07) and high volatility rate (2001-04)
- No data

SUSTAINABILITY INDICATORS

Sustainability indicators are important in holding governments and communities accountable to their sustainability targets and goals (Newman & Jennings 2008).

Indicators are most useful in sustainability planning when linked to sustainability thresholds or targets.

The approach to selecting indicators generally falls into two general categories:

- The top-down approach means policy makers define the goals and accompanying indicators, the data collected is usually highly technical and requires experts to interpret.
- The bottom-up approach is community- based and involves extensive consultation with stakeholders to select appropriate indicators.

SUSTAINABLE CITIES									
Overall		CO ₂		Energy		Buildings		Transport	
City	Score	City	Score	City	Score	City	Score	City	Score
1 Copenhagen	87,31	1 Oslo	9,58	1 Oslo	8,71	+1 Berlin	9,44	1 Stockholm	8,81
2 Stockholm	86,65	2 Stockholm	8,99	2 Copenhagen	8,69	+1 Stockholm	9,44	2 Amsterdam	8,44
3 Oslo	83,98	3 Zurich	8,48	3 Vienna	7,96	3 Oslo	9,22	3 Copenhagen	8,39
4 Vienna	83,34	4 Copenhagen	8,35	4 Stockholm	7,61	4 Copenhagen	9,17	4 Vienna	8,00
5 Amsterdam	83,03	5 Brussels	8,32	5 Amsterdam	7,08	5 Helsinki	9,11	5 Oslo	7,92
6 Zurich	82,31	6 Paris	7,81	6 Zurich	6,92	6 Amsterdam	9,01	6 Zurich	7,83
7 Helsinki	79,29	7 Rome	7,57	7 Rome	6,40	7 Paris	8,96	7 Brussels	7,49
8 Berlin	79,01	8 Vienna	7,53	8 Brussels	6,19	8 Vienna	8,62	8 Bratislava	7,16
9 Brussels	78,01	9 Madrid	7,51	9 Lisbon	5,77	9 Zurich	8,43	9 Helsinki	7,08
10 Paris	73,21	10 London	7,34	10 London	5,64	10 London	7,96	+10 Budapest	6,64
11 London	71,56							+10 Tallinn	6,64
12 Madrid	63,08								
13 Vilnius	62,77								
14 Rome	62,58								
15 Riga	59,57								
16 Warsaw	59,04								
17 Budapest	57,55								
18 Lisbon	57,05								
19 Ljubljana	56,39								
20 Bratislava	56,09								
21 Dublin	53,98								
22 Athens	53,09								
23 Tallinn	52,98								
24 Prague	49,78								
25 Istanbul	45,20								
26 Zagreb	42,36								
27 Budapest	40,03								
28 Bucharest	39,14								
29 Sofia	36,85								
30 Kiev	32,33								

The study, sponsored by [Siemens AG](#) and developed by [The Economist Intelligence Unit](#), ranked 30 major cities across Europe relative to one another in eight categories with 30 underlying qualitative and quantitative indicators.

SUSTAINABILITY PLANNING FRAMEWORK

Sustainability planning at the Municipal level is an opportunity for cities to address in a more innovative, cost effective way the challenges they are facing, and create a vision for the future they want to see in their city considering all aspects of economy, environment and society. There is no "one size fits all" method for developing a sustainability plan, as each plan should respond to the city's unique needs.

These frameworks are:

-Agenda 21

-Aalborg Commitments

-DPSIR (Driving forces, Pressures, State of the Environment, Impacts, Response)

-Cities for Climate Protection Campaign - International Council for Local environmental Initiatives (ICLEI)

-The Natural Step

-Millennium Development Goals



AGENDA 21

Agenda 21 is a comprehensive plan of action to be followed globally, nationally and locally by organizations of the United Nations System, governments, and other groups active in any area that has a human impact on the environment. The agenda was adopted by 178 governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3-14 June 1992.

- Social and economic dimensions
- Conservation and management of resources for development
- Strengthening the role of Groups
- Means of implementation



ALBORG CHARTER

Charter of European Cities & Towns towards Sustainability

Since its adoption by the local government representatives gathered at the first European Conference on Sustainable Cities & Towns in Aalborg, Denmark in 1994, the Aalborg Charter has been signed by more than 2.700 local authorities.

Today it is still one of the most visionary and forward-looking documents on local sustainability, and has managed to win the support of thousands of cities from across Europe and the world. Starting 1994 with the first conference in Aalborg (Denmark), following events were organised in Lisbon (Portugal) 1996, Hannover (Germany) 2000, Aalborg (Denmark) 2004, Sevilla (Spain) 2007, Dunkerque (France) 2010 and Geneva (Switzerland) 2013.

Gathering over 1000 participants from local governments and a variety of other actors across Europe, the European Conference on Sustainable Cities & Towns remains the largest European event for local sustainability.

1. GOVERNANCE
2. LOCAL MANAGEMENT TOWARDS SUSTAINABILITY
3. NATURAL COMMON GOODS
4. RESPONSIBLE CONSUMPTION AND LIFESTYLE CHOICES
5. PLANNING AND DESIGN
6. BETTER MOBILITY, LESS TRAFFIC
7. LOCAL ACTION FOR HEALTH
8. VIBRANT AND SUSTAINABLE LOCAL ECONOMY
9. SOCIAL EQUITY AND JUSTICE
10. LOCAL TO GLOBAL



DPSIR

DPSIR is a framework for organizing information about state of the environment. It is a framework adopted by the European Environment Agency to assess and manage environmental problems by describing the interactions between society and the environment.

The framework is based on the following components:

- Driving forces of environmental change (e.g. industrial production)
- Pressures on the environment (e.g. discharges of waste water)
- State of the environment (e.g. water quality in rivers and lakes)
- Impacts on population, economy, ecosystems (e.g. water unsuitable for drinking)
- Response of the society (e.g. watershed protection)



ICLEI Cities for Climate Protection Campaign

ICLEI was founded in 1990 as the 'International Council for Local Environmental Initiatives'.

In 1993, ICLEI led the establishment of the Cities for Climate Protection (CCP) Campaign five stages methodology developed by ICLEI and supported by software tools also developed by ICLEI.

The five stages are:

1. Measurement
2. Commitment
3. Planning
4. Implementing
5. Monitoring

The methodology of the five-milestone process is simple, and focused on standardization, such that cities can easily follow and achieve their goals:

- Milestone 1. Conduct a baseline emissions inventory and forecast.
- Milestone 2. Adopt an emissions reduction target for the forecast year.
- Milestone 3. Develop a Local Action Plan.
- Milestone 4. Implement policies and measures as defined in the city's Local Action Plan.
- Milestone 5. Monitor and verify results.



THE NATURAL STEP FRAMEWORK

The **Natural Step (TNS)** is an international organization that specializes in sustainability solutions from the household to the community level with the goal of creating a better world for all. TNS uses a planning approach called 'backcasting from sustainability principles' which involves beginning with the end goal

- The Sustainability Challenge
- Backcasting
- The Sustainability Principles
- Backcasting from Sustainability Principles
- The ABCD Planning Process



MILLENNIUM DEVELOPMENT GOALS

In September of 2000 the largest gathering of world leaders in human history convened for the Millennium Summit at United Nations headquarters in New York. Development Goals.

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality rates
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria, and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development

In 2010 The World leaders' Millennium Development Goal Summit in New York identified a 5 year action plan to ensure the goals would be met.

1. Support country-led development and effective governance
2. Foster inclusive and pro-poor economic growth
3. Increase public investments in education, health, water and sanitation, and infrastructure
4. Invest in women and girls and advance their economic, legal and political empowerment
5. Scale up targeted interventions, including social protection and employment programs
6. Support climate adaptation, enhance access to energy and promote low-carbon development
7. Accelerate domestic resource mobilization to finance the MDGs
8. Ensure the Global Partnership creates an enabling environment for the MDGs



SUSTAINABILITY CITIES - FOSTER THE STRATEGICALLY PHYSICAL PLANNING

Territory and city

- Reduce emission
 - Sustainable energy
 - Using renewable energy
 - Energy efficiency
 - Reduce consumes
 - Commodities
 - Energy
 - Water
 - Land
 - Food
- Enhance Metropolitan areas network
 - Compact cities

To equilibrate the territory
Foster cooperation process
Foster urban –rural partnership
Enhance the cooperation between all the stakeholders

Urban ecology

- Metabolism
- Biodiversity and open space

Urban metabolism
Cut down consumes
Cut down Emission
Cut down waste
Cut down food Consumed

Regeneration and protected natural spaces
Corridor biological
Reduce barriers in the territory

SUSTAINABILITY CITIES - FOSTER THE STRATEGICALLY PHYSICAL PLANNING

Urban planning

- Reduce the consume of infrastructures
- Renewal the existing city core versus periphery
- Mobility and accessibility
- Housing renewal
- Shopping
- Recovery the shopping on the streets
- Avoid the Mall centres of crossroad
- Leisure and social relations
- Urban design

The compact city
Greener city
Renewal the city
Foster the periphery

Mobility and accessibility
Diversity
Complex city
Compact cities
Foster public transport
Foster bike and pedestrian lines

Governance

- Urban management
- Social integration
- social life recovery
- Social guaranties
- Education and culture
- Education for peace and international cooperation
- Avoid social segmentation

Housing and renewal
Collective citizen identity
Promote the participation
Collective relation network
Affordability houses

Urban manage Governance
Cooperation between cities and territories
Urban –rural cooperation

THE TERRITORIAL AGENDA

- **Lisbon Treaty:** Territorial cohesion was recognized as a key objective of the European Union.
- **Development Perspective 36 (ESDP) in 1999** and the Territorial Agenda of the European Union 37 (TAEU) and Leipzig Charter in 2007 have been significant milestones.
- The TAEU was revised in 2011 to better reflect European challenges and policy priorities – notably Europe 2020 – leading to the adoption of the **Territorial Agenda of the European Union 2020 (TA2020)**.
TA2020
 - Promotes balanced, polycentric territorial development and the use of integrated development approaches in cities as well as rural and specific regions.
 - It points to the need for territorial integration in cross-border and transnational functional regions and stresses the role of strong local economies in ensuring global competitiveness.
 - It also highlights the importance of improving territorial connectivity for individuals, communities and enterprises, as well as managing and connecting the ecological, landscape and cultural values of regions.

EUROPEAN STRATEGIC DEVELOPMENT PLANNING

2011 Spatial Orientation of Policies

Polycentric Spatial Development and a New Urban-Rural Relationship

- Polycentric and Balanced Spatial Development in the EU
- Dynamic, Attractive and Competitive Cities and Urbanized Regions
- Indigenous Development, Diverse and Productive Rural Areas
- Urban-Rural Partnership

Parity of Access to Infrastructure and Knowledge

- An Integrated Approach for Improved Transport Links and Access to Knowledge
- Polycentric Development Model: A Basis for Better Accessibility
- Efficient and Sustainable Use of the Infrastructure
- Diffusion of Innovation and Knowledge

Wise Management of the Natural and Cultural Heritage

- Natural and Cultural Heritage as a Development Asset
- Preservation and Development of the Natural Heritage
- Water Resource Management – a Special Challenge for Spatial Development
- Creative Management of Cultural Landscapes
- Creative Management of the Cultural Heritage

SMART GROWTH SUSTAINABLE AND INCLUSIVE

PRIORITY

- Smart growth, developing an economy based on knowledge and innovation;
- Sustainable growth, promoting an economy of low carbon, resource-efficient and competitive, and
- Inclusive growth, fostering an economy with a high level of employment that fosters social and territorial cohesion.

POLICIES

SMART GROWTH

- Innovation Union
- Youth on the Move
- A Digital Agenda for Europe

SUSTAINABLE GROWTH

- An efficient Europe resources
- An industrial policy for the globalization era

INCLUSIVE GROWTH

- An agenda for new skills and jobs
- European platform against poverty

Territorial Scenarios and Visions for Europe (2011-2014)

ESPON ET2050 aims at supporting policy makers in formulating a long-term integrated and coherent vision for the (smart, sustainable and inclusive) development of the EU territory.

This aim is twofold: content-wise, a product, namely a vision for the European Territory, has to be developed; and process-wise, those who will elaborate this product, namely policy makers, have to be supported by sound scientific knowledge. Through a participatory process open to policy makers, academic experts and social and economic stakeholders, ET2050 will build alternative territorial scenarios for Europe to support a consensus EU Territorial Vision.

But this History will be narrated by PETER MEHLBYE later today.



Many thanks for your attention

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SUSTAINABLE CITIES IN TIMES OF CRISIS

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City of Oslo



AKERSHUS
County Council

RURBAN - Sustainable urban-rural partnerships

- **Betty-Anne BRYCE**
Regional Development Policy
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Directorate, OECD

1-6 This project started because the Commission was interested in exploring, through the OECD how urban and rural relationships are working. So the idea behind the project was simple: the idea behind the project was to understand how to build effective and sustainable rural urban partnerships. And, in this context, we tried to analyse the different types of rural urban partnerships, how they're working. So the idea was to analyse how they're working, what makes them effective, where they are working, what are their challenges and what can we learn.

We used a different framework that was twofold: qualitative and quantitative analysis, that's the OECD. So we tried to understand first before going in, what's going on in these countries? How should they, in these regions, what's their functional makeup? And then we went in and tried to engage a huge network of partners. And by this I mean we picked 11 case studies. But we interviewed on average over 60-70 stakeholders per visit. So, at the end we'd interviewed quite a number of Mayors and, in rural and urban areas, all the practitioners involved in the rural side and the urban side in any type of a rural urban partnership. And so what we ended up with was... and these were the countries that were involved.

The framework we used was simple, we used threefold: we divided them into large metropolitan regions. And there you see Nuremberg, Rennes and Prague and Central Bohemia, which means there were really large metropolitan areas and the hinterland was kind of rural. Then we went into the second tier, which was more small, medium-sized and there we had a mixture of the United States, Australia, as well as Italy and the Netherlands. And then we used sparsely populated areas and that was a trickier group, but that's really more market towns. And we looked there at their distance from urban areas, who is acting as the urban focal point within this remote area and how are they relating to the regions around



that? So, obviously, each dimension, the scale and the size of the population and the interactions changed.

For this particular presentation, I'm really going to focus more on the metropolitan regions, but I will say this about the benefits that were permeated throughout everything that we saw. And the reality was that, within every partnership that we interviewed, everyone agreed that there were some key important factors that grew from working together.

Whether it was just their ability to negotiate, whether it was their ability to access information, access stakeholders, improve how they were doing business, overcoming coordination and fragmentation. There was just abundance and, also, we heard from the business sectors that it really improved how they did business by being at the front lines with, sitting at the table with key stakeholders. So we would say that, within every category where we saw something working, these were the reports from the sample that we used. But before going any further, it's important to look at the definition that we used for rural-urban partnership, which may be slightly different in what you're talking about, so that we're on the same page.

When we talk about rural-urban partnership, we're talking about an organism that covers a territory where urban and rural areas coexist and connect through a number of linkages. And the structure that we're looking at is the one that has been put in place to manage these relationships. But there are some features here that we think are really important and one of them is an awareness of the interdependency of rural and urban areas. It's not enough just to

say you're a rural-urban partnership. You have to actually think that it's important that rural is dependent on urban and urban is dependent on rural. And my team understood, but in a lot of partnerships it affects the relationship if it's one sided one way or the other.

The other fact is the membership mix includes a relevant rural and urban representative. By this we mean you can have a partnership that says it's urban rural, but only urban actors are sitting at the table. The question is to whether it's an urban rural partnership, we had some interesting perspectives that came from the study between maybe Germany and the Netherlands in that respect. But it's this idea of what's indirect vs. direct representation and do the rural actors think that they're getting the respect to be sitting at the table, are they being recognised, and urban what are you willing to give up to let rural sit at the table? Those were some core questions that affected the dynamics of every partnership.

The other is this framework for action and the objectives that represent mutual interests. So you can have partnerships that say they're urban rural, but the agenda and the interests are more urban, or more rural. So this idea of where you sit and its mutuality is an important aspect and collective benefits and what does that mean: is it collective benefits for the urban and rural actor; is one actor giving up collective benefits in the short-term thinking it's going to be valuable in the long term. Those are some interesting questions that came up. And the last bit: is the structure fit for purpose? That might seem, again, to be kind of understood, but there's certain partnerships where the structure was just not capable of doing what they anticipate themselves that they need to do.

To actually analyse this, we came up with a governance approach to make it easier for us to look at and here, again, I'm going to focus on and call your attention to where the metropolitan regions fit within the structure, but I'll tell you what I mean by intentional and unintentional which, by the way, changed in the publication to implicit and inexplicit. We had some issues about what we meant by sexy titles. But intentional for us is, we had 11 case study regions.

We wanted to differentiate between them in the first instance. So how many of them set out from the beginning to say, we are focused on rural and urban. That's in their partnership agreement, that's in their objectives; it's a bullet point in their framework for coming to the table. Those are what we call intentional

(inaudible 0:30:58). Those started out at the table saying, we are doing rural-urban: make no mistake about, it's part of what we're trying to do. The second group are the accidental guys. The guys that are doing rural-urban and the partnership that they formed includes urban areas and rural areas, but they weren't about rural-urban partnership, they were about delivering education services, (inaudible 0:31:25) waste management, the list goes on and on. But they were more unintentional, as we say, but again keep in mind that's not the title in the book.

Then we decided to go a step further to make it a bit more... clarify it: which ones of these had delegated functions? Meaning were they recognised by a certain level of government, do they have the ability to tax, to do anything to get their own resources, vs. no delegated functions. And that makes a difference, because you'll see that the ones that are much more delegated have much more resources at their disposal tend to be less reliant on the top or the bottom, but at the same time tend to stand alone and separate from others, vs. The ones that are a bit more dependent on resource constraint and then the ad hoc guys.



Making rural-urban partnerships sustainable

METREX Oslo-Akershus autumn conference

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Oslo, 20 September 2013



Analytical framework

- Qualitative and quantitative analysis
- Engagement with a network of experts (policy-makers, academics, practitioners, etc.)
- **11 regional case studies** in different OECD countries

Large metropolitan regions	Polycentric networks of small and medium sized cities	Sparsely populated areas with market towns
Nuremberg, DE	Brabant, NL	Central Finland (Jyväskylä and Saarijärvi-Viitasaari), FI
Rennes, FR	Forli-Cesena, IT	West Pomerania, PL
Prague-Central Bohemia, CZ	Lexington, US	Extremadura, ES
	Geelong, AU	Beira Interior Sul, PT



Definition of rural-urban partnership

- Rural-urban partnership is an organism that covers a territory: **where rural and urban areas co-exist and are connected through one or more functional linkages** (e.g. commuting, value chains, demography, natural resources, etc.).
- The partnership is the mechanism of co-operation which manages these linkages **in order to reach common objectives**.



Context and aims of the project

- The aim was to better understand how to **build effective and sustainable** rural-urban partnerships
- In this context, we **analysed different types of R-U partnerships to determine:**
 - where/how it is working as well as its evolution e.g. the different stages
 - what makes it effective
 - where it is not working as well what are the challenges



Benefits of rural-urban partnership

Type	Example of benefits
Production of public goods (or "club" goods)	Higher external visibility and attractiveness Exploiting local productive linkages (e.g. agro-industry) and economic complementarities Easier access to natural resources (incl. renewable energies) Strengthen territorial identity and social capital
Achieve higher economies of scale	Network economies (e.g. overcoming limits of small-size business environments) Higher political power, financial resources and better dialogue with other government levels
Capacity building	Improving quality, access or economic viability of services' provision Improving local government capacity to carry out tasks
Account for negative externalities	Coordinating land use policy (e.g. sprawl issues) Limiting zero-sum competition among municipalities (e.g. tax competition)
Overcoming coordination failures	Setting and aligning priorities for economic development Improving local knowledge through social learning and information sharing



Definition of a rural-urban partnership

There are a few distinct features:

1. an awareness of the **interdependency of rural and urban** areas in a given space (functional region)
2. a membership mix that includes the **relevant** rural and urban representatives
3. a framework for action or objectives that represent **mutual interests** (urban and rural)
4. initiatives aimed at yielding **collective benefits** to urban and rural partners
5. an organisational form that is **fit for purpose** to facilitate the realisation of the partnership objectives.

7-12 Then we tried to... again, taking that into consideration, when we looked at, say... and some of these examples that I'm pulling out came strictly from the metropolitan examples, so I'm leaving out for now the rural and the other ones because that's a longer conversation. But some of the advantages, like, say, of Rennes metropole, which was the kind of big metropolitan region with its delegated functions recognised entity is that it directly managed rural issues, it had a unified voice, it had great access to resources. It's a unique model in France; I'm not saying it's representative of France as a whole; these are just examples of how Rennes metropole worked. And it's striking because, as probably many of you know, the peripheral region around Rennes is really agricultural. It's just cows, really, actually. And so they've done well to bring agriculture to the table which, as a non-European and having been around this framework for a while, is a huge achievement in having the agricultural sector sit at the table in a partnership and try to help with the planning of an urban rural partnership. Now, is it working seamlessly? Everything can be improved. But have they achieved a lot by bringing agriculture to the table is the question and I would say they have.

At the same time, there is less citizen engagement, less private sector engagement. You give up something to be part of the partnership and that's clear and it's not as flexible in the boundaries, because if you have such an interesting planning approach and your peripheral region is students that amass a huge number (inaudible 0:34:27) really a city then right at the peripheral you have agriculture then you go a step above and you have non-agriculture, more entrepreneurial; it's a management process that is going to be challenging for Rennes going forward and they're aware of it, because they've drawn their circle pretty tight. But, at the same time... so they have some constraints, but we thought that it was interesting. What came out of that was how well they were trying to manage these relationships.

The second category which emerged from that... and here I would put Nuremberg. They have some interesting things that they are doing that makes them actually a bit more different from Rennes in the sense that they can bring in other sectors much more than Rennes can at the moment, or let's... They are pretty well organised. They're really, really thinking about how urban and rural should work together and they have put in place a structure that is really implicit in how they... the board is split between

urban and rural. The forums have an urban representation and a rural representation. Every aspect of how Nuremberg structures its organisation was to make sure that the rural voice and the urban voice was reflected in every project, in every decision making aspect. And I thought it was interesting that the CEO of Nuremberg metropolitan region, her job is to make sure that nothing happens without urban and rural being at the table. But, at the same time, they don't ever say, we're talking about urban and rural. But it's because of their structure, they feel confident that nothing happens that doesn't reflect urban and rural. So those are the things that separated Nuremberg just a bit.

At the same time, they have some challenges. There really are resource constraints. I mean, there's only so far you can go when you have to depend on finding resources. So you don't have the resources that Rennes will have as being able to tax; you are dependent on voluntary actors, you are dependent on people seeing you as a relevant body that we have to be a part of. So you are extremely political; so you are harder to define, who should take... where do you fit within the difference governance layers that you sit? There's some sensitivities to what projects you can take on and, at the same time, you're always trying to make sure that you stay relevant; they weren't the only ones with this; the Australians had this as well. But I think it's interesting to see some of the dimensions that these different partnerships have to struggle with or grapple with it on a day-to-day.

What's also important in this construct is that they are vulnerable to this interesting element that came up everywhere about this urban... playing too much of a dominant role vs. Rural in this kind of subordinate role. By this we mean the partnerships formed in these categories by the urban Mayor taking the lead and bringing in the rural members; that's really important: it was not the other way around. In order to do that, the urban Mayor had to give up something so one vote equalise how people are at the table. But it's vulnerable to this idea that you have to keep urban engaged. They have to feel that they're getting something from it but, at the same time, the rural guys are... will not join if they feel that the relationship is not on balance.

So there were these different elements that the CEO of the partnership, behind the scenes, juggles every day which is: keeping urban engaged, making sure that they are probably the one that is supporting more the partnership but, at the same time, keeping rural at the table, making sure the projects have an urban and

rural dimension. So there are a lot of behind the scenes discussions and debates that are pretty tricky and challenging and goes unseen. And I will say, in this category, that the Nuremberg metropolitan region and the partnership we studied in Australia had the same dimensions, exact same structure and the exact same challenges in the sense that the Mayor of the city of Dulong in Australia was very much so the person who brought in every rural actor had to give up something to keep them engaged, but at the same time didn't see that they were getting the benefits of this relationship. So it's to say that this particular partnership structure, while it works, it's not without some effort. And sometimes... and that was what of some of what was transmitted to us, was the challenges and the day-to-day debate about keeping urban at the table.

I think the last category is not surprising and, again, another one that adds some layer to it. And here you find Prague and Central Bohemia. And here you have an unintentional partnership and when, you know so they didn't start out by doing urban rural but they are doing urban and rural because Prague has pretty much hit the boundary of where it can kind of build and it needs room to build and Central Bohemia has room. So what's happening is Prague is kind of going inside Central Bohemia and what's emerging is not necessarily the most balanced relationship that one can have. The relationships are more ad hoc as Prague makes relationships based on the territory that it needs and so there are some elements there that are more reflective about voice, about the capacity to negotiate with a big city.

So you have Prague that speaks for Prague, but you have Central Bohemia that is so fractured that it has, there's not one person who speaks on behalf of Central Bohemia, which makes it difficult for Prague to find a negotiating partner and not, and what you have is a fragmented effect that's reflected more in Central Bohemia than it is in Prague. And that is something that they are trying to deal with but one of the core elements that emerged from this relationship is, it's a pretty much unfriendly rural urban partnership environment for the moment, because of these elements of too many, too much fragmentation in Central Bohemia and it's worth noting that the population in Prague is I think about 1.3 million. The population in Central Bohemia is also 1.3 million so it's not, it's just that, there's no one representation for Central Bohemia that makes it a challenge.

And this is all important because it helps you think about how to target support to

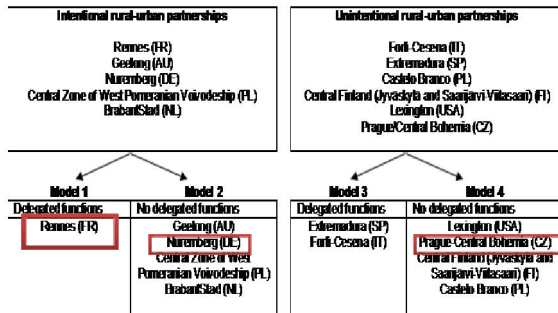
partnerships because if you are trying to understand, you need to understand what the lay of the land is from our perspective before you can say "how do we support rural urban partnerships", so looking inside your territory we're pretty sure this mix is everywhere, even within territories and then understanding what you need to, what the dynamics are to go forward.

And what I mean by this is simple; when we thought about going back now what is driving rural urban partnerships we started with this idea of external factors, because pretty much everyone decided about rural urban because there was something going on that they (inaudible 2:41) that made it important for rural and urban to come together. We called it a catalytic event but you know it's globalisation, it's you know the crisis, it's aging, it's, it's anything that you can think of, but what's trapped in this element of external factors is the idea that in order to resolve it, urban and rural have to come together and that's where some of the partnerships start to slip and fall because when you have an agreement that it's urban and rural that has to come together, let's say in the kind of bigger partnerships then you can move forward but in kind of the Prague and Central Bohemia example that I just mentioned, you do have some drivers but you don't have that collective agreement that urban and rural have to work together and I will say on the rural side, whereas there were actually some partnerships that didn't see why rural needed to work with urban so I'm not picking on urban or anything. The relationship or the interest goes both ways.

But then if you have these elements of external factors then you go in forward the institutional factors will affect the partnership that is formed and by institutional – political environment, legislative environment and that leads you into the type of rural partnership that you, you shape and by this I mean again just looking at the Metropolitan regions. If you look at the factors that we observe that promote rural urban partnership, again it's the interdependency of rural and urban. You see (inaudible 4:23) had it, Australia had it, excuse me New Hamburg had it. Mutual understanding of the need to work in concert again, clearly defined objectives, representation, leadership. You will see maybe a Prague example had less of those.

Betty-Anne BRYCE / 7-12

The governance approaches to rural-urban partnership



The governance approaches to rural-urban partnership

Model (1)	Advantages	Disadvantages
Intentional partnership with delegated functions	Can directly manage rural and urban issues	Threat to local autonomy
	Has a unified voice – Can speak on behalf of the region	Less citizen engagement
	Co-ordination of service delivery	Less private sector engagement
	More local influence with national/ regional policy makers	Threat to local autonomy
	More unified rural-urban action	
	Greater access to resources	
	More implementation mechanisms	
	More organisational support	

Some features:

- Capacity to engage – silo'd sectors e.g. agriculture
- Capacity through planning instruments to think about urban and rural: adding rural territory to an urban government structure requires adjustments in how that government operates
- Limited flexibility: rural-urban partnerships must consider the flexibility (in partners and strategies) of the structures they put in place

The governance approaches to rural-urban partnership

Model (2)	Advantages	Disadvantages
Intentional partnership without delegated functions	Can directly manage rural and urban issues	Fewer resources
	Can manage a wide range of functions	Less implementation instruments
	In sync with national policy initiatives	More voluntary dependent
	Has a unified voice – Can speak on behalf of the region	Vulnerable to dominant versus subordinate relationship
	More local influence with national/regional policy makers	
	Can improve accessibility to national and regional funds	
	Inclusiveness- urban and rural local authorities involved	
	More scope for citizen, academia and private sector participation	
	Can create forums for action and debate on policy initiatives e.g. forums, working groups	

Some features

- Clear efforts to build trust and strengthen connections particularly where no tradition of cooperation between urban and rural actors existed
- Walking a political tight rope: navigating layers of governance
- Clear steps by urban members to ensure rural visibility and representation: The level of visibility of "rural" members
- Urban actors seeking the partnership

The governance approaches to rural-urban partnership

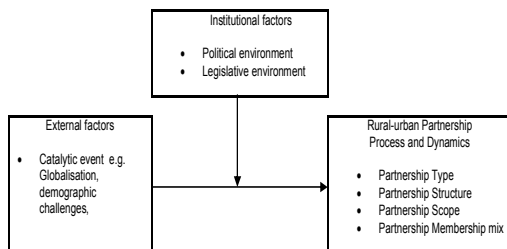
Model (4)	Advantages	Disadvantages
Unintentional partnership with without delegated functions	Maintains local autonomy	Fewer resources
	Can address challenges on a service by service basis	No one voice: no one speaks for the territory
	Can bring in relevant stakeholders as needed	No region-wide coordination
		More opportunities for sectoral vs integrated strategies

Some features

- unfriendly rural-urban partnership environment will limit the scope of action even where the need to collaborate is acknowledged by rural and urban areas.
- Uneven interest in partnership
- in some circumstances, fostering a rural-urban partnership when the intermediary level of governance is weak can present some challenges.

Why is all this important? It helps to target support

So what is driving rural-urban partnership...



Factors that promote rural-urban partnership

	Understanding of the interdependence of rural and urban areas	Mutual understanding of the need to act in concert	Clearly defined objectives	Representational membership and democratic participation	Leadership
Rennes, France	x	x	x	x	x
Geelong, Australia					
Nuremberg, Germany	x	x	x	x	x
Central Zone Poland					
Brabant, Netherlands					
Prague, CZ			x		
Forli-Cesena, Italy					
Extremadura, Spain					
Castelo Branco, Portugal					
Central Finland (Jyväskylä and Saarijärvi-Viitasaari)					
Lexington, Kentucky, USA					

13-16 When it came to the factors that hinder the rural urban partnership regularly to or in political barriers, it's just not so simple in the Czech Republic to do rural urban partnership even when there's interest. Trust, social capital and investment in building that is also important. In New Hamburg they spent a long time, as many people are familiar with the New Hamburg example but they spent a long time building trust. Lack of partnership, buying incentives to partner, you can, there has to be an understanding that we, it's important for us to partner and there's an interest in putting incentives on the table to foster that and if that's, if there's not a willingness to do that, that will affect the partnership.

Policies that widen versus shrinking the gap between rural and urban areas didn't come up in the Metropolitan examples. It didn't come up in others and low private sector involvement. We went back and forth about whether to add private sector involvement and it is a factor that hinders, in as much as you're doing economic development. I should say that. So if you have a partnership that is trying to re-establish something in their area and really, really is interested in building the economy but you don't have any engagement with the business sector, one could argue that you have some limitations on what you're doing and we saw this a bit in some of the earlier examples. And also in Rennes it was clear that that might have been the weakest thing for them. So we ended up with – and this is really in brief – but a couple of strategies that emerged that again are not super, super surprising, but emerged from just a snapshot that I just gave you, which is you know encouraging to a functional rural urban approach but also supporting it. Promoting a greater understanding of the rural urban territory and the types of partnerships, like trying to understand already what's going on before going in to target your support and facilitate the, and integrate the policy making.

What we did find in New Hamburg, in Australia in other examples is that the forums within these partnerships were doing really well at bringing different sectors together to really do policy. It was impressive the level of engagement in Australia for example of the Agriculture, the folks from Energy and at the same time the business sector was sitting at the table, they were working together and when they devised an agreement it was accepted by government. So this idea of seeing the entity as the place where you can do policy was the highest among a number of the bigger partnerships, (inaudible 7:53), New Hamburg, in Australia and there are others that are working

towards that but they have some, they have some obstacles.

The importance of a rural urban friendly partnership; I'll mention this and I'll use the United States as an example because you know I will say that US compared very well to Prague, so I'm not proud. But the idea was, it's impossible for the US to do, the example that we use is impossible for them to do a rural urban partnership for a very simple reason; they have a very specific tax system that makes it that any, unless the business, unless anything is in the county, they will not make the money from the county. The county benefits from having whatever happens be in the county. So even if they wanted to collaborate it's not in their interests to advocate for county 'X' to get it, it has to be in county 'Y'. That basic framework makes it very difficult to do a rural urban partnership and creates an imbalance in how they work, and that's a system that is outside of the rural economic development. That's our tax system and that again talks, goes to this idea of a rural, rural urban unfriendly environment is something about codes and legislative processes that makes it difficult even if there's interest to do partnership, and again stimulating cooperation.

So I leave you with these points. I will say this about monitoring and evaluation. Of all the partnerships we studied, that was the weakest point in every one of them, even the ones that there were the most effective. They didn't seem to have a big picture of how they were impacting the economy, the region and where they were trying to go and that's not a criticism; it's just not the way they think and it's just something to keep in mind because as we are trying to support these entities, these are elements that will prove interesting. I gave you a snapshot of a publication that has 333 pages so it's safe to say that I've left out some elements. That's just the table of contents that we use to kind of define the relationships. It also includes Part Two with extensive case study materials for all of the case studies we discussed and the launch for this particular publication and more about in hearing from the regions themselves will happen in Bologna, because we gave the kind of conference to each of the partnerships. The Australians, everyone is coming, the (inaudible 10:25) have all their partnerships to talk explicitly about the points that I just raised and be on hand to answer any questions.



Factors that hinder rural-urban partnership

Regulatory and political barriers:	Lack of trust/social capital	Lack of partnership buy in/incentives to partner	Policies that widened vs shrinking the gap between rural and urban areas	Low Private sector involvement
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Rennes, France				x
Geelong, Australia				
Nuremberg, Germany				
Central Zone Poland				
Brabant, Netherlands				
Prague, CZ	x	x	x	x
Forlì-Cesena, Italy				
Extremadura, Spain				
Castelo Branco, Portugal				
Central Finland (Jyväskylä and Saarijärvi-Vitasaari)				
Lexington, Kentucky, USA				



A strategy to build effective and sustainable R-U partnerships

1. Encourage and support a rural-urban functional approach to address territorial challenges
2. Promote greater understanding of the rural-urban territory and the types of partnerships
3. Facilitate an integrated approach to policy making by creating bridges between different policy sectors *e.g.* cohesion policy, agriculture policy, rural development policy, urban policy;
4. Encourage a rural-urban friendly enabling environment *e.g.* political, legislative, and regulatory;
5. Stimulate and support co-operation through a variety of tools (*e.g.* platforms for dialogue, financial incentives, etc.);
6. Promote the use of monitoring and evaluation tools: of the partnership and its wider impact on economic development



The publication:

1. Understanding R-U partnerships: context and definition
2. Purposes and outcomes of rural-urban partnerships
3. Taking a functional regional approach to R-U partnerships
4. Understanding the dynamics of R-U partnerships
5. Creating a governance framework for R-U partnerships
6. A strategy to build effective and R-U partnerships



Thank you!

OECD 9th Rural Development Policy Conference

"Rural-Urban Partnerships: an integrated approach to economic development"

23-25, October 2013

Regione Emilia-Romagna conference centre, BOLOGNA, ITALY

The conference is being organised in co-operation with the European Commission and is co-hosted by the Italian Department of Development and Economic Cohesion and Regione Emilia Romagna.

QUESTIONS?

Q1: I'm interested in the case of Prague and Central Bohemia because you really presented this as perhaps the weakest partnership, and as I understood this was developed mostly from the needs of the core city, which wanted to, which needed to expand into the neighbouring areas. Do you think that is an example that is perhaps more typical of the reality that we see around us? Or do you think the Prague example is really quite exceptional? And that most cities seem to be managing it quite well?

I don't see Prague as the exception. I think it's where you start from. I think. It's how you see Prague. You could see it as weak or you could see it, that it's at a starting point, that arguably New Hamburg was 10 or 15 years ago. I think you start from a process where you do ad-hoc work and you make the best of what you can and then you use that model to build relationships over time. So you have to start from somewhere and I would say that in, in the book we included an element of time, investment as being the core important part of a rural urban partnership and there I used an example from the (inaudible 12:24) Partnership that built it's process over six stages. In the sense that they started actually from, you could argue, where Prague is. This element of building of building the relationships, of being a bit more ad-hoc. Starting in a piecemeal process and then over two years they moved and built it to another level and built it to another level, and if you talk to each of the partnerships including Australia, they will say they did it the same way.

So I wouldn't say, in the book what we tried to say is that this is where Prague is but they also understand at it's core that they need to work with Central Bohemia and it's important because it starts from there, but they also say "but we don't have anyone to talk to" so that motivates Central Bohemia to think about collectively, working as a collective first to build that process up, so I wouldn't say they're weak, I would say it's where they are, and they're on a timeline and if you check back in a couple of years, they would have moved.

Q2: I would, just a technical question. When you speak about rural in this context how, especially maybe the Central Bohemia case, what space or dimension are we talking about. Is it 100 kilometers from the city or the hinterland or what exactly is rural in this context?

In the context of Prague, it's the right at the periphery and it goes all the way to remote because the area, the territory there is so, is so vast that, that's why the relationships were imbalanced because for example when Prague needed to build a hospital it went right just outside and built the hospital there so that set up a really strong relationship with that kind of, what we'd say in the US a suburb type of relationship but then at the same time other entities that were connected to that were kind of not benefiting from that relationship. So what we saw in Central Bohemia was a need just within that to draw closer and what we had were sub regions within that were very good at creating micro regions of relationships, but that wasn't helping Central Bohemia as a whole, vis-à-vis Prague and that's what Prague wants. It wants Central Bohemia as a whole to come to figure it out instead of them having these relationships.

Sustainable cities - implementation

- **Stef le FEVRE**
Urban Planner and Coordinator,
City of Amsterdam

1-6 Create a great plan, yeah, it will reduce the carbon greenhouse gas emissions, it will reduce the amount of electricity. But who's going to implement it and then the other guy says "ooh it's not me, but it's a great plan". I'm Steff Laffevre from the city of Amsterdam working at the Urban Planning Department on climate and energy issues and I'm going to present to you some projects that we did in the city on climate and energy. That is actually a part of a European programme called Transform. Transform because we're talking about a transformation towards a low carbon society. Transform because we talk about transforming the way we act, we work together. When I looked at the METREX Programme it stroke me that, in the programme, the words policy and reality were put together and also sustainability, implementation and crisis. So I think okay, METREX wants to talk about how do we get things done. So I'll try to share some of the things that we are getting done, or some of the struggles that we have at getting things done, and failures we make getting things done.

One of the most important aspects I think of planning and implementing, executing, is doing it at the same time with the same people. One of the things we try to do in Amsterdam is, the people that work on our strategies also work on the execution of a project, projects together with other, several partners. We always try to link the people who do strategy and people who actually make, create.

So it's about creating impact. Making it happen. Why? At the airport I saw the National Geographic of last month and it had some interesting maps, how the world would look like if we continue as we do. Florida is going to disappear in 100 years. Disappears. The water will take it. They were very interesting maps. Some of the consequences for instance, the inundation of large part of China, where some 600 million people live will take more than 100 years, but it's going to happen with the melting of the ice so (inaudible 19:24) is needed so that's the whole reason for us working on it.



But the background of this whole issue is highly complex. We are talking about a transformation, a transition period, so we're talking about interdependencies, we're talking about finding where tipping points can be triggered and how to do that, and we're also talking about people who actually dare to venture, to act, so I found this saying by Seneca. It was a long time ago. And he said "it's not because things are difficult that we dare not venture, it's because we dare not venture that things are difficult" and I think in the Transform project, that's our guiding theme, motto. Dare to venture and the impossible thing will solve itself.

So Transform European project. I will come to the partners, give you some context but Transform is about a few things. It's about a group of cities and companies working together to help cities improve their transformation agendas, their strategies to become low carbon, low carbon cities. Improving the agenda, at the same time being aware of changing market conditions. Lower prices for coal for instance or the situation with (inaudible 21:15) gas connected to it in the United States, the (inaudible 21:19) in Germany, the new approval on energy in the Netherlands. There's many effects and processes that change market conditions. At the same time improving the transformation agenda for the cities, being aware of the assets that the city actually has. One of the partners is at the region of (inaudible 21:46) and they become slowly aware of the fact that they are actually owner of the electricity grid. So what can be done with it and how to cooperate with the electricity and grid company. New situation, changing rules and shifting balances.

At the same time Transform is implementing. So in each of the participating cities we created areas, labs where during the project stakeholders developed projects together, linked to strategic questions. Because one of the most important things is actually change the existing city. Sometimes it's easier to build new. But changing what is already there, adapting it, it's quite a challenge.

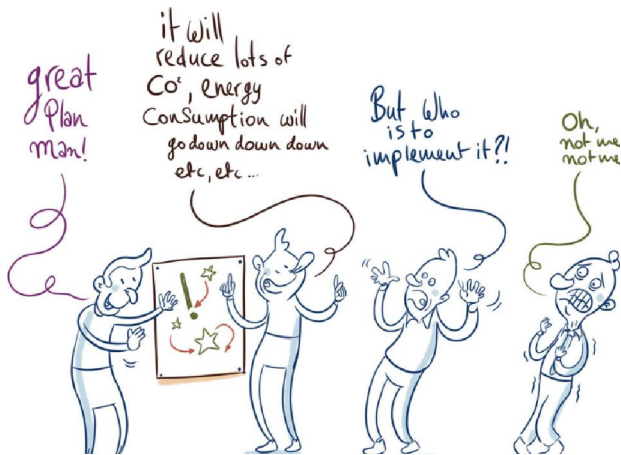
Transform is also about facilitating. Facilitating people talking and facilitating people talking by giving data and information based on data. So a large part of the programme is actually on data collection. How do you actually collect data on energy? Do you work with assumptions or with the real numbers in energy contracts? How do you then come to agreements with partners who actually own the data? So it's about data collection, about protocols, how to handle data, how to renew, how to visualise, how to make maps, how to support stakeholders working together and it's also about something else related to this very complex and dynamic transformation process. It's the tension between on the one hand doing and the energy of starting up projects and on the other hand being aware of what effects, what rebound effects might come from what you're actually doing and especially the city of Hamburg partner in Transform, always stresses that it's of the highest importance to have insight on the national level and the regional level and also on the local level.

So it's about Transform, about implement, it's about facilitating, it's about learning. All partners learn from each other. I think Betty-Anne just had a beautiful example of how partners actually learn from each other coming from different realities. In Transform we are 19 partners so there's a lot of learning going on and at the same time through buddy cities and through other partners and networks we try to help others learn through our learning process. One of the elements of learning is that we develop based on what is out there, a set our indicators and I think the President of your network already showed on some sheets, the amount of indicators are possible but then you have to translate them in something useable on the ground, in projects. I forget the most important advocate. I just said it's important that people dare to venture. It's important to know where change agents are and the Transform project will actually gather politicians and (inaudible 25:41) of partnering knowledge institutes and companies to advocate our learning's but also commit to the projects that, are being developed during the Transform period.

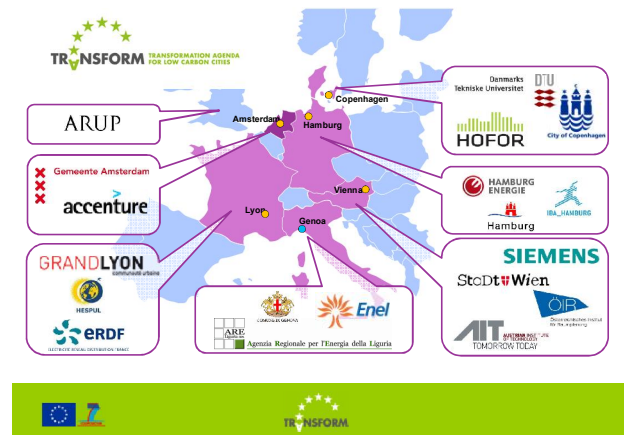
Just to give you an example. These are all logos. Transform is about people but it's about 100 people so it was a bit difficult to get them all in one photograph so I give you logos. You see Transform is six cities distributed over Europe. There's a fair share of energy companies working together with the cities, industry partners and knowledge institutes. Transform will run until mid 2015 so the first results are coming in, but you will hear more about it in the coming years.

Very briefly, creating meaning, also in the previous presentation, a big part of the presentation was actually about how to create reality and meaning together. And in Transform we try to dive into the social psychology and all the theories that are there on sense making and creating meaning. And I'm not going to talk long about it, just two things what I've found really interesting. One thing is, are we aware of what is not said? Are we aware of what people do not say to each other? What is in the room? And the second thing was, are we aware of weak? Do we capture weak signals and how is our sensitivity developed to capture weak signals? Very important things when we talk about transformation processes and also when we talk about group dynamics.

So in all these words I thought, I want to give you some focus points and then the last ten minutes give you for each of the focus points, one project that we do so we can actually, well talk a little bit about those results. In Transform we focus on how to plan the unplannable. The transformation towards low carbon. How do we actually use data – second point. How do we finance projects once they've, once they are developed and during the development process? How do we do it? How do we work together, learn from that and how do we monitor impact and what is actually impact? For me impact can be well, a project that reduces carbon emissions of the city of Amsterdam by 1%, but maybe for the politician that I'm working for, the impact of creation of 1000 jobs is more important. So we always have to be aware about impact and how to describe impact.



TRANSFORM
IMPLEMENT
FACILITATE
LEARN
ADVOCATE



plan low carbon
use data
finance projects
work together
monitor impact



7-12 Okay first project that I wanted to tell you something about is about how to plan for low carbon and low carbon is about demand reduction about adding renewables, renewable energy sources. This project it's a map of Amsterdam showing possible locations for wind energy. And why do I show you this map? Because we've had a whole process with multiple stakeholders to create this map. So this map is a political reality and it's actually the places in our region because it was, of course it was a regional process where we allow windmills. And the City Council adopted the map and through this map we can be able to add about 250 mega watt of wind power and that can power one third of the Amsterdam households, but the political reality is not only the regional reality but in the Netherlands, also the provincial reality.

In the province of North Holland where Amsterdam is part of, just said "we don't want windmills" so our whole process of deciding together where to build windmills, which is kind of, well it was a long, long process. We have just a detail alongside this process, several companies decided to build (inaudible 31:06) to invest in windmills. So it's not only a plan and a map but there's also (inaudible 31:13) who said "if this is the reality and if the city of Amsterdam guarantees us that you will take care of all the administrative fuss" which we wanted to do; we wanted to take care of everything and then just put the locations on the market, "we are willing to invest in windmills", but the reality at the moment is that we're doing nothing, so we're focusing on solar instead but this is a possibility. Project number one about how can you plan for, for low carbon one example.

Project number two is about how can we use data? Shortly in one of the Transform areas, Amsterdam South East, we thought okay we're going to bring stakeholders, companies, consultancy firms together during a three day workshop and I invite you during the coffee break to see the results of the workshop because they're over there in the big drawing. It starts from the left to the right and then bottom left to the right, so this is the whole three days drawn out so you can see the results. We thought how to support those people and then we said "okay we need data". The city of Amsterdam has an enormous amount of data but not on energy. Usually we work with assumptions as does New York for instance and Hamburg has partial assumptions for proxy data. So what we did over almost two years, talked to all the companies indeed the grid companies that owned data sets and we really

had a process of giving and taking. So we would call one company and say "hey the other company gives us the data. Are you also going to do it? You might have a look at their data." And then the process of sharing started and it resulted in the visualisation of the data sets through a GIS system; I can tell you more about it if you're interested in a concept energy atlas. I have one example with me and I can show it to you but this is just the beginning.

The next phase that we are doing now is seeing with all partners, what's the possibility for open data? What data sets should be shared? What kind of protocol do we need to keep this process of data sharing going? How can we make sure that we're not working with annual energy data, but for instance for heavy users, data that are generated every 15 minutes; it's possible. What can smart meters add to this if we have data every second? So it's a very exciting working field where we try to find our role as a government in terms of visualising and then you will maybe tell me well "great another map", but what did we do? We printed all the maps. We have all the data sets in Excel sheet. Put it in a huge room, on the walls. All the companies went in and they started drawing and then they said "hey, this area here, for my business is really interesting and we can combine this map and this map and I find a business possibility." So then we said "okay mission accomplished". The first stage is a success if people are actually helped by data sharing – fine. But then back to Transform.

For other regions sometimes it's a bit more difficult. When I think of Hamburg, they said "yeah you did it in two years, we might need three and a half years". (Inaudible 35:31) said "we don't even have access to this data". So we have to come up with ways of overcoming this and help cities that might not have access to all the data to still be able to generate insight because otherwise we're developing something for only a few lucky regions or cities.

Project number three – investment fund. This is about how to finance. We installed an investment fund in the city, it opens in October. First projects are already being generated. The investment fund doesn't run on subsidies, but it runs on loans or maybe shares or guarantees. Very exciting process since a huge part of this money has been set outside of the political decision making procedures, so it's actually investment fund run by an investment company for a long period of time so it's taken outside of political lifecycle of four years.

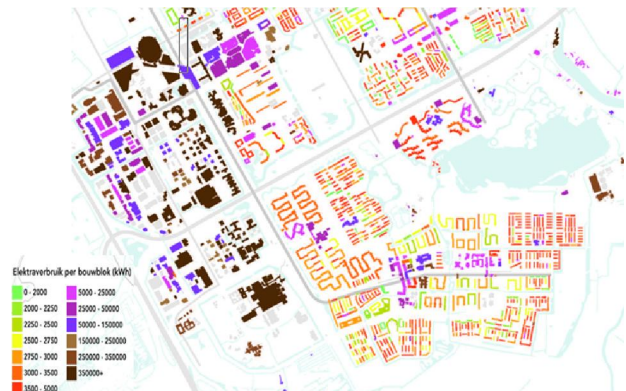
And the last project I wanted to share with you briefly – how to cooperate, how to form a platform. I've met several of you who work for regional platforms. We have, in the region of Amsterdam, we have one called Amsterdam Smart City. It's actually a corporation of connectivity company KPN. You know it maybe from the news of the takeover from Mexico. KPN, the grid company (inaudible 37:19), the city of Amsterdam and some 70 companies trying to plan for low carbon together and struggling to, well meet each other's views. I think it's a very interesting, it's also outside of our political process and that's an important fact because an important thing, because we allow failure. Here we can do projects, start up projects and fail them without any problem. And we've failed projects, especially when it comes to the participation of citizens.

This is a project that we're going to start up working together. It's about the citizens of one neighbourhood and they will work together with companies that want to offer them technology and surfaces. They always talk about roll out of smart meters, of this of that, and we ask them to come on one table and see if they can actually co-design - the concepts and the products and then maybe talk about roll out. Because, I mean, who's rolling what out over who in bad English?

Okay monitoring, last slide. This is just one example. It's in Dutch but I wanted to show it to you. It's one project about energy saving because of course the first step is just not to use energy. Amsterdam has a lot of data centres just like Frankfurt or the region of London or Paris, using enormous amount of electricity. There was a growth over the last two years of one hundred million kilowatt hours in terms of electricity consumption just for 40 companies, 40. Together with the companies we came up with an energy efficiency programme using our competency as a local government to say "hey if you don't want to participate, in the end we can force you" but this is only necessary for maybe 10% of the companies because for them it's, energy is the first, how can I say, well it's what cost the most in their primary process so they save a lot of money and they become, well they are cheaper for the clients.

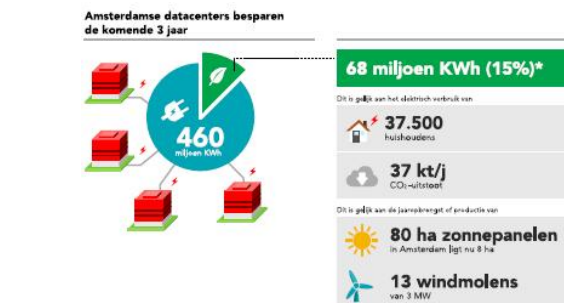
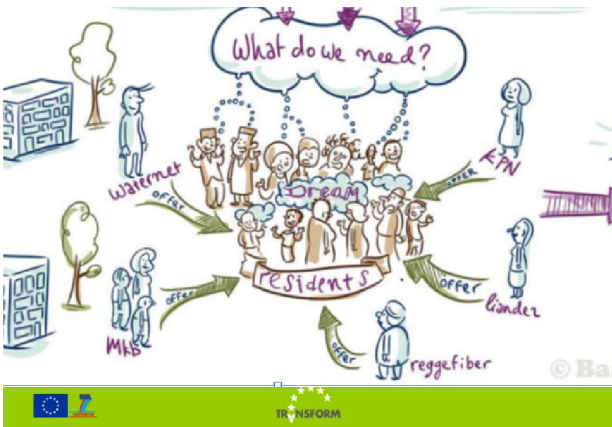
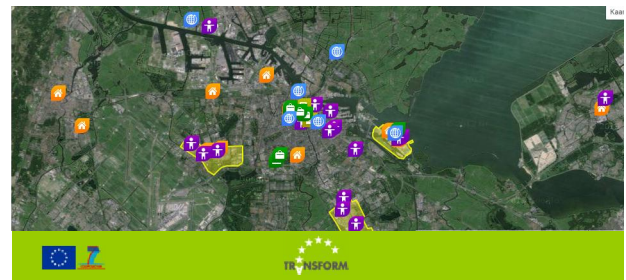
So what did we save after one year of work? The amount of electricity for 30 thousand households and we don't need to build thirteen windmills so I think for one year of talking it's a lot of energy reduced, so that is where we impact, where we monitor impact in terms of energy and CO2. This is what I wanted to share

with you, transform about strategy connected to implementation, about facilitating the conversation with data, about learning, connecting it to real projects, and allowing for variety. I think that's my final sentence. Really important, allow variety. If there's too much variety, reduce it, but if there's too little, allow for it and dare to venture.



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QUESTIONS?

Q1: I just have a question for you. Thank you for your impressive overheads, and I agree with you. You have to have results and implementation and you have to have tools. And we have a tool problem (inaudible 01:26) because of a national euro statistics, won't statistics on municipality level or county level, about the use of CO2, and the last one they had it 2009 and I couldn't include oil and I said, of methodological problems. Do you have any connections on how to solve this problem in your own country and you have any connections with the new National Bureau of Statistics because, you see the problem? No feedback.

Important question on data collection. How to do it when there's, maybe, rules, regulations or institutes not willing to share. Norway's not the only country because throughout Europe there's examples of difficulties for communities, and from the Amsterdam example, what we did was connecting on CO level and making the agreement to start this process and then talk, talk, talk, talk and show people through workshops that sharing data actually benefits all partners, and I know it's a bit of a cliché answer but for us, it was the door that opened towards data collection and sharing. But the next phase will be about protocol making. I think that can help also other cities.

Q2: I just thought, maybe, you could say a bit more about the business opportunities because you said there was business opportunities by sharing the data, but just give two or three examples of what type of businesses and what evolved out of there.

The most business opportunities were seen, actually by Hamburg consultants for (inaudible 03:25) in the area of social housing where, well, there's not so much progress. Another business opportunity, so to set up an energy service company to actually service, provide, energy, efficiency and comfort for people instead of the housing corporation having to do it themselves. Another business opportunity was seen by a local, by consultants and companies to provide solutions for local sources of heating next to our district heating system, and this was made into a plan and we're investigating it now.

Q3: So, thank you very much for the very interesting presentation. Six very advanced cities come together and it's really a group of excellent. Now, how do you think that the results that you will achieve will be applicable to the rest of Europe? The cities are much

weaker, have much less power, public power, much less data. Why didn't you include in the network some weaker cities?

It's a very good question because, excuse me for only giving examples of Amsterdam but it's what I know best. But I could also have given 10, 20 examples. From Genoa, from Vienna, from Hamburg, from Lyon, and what we said each of the cities have, or the companies have golden interventions that are not possible. Maybe in Bratislava, Slavonia or Athens. One of the tasks for us is to figure out what could be second best to still have impact and how to share this with those cities. Each of the participating cities in transform will have two or three buddy cities to go through the same process, and then we spread, of course, to the other networks. But by taking three we keep manageable for us. So, three per city. That's my door bell saying I've run out of time.

Q4: I have participated in a project called Sustainable Historical Towns in the Nordic countries and the basic notion is that an existing town represent a lot of investment and resources, etc. so everyone should be careful about tearing it down. But I understand, and the other element is, of course, to reduce energy, measured per unit or per family, or whatever. But I understand you have now registered on a very local level. Each industry, each house, the energy usage over a period of time and this was shown on your map. Is this correct understood, and if that is the case...

This is the example that I brought. The maps are in here so you can have a look. It has electricity and gas consumption, for instance, per square metre or building block. But it's always a contraction of five contracts because of privacy regulation. So, it's always five contracts, yearly contracts, bound together.

Oslo transport investment packages

Urban and regional partnership for transport development and toll-ring funding

- **Terge ROGNLIEN**
Leader, Secretariat for Oslo Package 3

1-6 Oslo Package 3, as it said on the first line, indicates to you that there must have been a package number one and number two, and that's correct. I'm representing the Secretariat as the organiser told you. That means that we are a small Secretariat with a task to prepare analytical work, the analysis and the proposals for decisions to Oslo and Akershus County and the state representatives. So, my position is a non political position. I've just been doing this for 18 months.

The story I'm going to tell you is the benefit of other people's work. If you look at the top of my slide you will see four different logos. That represents the four parties that form this corporation. The one on the right is Oslo. The one on the left is Akershus County, and the two in the middle are the two state agencies, the railway and the road administration, and those four are forming the Oslo Package as you will see throughout the presentation. The outline, I'm not going to talk a lot about what is in the package. The projects, what do we use the money for. I think the task today is to try to explain to you how this corporation takes place and what are the reasons behind why it's successful, and what are the political objects and the challenges that all the people working in this context are faced with.

We have had toll cordon and toll payments for cars in Oslo for more than 20 years. So, this is a well-established system. Not only in Oslo but also in other parts of Norway. Yesterday, I think you were out trying to explore part of the blue and the green and the city in between. You were out visiting certain areas and when you did that, I guess that you were travelling on roads which have been financed through the Oslo packages. Even that be on the road, on bus. Maybe you took the tramway, maybe you took the tube. All these things are part of what we do, finance, within our corporation.



The first package started in 1990. That package was, basically, a road package. For instance, the tunnel below the Oslo tunnel where you had your reception yesterday evening, that tunnel has been financed through the first Oslo package, and also a lot of the other tunnels. So, the first package main objective was to establish the roads.

The second package which came around 2002 was more on the public transportation part. Basically, what we here in this area call the tube ring, which is the tube going in a circle around the town. Covering much more areas than before, and secondly, it was also the railway construction, double tracks to the west of Oslo where a lot of people live and use for transportation to their work everyday. This is, perhaps, for you, if I understand that you are working a lot on planning.

This is a very important slide because I think the content of the history lies in these four or five bullet points.

First of all, the Oslo Package 3 is just a continuation of the two first ones and what happened was that the local politicians in Oslo and Akershus County sat together, defined the framework, 35 projects, this is what we want to obtain over the next 20 years. The message in the first bullet point from my side, because I was not there, but what I experience is the fact that it was a local proposal means that the local politicians has one very firm commitment, and secondly, they have an ownership to the investments, and in a democratic system like in ours, I think this is very, very important and it's a very important assumption and condition for the success going forward.

The second point is funding. Funding means that you need money. You need money not only

from the local parties, from toll cordons, but you also need money from the state. So, funding means that you have to bring in, in one way or the other, you have to convince the state that they also have to join in and participate if you are going to success in reaching the goals for the transportation system in the Oslo and Akershus area.

Third principle, portfolio management. That means two things. Yes, you have to find a portfolio project. That's part of it and that has to be followed when you go forward but secondly, the response from the state was yes, we accept the portfolio principle but we want to have a system where we measure what are the results of all the investments you do. Be that on roads, be that on trains, be that on tubes. How do we see that we develop a sustainable transportation system going forward, and we have developed a lot of indicators where we can measure year by year, do we obtain the results or do we not? I will show you results later on.

Fourth, organisation. I will show you afterwards how it's organised. But today in Norway we have what we call nine cities trying to work in a similar type of framework as we do in Oslo, and when I'm out there and telling them why do we success in Oslo, it's very important how you organise. It's very important that politicians are sitting in the steering group taking decisions, making proposals to the state, and it's also important that they bring in the state part organisations with people with power, because that means credibility to the system.

So, I'm not going to go through all the 35 projects but you will understand afterwards why this is important. But they defined 35 concrete projects in 2006, approved by the Parliament in 2008, this is what we want to obtain. Finance it by toll cordon. Finance it by local funds from Oslo and Akershus, and from state money. The state's response is yes, this is fine, but we are going to look through that you really obtain good results before we say yes to bring in our money. Local proposal is really the agreement and the agreement, as I said, was formally between the politicians from Oslo Akershus, approved by the state through yearly budget allocations with conditions, as explained.

Shortly, the two rings are the toll cordon lies. Oslo is in the middle. So, we are down here somewhere. The point is that we have a system that you pay whenever you want to drive into Oslo. You have to pay a certain price and we have one price, today it's roughly 3.75 Euro per travel. Only one direction. Only one price, 24 hours, 7 days a week, all the year through, even

public holidays, and we do not have any rush hour extra payment. So, it's a one fee all over. Half price if you come from the West, that's the system, and if you drive a large truck, it's three times the price, more than 3,500 kilos. So, we don't have any rush hour in Oslo. The political answer to that is we can't do that because we don't have the capacity in the transportation network to pick up all the people who would then, possibly, leave the car at home. It may come.

Terje Rognlien / 1-6



Oslo Transport Investment packages

Urban and regional partnership for transport development and toll-ring funding by Terje Rognlien, Oslo package 3 Secretariate

METREX Oslo - Akershus Autumn 2013 Conference



Outline of Presentation

- History & Background
- Objectives of Central and Local Governments
- Main Challenges for Oslo and Akershus County
- Results achieved – Oslo and Akershus' response to future challenges



History & Background

- Urban Toll cordon for over 20 years
- «Oslo package 1», est. 1990
 - Total budget: 2,5 Billion Euros
 - Funding main roads in Oslo and Akershus
 - 20 % public transport infrastructure
 - Approximately 45% of funding from Central Government, remaining through toll cordon
- «Oslo package 2», est. 2002:
 - Increased funding of public transport infrastructure («Tube ring», double track railway, 2,0 Billion Euros) and new metro trains

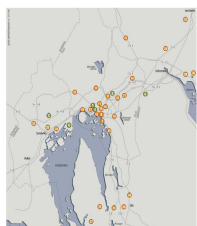


The birth of Oslo Package 3

- Local politicians in Oslo and Akershus took the initiative to carve out a new "package" and a local proposal was put forward in spring 2006
- Funding was secured following a parliamentary vote in March 2008
- The guiding principles (portfolio management) were set out, together with the National Transport Plan, in a white paper March 2009
- A Steering Committee and support organisation established during 2009



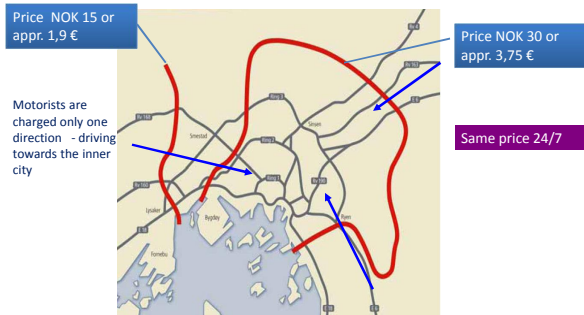
"Local proposal" – May 2006 (i.e. Oslo package 3)



- 20 years of cordon tolls, no periodic subscriptions, a new cordon toll west of the city
- No time differentiation of toll charges
- Significant funds made available for operations of public transport
- But, basically:
A list of projects in a certain order

Oslo Package 3

Toll cordons as per June 2013



7-12 So, what is in Oslo Package 3? That's the third phase. The same politicians sat down last year, took out, again, the list of 35 projects and said, okay, where are we, how much have we been able to finance so far? How much money do we have? What can we expect from toll cordons from public sources, from our own local sources, for the next 20 years? And from that they decided to reshuffle among the 35 projects, what do we prioritise now?

At the same time in order to finance, because in Norway as in most countries I believe, projects become more expensive. It's been a hot economy. In new standards, projects, they change the way you build them. So, it was a new agreement extending the period for five more years. Higher toll cordons plus reshuffling of projects. You can see the figures. We talk about in 20 years perspective, some 11 to 12 billion Euros. So, as a rule of thumb, we spend in Oslo Package 3 some 5 billion Kroner which is divided by eight, 650 million Euros per year, including investments in railroads in this area.

This is the organisation. I'm not going to run through all of it but you see my position on the left, the Secretariat, we are only three persons. We have, to the right, what we call Administrative Coordination Group. In that group all the four parties are present. I have people from below the politicians in Oslo and Akershus, plus the two state bodies, and we together prepare all the tasks, issues, recommendations, which we bring up to the steering committee, and as I said, the steering committee, you will see that it consists of the two Director Generals from both railway and from the roads administration, and it's those two Director Generals personally who sit there, and I would like to underline personally because that gives credibility and weight to the decision making. Not that they can commit the Minister but it means that you have people in the steering group that understands and knows the real content of the present Government policies.

From Oslo and Akershus you have the two persons responsible for transportation issues. Those four make recommendations to the state. This is how we're going to spend the money for the next year and the three years thereafter, and then later in the year, Parliament will possibly approve the proposals from this group. In this group we work on the principle of consensus and up today, there's no, in my opinion, not really friction between the four parties. There's a general consensus and this

is the way we have to move forward if we want to obtain a sustainable system.

These are the investments we have to make in trains, in tubes, in roads, if we want to create a good system. I think we have come quite far but we are not there yet, and I noted from the first presentation this morning that in terms of score on transportation, Oslo is not really top ranked. I think Oslo has the most difficult congestion problems during rush hour on our roads in the morning.

The consensus is an important element. We prepare four year plans every year, and the first year in that four year proposal is next year national budget because the proposal contains, as you understand, both the use of state money and the use of local money and the toll cordon, and all that needs a Parliament approval and so far, of course you understand that when you have all these projects there is a lot of projects that are driven by the fact that you need them, because the transportation need of the public requires it. So, at the same time, we have to do the projects that qualify according to the measurement indicators stipulated by state. But at the same time, there is some sort of politics in here. Also people in Oslo and Akershus they would like to send a small message back home in order to gain votes next time. There is a balance here but our task in the Secretariat is to balance out politics and the real indicators, and that you really do the investments that are the correct ones to secure that the state approves our plans, and so far it works fine.

Objectives going forward. I think the objectives are, basically, known by everybody. In our system we have two main objectives. The first one is to reduce congestion and that was the main objective from the outset. Last year our Parliament have decided what's written in red at the bottom. It's a climate agreement that in the future all kinds of transportation, the private car transportation in the future has to be taken by public transportation. There is a zero growth in private car transportation going forward from last year. Pretty difficult. We have a population growth of 2% per year which actually means this is not a zero, it's less than zero policy. I'll show you how this looks like in real world in a few minutes. Of course, we also have other important objectives. We have to take care of the security, we have to take care of the climate by pollution, noises, etc. and what are really the challenges for us going forward? As I said, I think Oslo is, maybe, the capital in Europe with the highest congestion problem during rush hours. One of the highest at least.

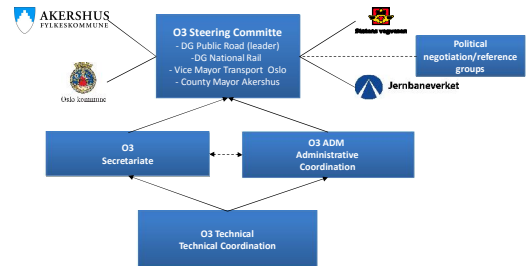
Very difficult to cope with. The policy I mentioned indicates that we have to make the necessary investments to get all these people to town, or to where they work in a way that they use public transportation not by private car. That's complicated. It's a lot of people. It requires a lot of coordination. Yesterday, I think you heard about area and land use and these issues. In my book, it's the way the politicians organise houses, businesses, land use, which will dictate how we organise our transportation system, not the other way round. Infrastructure is just a means to reach the market, be that bringing persons from home to the job. This is going to be extremely complicated if we're going to live up to the zero goal as I mentioned on the previous slide.

Little bit about results. We believe we've been actually quite successful. This slide shows you with the reference year 2007. That means the year before the first Oslo Package 3 started. What are the results? The two upper curves show the growth of public transportation in Oslo, respectively Akershus. Akershus because it's less urban populated. It's a higher growth. Oslo, also very high growth in the area of 27% to 30%. There's a small decrease on the curve which you can see from 2011/2012. That indicates that the system is actually full so we don't have investments enough to take more people on board. I hope it will still increase. But look at the same time on the bottom. The traffic, the road traffic in Oslo had decreased. This is road traffic in general. Not only on the toll cordon but this is road traffic all over in Oslo, 1% down from 2007 to today, and even though the financial crisis took part of this decrease, it cannot be the only explanation. There has been made political decisions regarding prices in the system for public transportation, and all the investments in public transportation modes. Large increase, more people use it. So, this is the one I have next to my bed. I read it every night and I'm pretty happy about the results of it.

Oslo Package 3 in short

- Oslo Package 3 was originally a financing scheme for the expansion of roads and public transportation infrastructure in Oslo and Akershus between 2008 and 2027
- In May 2012, the Oslo Package 3 agreement was extended from 2013-2032 – 5 years extended period, increase of toll cordon, redefinition of prioritized projects from “Local proposal” due to project cost increases and the challenges ahead for the region
- The overall budget (2008-2032) is approx. NOK 90 billion (€11-12 bn), and is financed from toll charges (approx. NOK 60-65 billion (€ 7,5-8 bn), in addition to central and local governments funding.
- In addition, significant investments and upgrades of railway infrastructure in the region, financed by the central government.

Organisation of the Oslo package 3 cooperation



Cooperation within the Oslo package 3 organisation

- Requires good co-operation between central and local governments, and the transport agencies
 - Consensus among local politicians
 - Preparing “ 4 years action plans” each year
 - Dependence on toll road charges
 - Does the package meet the objectives?
- ▼
- Basis for long term priorities



Objectives of Central and Local Governments

- Reduce congestion during rush hours
 - transport of goods/business
 - public transport
 - Facilitate more travels by public transport, bicycling and walking
 - Reduce noise and air pollution, and greenhouse gas emissions
 - Fewer killed or seriously injured
 - Ensure access for all groups of transport users
 - Improved qualities of the city/suburbs
- “Zero growth of private car transport, future increases to be covered by public transportation, bicycling or walking” (Norwegian Parliament 2012/13)

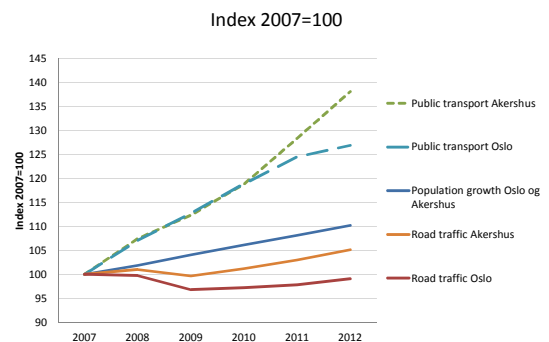


Main challenges for Oslo and Akershus County

- Substantial population growth in the region the years ahead
 - Sharp increase of transportation needs in rush hours
 - Congestion on public roads during rush hours
 - Capacity constraints in the public transport network during rush hours
 - Funding
- How do we develop sustainable transportation infrastructure serving governmental objectives ?



Results achieved 2007-2012



Sources: Ruter, SSB, Statens vegvesen

13-18 These are the toll cordon crossing. This is the yearly toll. We had some 240,000 crossings per year in Oslo. Some 50,000 in Akershus. We can see that over the period from 2007 to 2012 we have a 6% decrease over the toll ring. Not bad when you think about 8% population growth in the same period, or even more. In (inaudible 27:05) Akershus it's pretty stable. There is a policy also to increase the number of people who are walking and who are cycling. The results from 2007 up to today are that the level of cycling is still the same. A bit difficult in Oslo with the geography, the topography, with the climate to get a lot of people to bicycle but I think it's on the way up and there is a policy that it should be increased to 12% over the next few years. People who are walking, difficult to measure but still there seems to be an increase.

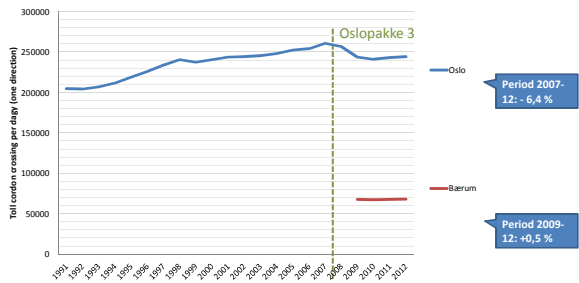
Also I would like to tell you that when we do this package like we did last year, we run a social economic benefit analysis. How does it look like? Where we carefully, we didn't make a 2013 reference case and then we look at what we plan to invest and we see the difference, and what we saw is that for one Kroner you invest, you get 2.43 back. That's a very, very good result.

The rest is, of course, effects, and I will just walk over it for you. We're working on regional planning. There is a lot of things you obtain by making transportation investments. Call it urban development, positive urban development effects, which we cannot calculate in the analytical work like what will happen? How do you improve the local area when you have made a tunnel or if you have made some over investments? Very difficult to put a price tag on it but we are sure there is a lot of effects that are undeveloped when we do the analytical work. In the future, as I mentioned on the bottom bullet point, we need more efficient way we use our area if we're going to success in the goals stipulated by the authorities.

At the end, very quickly, if you ask people now whether they access toll charges, yes. The number of people who are positive, the green on the bottom, almost 50% say yes, and you also see that if you tell people what we use the money for, this number of 49 increased dramatically. Toll cordon is a well established issue in Norway and I don't think there is any debate about it except for one political party which are in minority. Also, if you ask people are you happy with the standard of the public transportation in Norway, yes. 64% are quite happy and this is an up going trend and it's going to continue to be up going because a lot

of the money we use are used for public transportation. We have an obligation to use more than, at least 60% of the toll cordon funding for public transportation investments.

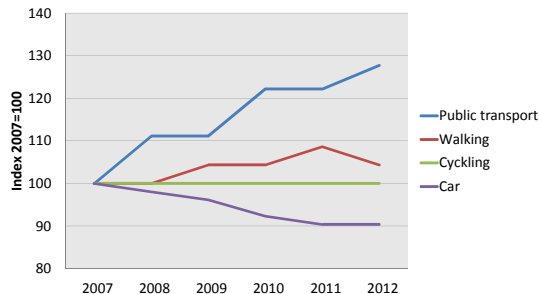
Toll cordon crossings



Source: Fjellinjen

13

Transport mode distribution – Oslo and Akershus Index 2007=100



Source: Ruter (MIS)

Socio-economic benefits

- **Public transport**
 - Improved public transport services (new services and increased efficiency/capacity)
 - 5-10 % increase in public transport journeys (more during rush hours)
 - Increased public transport vs private cars
- **Road traffic**
 - Reduced congestion on road networks, especially where measures are taken
 - 1-2 % reduction in car traffic
- **Reduced accident costs**
- **Reduced environmental costs**
- **Substantial socio-economic effects**



15

Benefits – not part of the socio-economic analysis

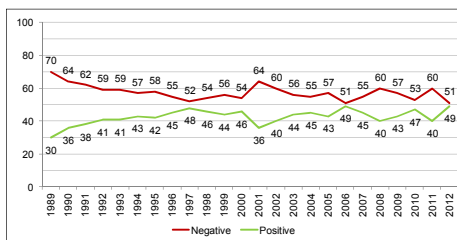
- Local road projects and programme areas yield:
 - positive cost-utility
 - quality improvements in infrastructure (environment, accessibility, traffic safety etc.)
 - improved standard of public transport services (stops, park-and-ride etc.)
 - Safer and easier cycling and walking
- Urban development effects from projects not part of the analysis (E18 Filipstad, E18 Vestkorridor, E6 Manglerud, Fornebubanen etc.)
- More efficient area developments, transportation nodes etc.



16

The percentage of positive answers is at the highest level

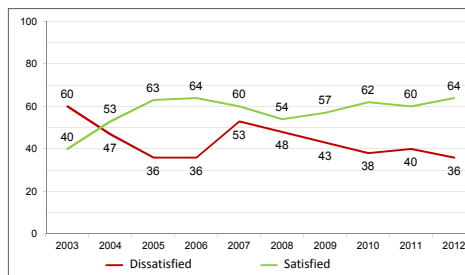
Q2: Do you think the introduction of toll in the Oslo area was a very negative, rather negative, rather positive, or very positive measure?



17

An increased number of people are satisfied with the standard of public transport services

Q8: How satisfied are you with the standard of public transport services in Oslo and Akershus? Are you...



18

19-21 So, just to conclude, we do believe that this corporation and the way we have invested in the Oslo Package 3 environment has been a very, very successful achievement. The four issues I mentioned in the beginning, the local initiative, the portfolio, the funding, and the organisation, well, those four are the important pillars why this has been successful and is going to continue to be so for the next 20 years. But we are not able with all this money, even the two parties, Oslo and Akershus put in more money by themselves to reach the target of zero emission.

We need help from the state but we also need that the politicians are willing, able, and capable to take unpopular political decisions regarding, for instance, parking policies, or the kinds of measure that are able to reduce road traffic going ahead if we want an urban sustainable life in Oslo and Akershus. If you think back of what I said, if you reflect on what was said by Mrs Bryce and Mr le Fevre, my two previous speakers, I think you see that the combination of the framework that Mrs Bryce presented and the concrete projects presented by Mr le Fevre, this is the result of both of it.

Oslo package 3 – major contribution to achieve governmental objectives

- Oslo package 3 cost-benefit analysis demonstrates very positive results
- Investments in public transport mode are effective
- Continued emphasis on cycling and walking required
- Road projects contribute to increased traffic safety
- Increased support in Oslo and Akershus for the use of toll charges

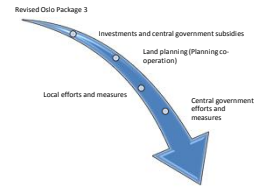


➔ ... but the environmental objectives require close interaction with other measures

19

Private transport by car– approaching zero growth?

- Measures within O3 not enough on their own. Need for:
 - Increased investments required
 - Central government subsidies
 - Increased operating subsidies for public transport (local and central government)
 - Co-ordinated ATP (planning co-operation)
 - Other measures, e.g. traffic control, restrictive parking policy and fees (local and central government)



20

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QUESTIONS?

Q1: I am very impressive for the ... Paris obtain it. I think that is very good in the reduce of the use of the car. But I have one question. There is some doubt between the politicians about this kind of constraints to the private cars now.

First of all, regarding electrical cars, real electrical cars do not pay toll charge in Oslo, and roughly what we see today is roughly 1% of the cars passing the toll cordon they are electrical cars. But that's pure electrical cars not the hybrid type of cars. 1%. We have some 300,000 passes a day so we talk about 3,000, roughly, with one exception. The only ones we can measure is the one who have this device in the car which is not obligatory. So, there might be a little bit higher figure but we can't measure that for the time being.

Regarding the private cars, all parties exception the real party to the right, have approved this zero policy. So, in the context that we will go from red green Government to, God knows, blue blue or blue green or something like that, that shouldn't change. It's the same goal. The new Government and the new Parliament have the same obligation as we had before the election. This is a commitment from all parties, basically, forming the majority. We have one, maybe you know, the really right wing party, (inaudible 34:28), Progress Party, they are against toll cordon but they are the only ones. So, I think they will have trouble being in Government and conveying that issue. The only issue we have had a debate about among the politicians is whether you should spend a lot of money improving the big road from Oslo to the West, which was the baby and the basis for the whole start up. Or should you reduce that investment and put it into new tunnels and new public transportation in tunnel. This is going to be the interesting issue to work with for the next 20 years, if I'm still here, maybe not.

Q2: Thank you very much for a very interesting presentation. I notice particularly two things and I'm an Oslo citizen, I should say that. You said that Oslo, probably, have the highest congestion in Europe. Could you expand a little bit on that and maybe even more interesting, if I understand you correctly, you said that the public transport system is full and I would agree to that particularly during peak hours. So, what are the plans for the public transport system for the future with this growing population and more and more jobs located in the city centre, for example?

First question about congestion, I'm not an expert but I think that statistic shows that Oslo is one of the worse cities in Europe during rush hours, and I think if you take a road from (inaudible 36:14) to (inaudible 36:16), all the way in from (inaudible 36:18) to Oslo during a morning, I think you stay there for approximately 45 minutes more than you should. The problem is that you can never build more roads to cope with a traffic jam because the more roads you build the more people will come. But the issue is that West of Oslo, what we have seen through our analysers is that the train itself cannot cope with the increase of number coming into Oslo with public transportation. So, we need to do something to create space for buses. In that context, the local municipality out there, they have also some ideas, some acclaims on how they should be made and the price is increasing almost everyday. Whether that will happen or not we shall see.

So, on the congestion, I don't have any good answer but I think there are two important things. First of all, you need to make it possible to go by public transportation from home to work in a reasonable number of time. So, people use that type of transportation. Secondly, urban planners, local and central governments need to start, more carefully, to plan use of area. Where do I locate business? Where do I locate people in order to get less transportation needed going forward? Is it possible to get people to live where they work? Is it possible to get people to stay outside of central Oslo during their time? Can we do anything about the need for transportation during the rush hour? Because the sad thing is that when I look at all the investments we make, half an hour after rush hour is gone all the tubes are empty.

So, what can we do to reduce the number of transportation need exactly during rush hours? That is a really key issue. I also said that public transportation is full, your second question. Today, the tube system in Oslo is not full. There are some 25% extra capacity here available but that will be filled up in the future. But there are certain buses, particularly buses that are so full that people don't get a chance to be transported to town in a reasonable manner. So, we need more capacity on buses but this is also in the plans going forward, and these are the issues that the administrative group and the steering group are working on all the time. Where shall we invest? What shall we invest, and how can we make the necessary plans which take time to cope with this in the future?

Q3: A very short question. If your main aim is to reduce congestion in rush hours, why do not you differentiate the price for the rush hours? This is like a holy cow in your presentation. That it must be the same. There are many countries in Europe, many cities which are making very sophisticated differentiation in toll charges according to time.

Yes, you're absolutely right also in Norway you have towns where we introduced rush hour pricing. The very short political answer today is that we need to invest in capacity in the public transportation first, then we do rush hour charging afterwards. And we do not ... it's unfair, I guess is the message from the politician, it's unfair to charge a rush hour price if you can't present the same person with a fair way to transport him or herself from home to work by using public transportation.

I think that this is an issue that we will discuss a lot and there is, of course, people who will suggest that we should change that policy but that is the political answer to your question.

Q4. My question is about the effect of the toll on housing price and employment location. Do you observe a shift of employment at the age of the toll ring and at the same time a sharper increase of housing price inside the ring from outside? Can you measure that?

The toll charge in Oslo is the same wherever you enter the city, it's the same whatever is the house price in different areas. We only look at how much money do we need to finance our activities. It's a very rough and rude answer but all these kind of elements around does not really account in the way we work. So the price is more a reflection about what it politically acceptable and there is a one price all over, even though house prices or other things go the way they go. In Oslo the house prices basically go up and have done so for almost as long as I have lived.

Can cities and their regions play a role towards a low carbon economy by facilitating the use of electric and hydrogen cars?

- **Marieke REIJALT**
Hyer

1-6 Can we play all, yes of course, thank you very much. I think that we all attend conferences where this topic is being presented or being discussed. We all have expectations, we all have maybe a few experiences in our cities. We, as in Hyer partnership that I still want to introduce then, together with a few examples that indeed we can play a role.

Our partnership has now 37 regions. In 2008 we established with 9 regions in a first collaboration to move actually the one part of electro mobility, fuel cells and hydrogen, closer into our communities. The first applications came to market, became a bit affordable and we would very much like to see where this impact that is being promised of these technologies will take us. So the first 9 were set up with support, political support not financial support of the European Commission and we started to collaborate in projects like the one in Oslo to implement the first transport applications, mostly fuel cell buses, fuel cell cars. The last regions and cities that have been joining us are actually not only looking to fuel cells and hydrogen because electro mobility as we understand it is electric powered trains, so fuel cell and battery powered transport applications.

Well what do we do? It's the obvious thing, what you do in a partnership you collect experiences, you collect data, to see what others are doing, to see what the technology is doing so that is what we have been doing since 2008. And indeed a lot more regions are getting interested in this topic and think that this can make a change and a contribution. We became just a few months ago, the European Electro Mobility Observatory and I will share some of the results of our first surveys. Then with that knowledge and with the experiences of course you want to create programmes that facilitate these next steps. It's great to try the buses, five buses here, five cars there, five fuel cell installations to power five buildings but what's next? And I think that is the question that we have to ask ourselves seriously in, indeed already, the coming months.



As the European Commission, European institutions are planning for another financial cycle, this will be the period where these applications will come to market. Battery and fuel cell cars, battery cars, for example, are already more market ready than fuel cell cars price wise. I think the technology of fuel cell cars is also very close to being a normal car with a special infrastructure.

But commercialisation is planned in 2015 and that will be just one year into the next financial cycle of the Commission. So funding programmes and policy text need to start to include this technology if we want to be serious on larger scale rollout and not the hundreds of cars that we see now. Well then with the knowledge and with the programmes we need to actually start doing it. These are technologies where none of us have any experience in rolling out larger scale hydrogen infrastructure or recharging infrastructure. Parking these cars, repairing these cars, selling these cars, selling second hand of these cars. So there is, in the transport part, already a lot we need to start taking into account if we talk bigger numbers. But the same is true for the stationary applications and the use of batteries and hydrogen as a storage and balancing solution in our future smart city networks.

Well what is going on? This observatory collects all the experiences that are currently undertaken by different national and regional project coordinators in this field. Again it's mostly battery car experience what we are collecting but in 2012 we came together with the Commission in establishing at least an entity that would be seen as a bit impartial collecting the real experiences that are happening at local level.

HyER Hydrogen, fuel cells and Electro-mobility in European Regions

Can cities and their regions play a role towards a low carbon economy by facilitating the use of electric and hydrogen cars?

Marieke Reijalt
HyER

Metrex, Oslo, 20 September 2013

HyER

Can cities and their regions play a role towards a low carbon economy by facilitating the use of electric and hydrogen cars?

Yes, of course.

Thank you for your attention.

Structure

1. HyER Action points: Connecting the dots ...
2. Monitoring progress and best practice ...
3. HyER's EU project involvement ...
4. Development EU Support Framework ...
5. Robust deployment channels ...

HyER at a glance

Membership increase: 2008 (9) < 2013 (40)

Population: 115 mln

GDP: 363 bln

New members joining in 2013

Aberdeen
Scotland
Riga
Berlin
Valencia

Source : EEO

HyER Action points

- 1. Facilitate fact-based policy recommendations**
to inform decision-makers on state of the art of advanced technologies based on latest stage project and technology findings.
- 2. Develop European support framework**
to provide local authorities with a long-term financial framework to support technology deployment by liaising with relevant European financial institutions.
- 3. Compile robust market introduction plans**
to support industrial planning based on proven regional action plans for sustainable market roll-out and technology introduction by evaluating and developing members individual development plans.

European Electro-mobility Observatory

- > EEO was set up in 2012 with the support of HyER member regions and EC
- > EEO's role is mentioned in CPT directive (2013):
" ..facilitate information exchange and coordinated regional action across the EU .."
- > EEO is designed to
 - > answer key questions on drives and support schemes as well as compile learning from best practices across Europe;
 - > identify robust deployment channels based on specific local conditions;
 - > become a major tool for policymakers at all levels:
 - monitoring infrastructure planning across Europe
 - analysing data and providing policy recommendations

EEO Partners:

7-12 The EEO is designed to facilitate the policy recommendations based on the facts that we see in conducting these projects. So in most cases projects do collect their own experiences, their own data, sometimes it's in a project and shared and it is collected and also internally published but it's not always easy to get the right data and also the comparable data from these projects and from national programmes to really already take some conclusions. Well what we did so far was, of course mainly collect the expectations towards this new portal so you will, in the EU. We already have some portals that provide information on the models, the clean vehicle portal of the EU is of course a tool that you can already use to select your models in this field.

But on another note the expectations towards indeed business development in infrastructure and in infrastructure build up is becoming a big focus now that the Commission is trying to finalise its proposal process of the clean power for transport package and the directive that is now being prepared. To indeed come to some kind of capacity building of refuelling stations and recharging points for hydrogen and battery recharging. So in the first phase we have really collected with workshops, with interviews, the first ideas and these first findings also led to some preliminary recommendations towards this clean power for transport package. And we were very glad that the upper tier of the European Parliament accepted some of these recommendations and one more in particular that this effort of building alternative fuels infrastructure should happen in collaboration with member states, regions and cities.

In the regional texts of the commissions we saw, as you probably know, mostly member state effort but we do know that the actual work of course takes place in a much smaller community. The last EEO workshop that was really interesting, we also presented a lot of business cases for infrastructure development, recharging development in cities and with specific programmes that are designed at national level. And some of the working business models were shared there as well, we can share more information with you also on our website and intranet that we have.

Well the meaning of the EEO, this is a bit of what our people expecting of this, these observatories of course in all fields are well known. It's understood by different regions, also sometimes in a bit of different way but the challenge that we have is really to make this EU wide. In a lot of countries and cities we already

have great experiences including in Oslo who is by far a front runner in number of vehicles and recharging stations in Europe. But in a lot, maybe half, of Europe, not so much is happening and the question really is well what are expectations? Is it indeed a certain market that OEMs, car manufacturers need to address first in order to make it a commercial business model? Or can we think of a bit more facilitated rollout and equal rollout in the whole of Europe? Because we want to have at least a user's impression that we might go anywhere with these cars, even when range with batteries is still a challenge.

With fuel cell cars you can actually cover quite a bit of normal range that we are used to in current and conventional cars. Well the main topics then for workshops that we are ... and that is maybe something to think about and discuss also in organisations like yourselves. The main aspects of this integration of technologies that came out of the surveys we did and we had about, over 100 responses now of very targeted players in this field. What we see, and also discussions yesterday in our own board, is that the industrial, local industrial, impact of integrating these technologies is becoming more prominent now that we are talking about indeed, can those technologies make a difference in our cities? Yes we think they can.

But what is indeed the further impact, will they all come from different countries, will they all be repaired by franchises of companies that come from other countries and even continents as well? Or is there a possibility to develop some home industry? We have seen some very courageous efforts in our regions but Patoucaront is a good example in France. It's the region of Zigolem Royale, I think that's what the region is probably most known for by people who don't know the particular electro mobility situation too much. But this region decided to indeed embark on supporting their industry in making a switch to electro mobility industry support.

So in a few years time this region became the location of quite important recharge infrastructure manufacturers that are currently installing their systems in the city of Paris. But this region really transformed part of its industry to a budding technology where it was not even clear what that could become. It is seen as a front runner and still is and even developed its own Mia vehicle that indeed faces challenges to find a place on the market, although there are a lot of different successful integration of new vehicles already. But this

type of initiatives also a partnership like ours and in a community of regions, should support internally this kind of effort if it shows some economy viability.

So this topic is definitely becoming more prominent, only then saying yeah it's nice to drive a car and copy each other's incentives like parking facilities or tax reductions. So the next events where we present a bit more and support the Commission in further convincing member states also that this is a good idea, because targets and numbers in the future are, of course, not an easy thing to discuss with member states. But we have planned quite a number of presentations in different areas of electro mobility development, including the buses and of course we hope to be here also in the clean power ... the regions for clean ... regions power for clean transport which I think is a very nice title for the conference in the end of October.

Well the project involvement, just quickly, also to give you an idea of the other and history of these fuel cell bus projects, I thought here in Oslo of course it's nice to know that these projects have been happening in Europe since 2003. There have been locations of the first buses, of course these bus developments go into cycles, there's an old fire, bad time, maybe even a next one still. But the first Scandinavian project in fuel cell vehicles that was supported in the big joint undertaking programme of the Commission for hydrogen and fuel cells that started in the last financial cycle in 2007. Supported by the EU, proved indeed that in Oslo with the first fuel cell cars, you can envision how it would look like a little bit. There were quite a number, at least at this stage, cars also using the different refuelling infrastructures here and even a big road tour starting from Oslo was developed together with the Scandinavian partners.

EEO – so far

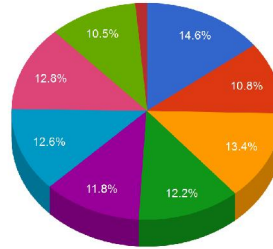


1. A survey to collect regional/local government needs and expectations with respect to monitoring, information exchange and EEO support
2. Map of main European electromobility (related) programs and projects, including monitoring initiatives. National data sheets for 6 EU countries
3. Web-based Monitoring Framework for EEO data collection
4. Cooperation with the Clean Vehicle Portal (CVP) and the Electric Vehicles Initiative (EVI)
5. First EEO workshop: launch EEO activities and get first input from stakeholders
6. Presentation of first findings in a parliamentary hearing about the CPT initiative
7. Second EEO workshop on business models for infrastructure

EEO – Needs and expectations



Suggested important functions of the EEO

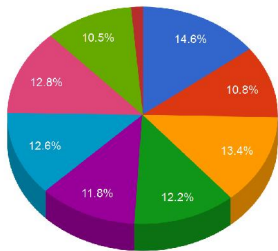


- Up to date and objective insight into progress and trends on deployment of electro-mobility
- Reliable information which allows comparison of own progress compared to others
- Comprehensive overview of financial and non-financial policy measures
- Overview of topics that must be addressed based on bottlenecks from practical experiences
- Comprehensive overview of current and recent projects with similar scope and objectives
- Dedicated platform for exchanging knowledge and experiences with other projects
- Joining of forces to develop recommendations for European, national ...
- Specific network offering opportunities for joint development and implementation of ...
- Other ... (please specify)

EEO – meaning



Suggested important functions of the EEO

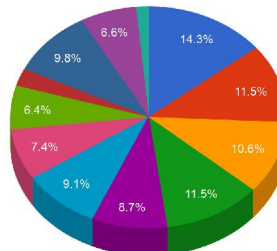


- what's new? keep me posted!
- am I doing alright?
- should I use financial stimuli?
- which problems do you guys run into?
- are you trying to do the same?
- sharing stuff with my peers
- let's stick together (come on, come on...)
- united we stand
- they haven't thought of this yet...

EEO – Needs and expectations



Suggested areas with need for exchange of knowledge and experience



- Deployment strategies, and policy measures and incentives to support deployment
- Environmental and sustainability aspects of electric vehicles, including energy provision
- Total cost of ownership and new concepts for mobility in relation to electric vehicles
- Business models and business cases for energy delivery infrastructures
- Job creation and economic potential of electro-mobility
- Social acceptance, and consumer behavior related to electric vehicles and energy delivery
- Performance of electric vehicles, and status and outlook of key technologies
- Performance of energy delivery infrastructures, and status and outlook of key technologies
- Safety aspects of electric vehicles and related regulations, codes and standards for electric vehicles
- Interaction between electro-mobility and related technologies
- Other ... (please specify)

European Electro-mobility Observatory



- Website updated
 - New functionalities
 - More user-friendly
 - More soon!

EEO present at:

- Two wheels event, Brussels – 18 Sept
- "On the Road to Alternative Transport Fuels: Strategies for Overcoming Market Failures", European Parliament, Brussels – 26 Sept
- Open Days: European regions and cities empowering electromobility – 8 Oct
- Busworld Kortrijk – 18-23 Oct
- Clean Power for Transport Conference – 21 Oct
- Ten-T Days – 15-18 Oct

Fact based policy making - Project involvement



HyER involvement in the EU Fuel Cell and Hydrogen Joint Undertaking (FCH JU) as partner/co-financer of projects:

- 1st Call** H2 moves Scandinavia (FC passenger cars) HyER facilitates European road shows across several European regions (dissemination through local events).
- 2nd Call** CHIC (FC hybrid buses) HyER coordinates general and targeted dissemination in 6 regions in Europe.
- 3rd Call** High V.LO City (FC hybrid buses) HyTEC (taxis and scooters) HyER is a dissemination partner in two fuel cell vehicles demo projects: one for buses and one for taxis and scooters.
- 4th Call** HyTransit (FC hybrid intercity buses) ene.field (FC stationary) HyER is a dissemination partner in a FC bus demo project and a FC mCHP demo project proposal.

13-18 Well CHIC the programme Oslo is participating in now, the clean Hydrogen in European Cities project is actually having five locations. I go a bit more into detail into CHIC. And then in the subsequent calls of this programme, the joint undertaking, we saw another two bus projects and projects on taxis and scooters and some stationary projects that Hyer is involved in. Well the other aspect of our work indeed on the clean power for transport I've mentioned, what the Commission seek now and what I want to point out here, which we experience indeed as the most difficult to challenge at this stage because it all needs to happen so fast and we can't keep on saying that it's coming. At some point, also consumers need to see that indeed they are on the streets but standards of course is a big thing that is addressed though in this clean power for transport package.

It's really indicated now or never, we need to get our act together in harmonising our standards. So that is happening fast, also fuel cell cars now you can go to certification, the process is at local level, when you buy a car, that is all now set. It's not different in every EU country, European country is it the same procedure. But there is indeed a challenge and I don't think that we mentioned this enough, that there is this expectation gap of when vehicle manufacturers are really going all out to promote this and also having an opportunity then to reduce prices and match that with infrastructure development.

As I said, we don't have experience in doing this, there was no century where there was another example of electric car development. So there is little experience in this and then of course you need to align regional, national, authorities to leverage the incentives and the funding. But also a big challenge is still on the final users, not all cities like this influx of smaller cars into their cities. That is apart from emission reduction, congestion wise, not always a good idea. So in order to address this you need a lot of exchange and a lot of experience in cities and sharing the experiences of cities like Oslo where the numbers now really become interesting and where you can see the impact on these different challenges a bit better.

Well the policy actions, I don't want to go much in too detail on this. It is interesting though when you look at the different scenarios that are always billed in these kind of proposals of the EU. It is a bit small but I leave my presentation here. If you look at the most stringent policy option where we would go all

out for all alternative fuel, to build the infrastructure by 2020, we spend almost as much as we would save in oil input. And at our annual general meeting last June, one of the smaller regions even was mentioning this point as an argument towards new political leaders in their region that, again, needed to be informed about the technologies like fuel cell and hydrogen.

So there is only a slight difference, we talk billions now in Europe quite more easily than a few years ago. There is still a difference but the gap is not that we say well is this indeed a huge challenge financial wise? For the different objectives in the clean transport, I leave you with the information on the targets, we have to see, I think my own country, the Netherlands, and Germany have surprisingly quite a bit of question marks on this because Germany would, of course, benefit with some ambitious targets for their industry. The Netherlands is almost there with their target already but, indeed, there need to be kind of a harmonised approach, I think that is the main issue and that is true.

This is the current refuelling situation in Europe. So we try to connect the dots in aligning infrastructure along the ten key corridors. I want to mention that for us the EU energy technologies and innovation package that has been presented with regards to the smart networks and storage opportunities to link these electricity and hydrogen dependent technologies to the smarter energy networks, that is now being understood.

Clean Power for Transport Communication

EC has identified two main causes for lack of alternative fuel infrastructure:

1. The technology is substantially mature but the **standards are not common EU-wide**, thereby discouraging potential infrastructure investors, car manufacturers and consumers.
2. The co-ordination failure among vehicle manufactures, infrastructure providers, national authorities and final users **must be addressed**. Initiatives addressed at promoting infrastructure appear necessary to break this deadlock.

Among others "the Commission will facilitate information exchange and coordinated regional action across the EU with the European Electromobility Observatory."

Clean Power for Transport (COM 2013/17)

Three policy options:

1. **No additional policy intervention**; current legislative initiatives, national announcements for the deployment of infrastructure, and continuation of previous EU and Member States' programmes and incentives;
2. EU to issue **recommendations on the application of standards and recommendations on basic criteria and indicative targets** for all alternative fuels.
3. EU to set out **requirements for alternative fuels infrastructure** for Member States. Also basic criteria for **minimum infrastructure coverage; binding targets** for the most mature fuel technologies (electricity, and LNG for waterborne transport). For **hydrogen and natural gas (LNG and CNG) for road transport, the targets would be indicative**.

Clean Power for Transport – Investment costs

Table 3: Estimated investments costs under each Policy Option²

	Number of additional charging points/fuelling stations thousands	Policy Option 2	Policy Option 3	Policy Option 4
<i>Million €</i>				
Electricity				
(Total)	8,000	3,984	7,968	7,968
of 90% private	7,200	1,872	3,744	3,744
of 10% publicly accessible	800	2,112	4,224	4,224
Hydrogen	0.143	-	230	230
LNG for vessels	0.139	1,140	2,085	2,085
LNG for trucks	0.144	-	58	58
CNG for vehicles	0.654	-	164	164
Estimated investment costs of infrastructure deployment		5,124	10,053	10,505
Estimated retrofitting costs		-	45 - 50	90 - 100
Estimated total investments costs		5,124	10,103	10,605

"Avoided fuel use increases progressively over the decades 2010-2030 from about €610 million per year in 2020 to about €9.3 bn per year in 2030 under Policy Option 4".

Clean Power for Transport: objectives 2020

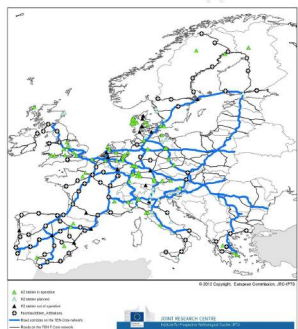
FCEV Infrastructure Objective

- Existing hydrogen refuelling stations are connected via the TEN-T Core Network with a maximum distance of 300 km between stations by 2020.
- For hydrogen, a first step towards market opening would require linking existing and planned refuelling stations

BEV Infrastructure Objectives

- EU benchmark number of 4 million EVs on the road in the EU by 2020
- The number of recharging points for EVs reaches at least 10% publicly accessible
- Market tests have shown that each EV needs two recharging points (at home and at work), and about 10% of all publicly accessible

H2 refuelling stations in Europe



Energy technologies and Innovation

- On 2 May 2013, the European Commission published its **Communication on energy technologies and innovation COM (2013) 253**
- An Integrated Roadmap** should be developed, under the guidance of the SET Plan Steering Group, incorporating the key principles and measures identified in this Communication: consolidate the (up dated) technology roadmaps of the SET Plan while retaining the technology specificities; cover the entire research and innovation chain from basic research to demonstration and market roll-out
- Member States and the Commission should develop an **Action Plan on coordinated and/or joint investments by mid-2014**, by individual Member States, between Member States and with the EU that go beyond grant programmes and include financial engineering instruments and procurements
- The Action Plan will contain **different modes of implementation** such as alignment of Member States and EC funding on priorities identified in the integrated roadmap and joint investments between Member States or/and with the European Union

19-24 We still need to develop the larger plans in this and therefore this road map for energy storage that is now available also on our website that we developed with other organisations in industry this spring, to find out indeed what kind of storage technologies would be the most intelligent to build. Also with regard to the changes in transport applications.

Well the robust deployment channels, I just want to mention again the CHIC project more in detail just to show you that still I think the station is the most beautiful, especially at night. It has a blue bloom, to the left ... I don't know if you have visited it, maybe in this context, but it's really a high tech site and I've heard today that it's indeed 100% available which is for the whole setting. So we know that hydrogen stations 10 years ago were not really built yet. It was electrolysis producing hydrogen in these quantities in those settings is quite amazing.

Then also the buses were used, now we hope to have the possibility to continue this experience in Davos, the buses are used at the world economic forum. Every edition from last year on will see the yellow buses, together with the black limousines in the streets of Davos. So in June the buses that are used in the Tugrik region in the CHIC project will indeed be part of the organisation there and the transport in the city. Well this is a bit more the details on this project. Indeed, all locations need to have two stations, not only in their bus depot but also outside to increase a bit the infrastructure locally.

Many partners and we are currently preparing the next phase with around 14 cities in Europe that would like to integrate these buses in the near term as well. As you can see the Oslo buses are now five since May, also a very nice launch last May. In London they are doing the centre route, so they are circling the centre of London, also visiting all the main attractions in London but as a normal bus service. So since 2010 these buses are driving every day the normal bus route and it's really nice also when you are involved in these projects, some time to just walk out of Victoria station, go to the bus stop and seeing a fuel cell bus stop at the bus stop. It's not that common yet but that it's happening and that it's working in daily operations will show these buses in the near future a lot more.

I leave you with a few details still on CHIC and the proud Mr Shwap of the Davos organisation and I want to thank you very much for your attention and I hope with some of the metric

cities to indeed answer this question that I was asked to answer a little bit in the near future.

EU Roadmap for energy storage 2030

17 April 2013, the European Association for the Storage of Energy (EASE) launched the Recommendations for a European Energy Storage Technology Development Roadmap towards 2030



Deployment channels for FC and E-Buses



Clean Hydrogen in European Cities

- **26 fuel cell buses** operated in 5 Phase 1 cities; together with the Phase 0 cities **more than 55 buses** in operation;
- **3 different bus manufacturers** in the Phase 1 cities;
- **2 refuelling stations** per Phase 1 city (one existing & one new station);
- **25 partners** from 9 countries

Visit: www.chic-project.eu
 Email: h2businfo@chic-project.eu



Duration: April 2012 - December 2016
Total budget: €81.8 m
EU Contribution (FCH JU): €26 m

Clean Hydrogen in European Cities

- **Oslo:** 5 FCH buses and a new H2 station since 2012. Buses increased operation hours in April 2013!
- **London:** 5 buses have been operating on main route (RV1) for over 3 years. Another 3 buses will be added this summer.
- **Aargau:** 5 buses are operating around Brugg. Buses participated in WEF 2013, Davos and in UITP exhibition this year.
- 3 Buses and one refuelling station are being tested in **Milan**.
- **5 buses have arrived in Bolzano.** H2 refuelling station is being set up and tested.



Clean Hydrogen in European Cities

- **Report on authorisation procedures** for H2 infrastructures collecting experiences from phase 0 and phase 1 cities.
- **The bus study on alternative powertrains** (FCH JU, Dec. 2012): FCH bus offers best performance in range and refuelling times. The purchase cost of the bus can be reduced by 53% by 2030.
- Presence at **main events: World Economic Forum in Davos** (Jan. 2013), the **UITP exhibition** (May 2013), International Workshop, (16-17 Oct. 2013), **World Electric Vehicle Symposium & Exhibition (EVS27)**, (17-20 November).
- HyER regions to organise phase 2 workshops to discuss the roll out.
- **The CHIC intermediate conference** will take place on 8 October in Brussels during the Open Days: update on the main project outcomes and experience of cities experience that have joined the fuel cell bus city network supported by the FCH JU.



Clean Power to European Regions and Cities!

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 House of the European Cities, Municipalities and Regions
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QUESTIONS?

Q1. I have one question related to technology development and also private/public partnership and industry interest in developing this. Hydrogen, can you say something about, we are now in a very early period with developing hydrogen, at the same time I understood at the International Energy Agency that this commercial phase, when will it be commercialised on a commercial basis? And how is the development of costs? Because like the situation is now it's rather expensive to create the infrastructure with the stations. And as I have experienced it it's ... with the time of perspectives we are in a situation where this is a functional market. We have to have some kind of more active role as public institutions. Could you say something about the development phase, what's happening now, related to costs? The CHIC project with the stations, the station you've shown here at Ros Nom in Akershus and the five buses had a cost in from Oslo and Akershus around €20 million, as I remember. Could you say something about that? Because it's rather important and as I discovered the industry aren't really there yet. Can you have some comments on that please?

Yes. Well first of all I think of course regions as Akershus and in cities like Oslo, in implementing these technologies are taking a big step. Although OEMs are now showing their commitment, actually since a few years. In 2009, all the main car manufacturers with regards to fuel cell development of fuel cell cars, came together and had a common press release that by 2015 they would come with the first commercial cars and it is still the plan. Most of these manufacturers that signed that press release are still on the 2015 timeline and that might be 2016, some say in 2017. Now they have a better model than they thought they would have in 2009 for 2015.

So there might be slight changes but the commitment is still there and what we see, what is definitely an interesting sign, that the car companies in 2008 came to the European Commission in the time of crisis that something needed to happen. Then a 4 billion package for the car industry was approved of which 1 billion was for clean car development and a lot of that 1 billion clean car development went to battery cars. So we saw a big influx and a big interest building in battery cars, again which we already experienced in the '90s. But fuel cell car investment continued which is still the more expensive technology.

What we see with bus development is ... I mentioned the CHIC project and these three other projects. There is a constant stream of proposals now, there is some EU money to develop these kind of local bus projects and even with slight increase in numbers in these projects, because there are 25, 26 in the CHIC project and in other projects we added 15, another 5, another 20 in a most recent proposal. You see in these three years times that we now have been running these projects in the current setting of EU funding that the price has come down half. So with these numbers and these kind of economic figures, you can expect indeed in the coming years a bigger influx. Because if the price of your bus, with subsidies still, is closing in on the diesel hybrid and the technology proves itself in daily operation, then it will be very difficult to decide for conventional technology still in the years to come.

So in our communities of regions and indeed also here in times of crisis, we saw a fourfold increase in our membership over the last four years, and in the beginning mostly on hydrogen and fuel cell interest. Now because of the developments in battery electric and infrastructure needs, we see that the colleagues who are interested in their cities and regions to develop fuel cell cars, of course, are also interested in battery car and recharging are also in charge of battery car and recharging development. So these aspects of technology implementation and development show that indeed the path is towards commercialisation and the path is towards the first thousand of vehicles on the road in the next financial cycle.

So there will be a change definitely in visibility and in impact of these cars on local transport and also energy systems because that's another very interesting, also economic aspect I think. Yeah.

Integration between business and urban development

- Per RIISOM
Nordic City Network

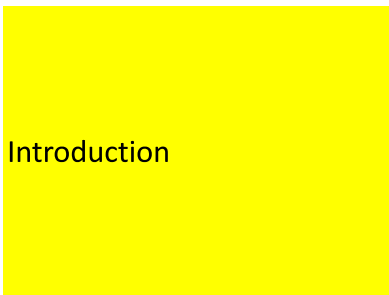
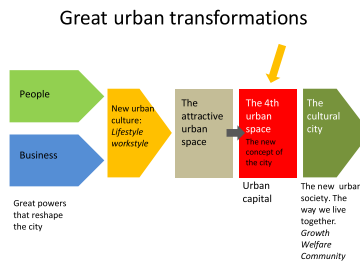
1-9 I am the director of Nordic City Network as you heard and the Nordic City Network is a network of 20 big Nordic cities and if you take the population of our cities and the cities around then we have almost 40% of the Nordic population. Our ambition is to develop the next urban society in our part of the world. I will talk to you about the force urban space, it's a brand new combination of businesses and cities. It's about integration between business and urban development. I will talk about new urban companies, new urban spaces and what I call urban capital.

The force urban space is a new reality but it is a reality if it's almost out there everywhere. If you (inaudible 0:39:40.1) public square, the spaces in between. People and businesses create a new urban culture and lifestyle and new urban spaces. Human capital is the driving factor ...

The economic value of these new developments and structures is at least 1.5. So, we are talking about billions of Euros. You can read more about it in a book by Edward Glaeser, 'Triumph of the City'. What is happening out there? Let's take a look. I have some examples from this development. I will talk about and it comes in many forms.



Per RIISOM / 1-9



10-18 Attractive urban spaces. New urban companies, lots of them. More new urban companies. New ways of working everywhere. Open buildings and offices. The fourth open space in the making. An example, a young company in the media industry moved from campus outside the city to the city centre.

Why? "What does the city, the place, what does it mean to your company?", I asked the manager. He said, "Nothing at all. It doesn't mean anything. Remember, we are a global company. We have business partners all over the world. The place means nothing", he said.

Then I asked how the company worked and how they got new ideas. He kept talking for an hour. It was very interesting and when he stopped I put the same questions before him. Said "What does the city environment and the place quality mean your company?" Now he said "Everything." From nothing to everything in just an hour.

You see, he didn't know what he actually knew. That's hidden knowledge. Work and transformation. Before 19% of the work took place in production, in the factory of course. 10% was to learn to conduct the machinery. Now, in the age of the post industrial society, 90% of the work is about finding new ideas and concepts, to develop new products and only 10% is still production.

You can find new ideas everywhere. Singing in the rain, new concepts can be found outside the company and that's what we are doing; working everywhere. The innovative businesses have a lot of different workplaces, not only in the company but in the city, the café, at home, on the bus, in the shower, everywhere.

As we will see, the attracting urban spaces contributes to new urban workplaces and companies. And, together they create the fourth urban space; the innovative city. The new urban company has an urban business model; openness, openness, openness. The company as a city, the city as a company you could say.

Per RIISOM / 10-18



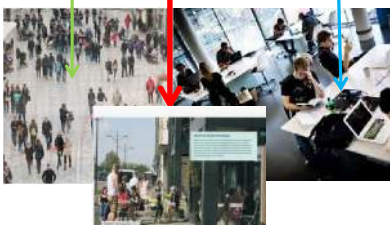
Open buildings and offices



Work - in transformation



The attractive urban space and the urban company is creating the 4th urban space



Urban spaces



1 The attractive urban space



The attractive urban space – mainstream A stepstone - move forward



19-27 There are four new urban spaces to deal with. I will concentrate on the innovative one. In the following I will talk about three things; the attractive urban space, new urban companies and the fourth urban space.

The evolution of human capital creates the attractive urban space. Examples. All over the world, in every city, you find these new spaces but it's also mainstream. The driving forces behind urban spaces, the attractive urban space, is human capital. People as subjects, not as objects. The power of consumption, sex and ideality.

The result is massive investment all over. Modern lifestyle, experience and consumption, (hedonism 0:04:44) and new urban workforce. The dynamics of human capital, the new middle class, is transforming urban life and space. Learning from urban lifestyles creates new urban work styles. The new urban workforce, it's about attracting new urban people and they become attractive workers to new urban businesses.

The dynamics of urban capital I won't go into, this you can read it later if you want, but it's a very complex development that you can study here. New urban workplaces. New ways of working in the making. Look for yourselves, new working styles. Examples. New workplace in urban setting; many, many examples all over. What we see are new urban models but, do we really understand what is happening? I don't think so.

They are clever (inaudible 0:06:11). They did not understand what they were doing but they did it. Companies are people and people are companies. People work in offices and outside. 50% of all workplaces in an ordinary office building are not in use. Are the people not working? Yes, they are but they don't do it in the office.

Per RIISOM / 19-27

Human capital - attractive urban space



Urban lifestyle

learning

Urban workstyle

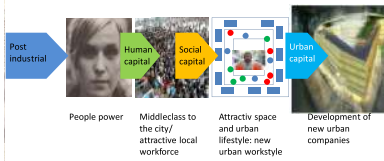
New attractive urban spaces, attracts new urban people! And they become attractive workers in new urban businesses

The attractive urban space promote urban business

- 1) a lokal high performance workforce
- 2) urban facility and new urban arena for new urban lifestyle
- 3) urban lifestyle promote a new urban workstyle.

The dynamics of urban capital

New capitals at work



2 New urban workplaces

New ways of working

NUW
new urban workplaces and companies

New urban workplaces and companies

Public space in the company

Inside/outside

Unilever Hamburg

Work everywhere

The best officebuilding in the world 2009

28 -36 What we see is new office places based on human capital. New organisation. New stimulating environment. New urban office buildings. New workplaces, urban localisations and so on. 'Triumph of the City', as I mentioned before. The Malmö Discovery, most workplaces in Malmö were earlier placed in traditional business areas. 15 years later the opposite, most workplaces had moved to the city centre.

A pure revolution in business localisation from outside to inside the city. What has happened? What are they doing? Fun or business? The Economist, the network company, the article here is based on American experiences. Businesses are opening up and are integrating with other companies and within the city itself. (Novartis 0:07:56) is a case. Diabetes care, world leading medical innovation.

How do they innovate new products? How do they find radical new ideas? The formula is the fourth innovation space, as you can see here. Another example from Trondheim, the health campus of Trondheim. An example of a new network business organisation practices and urban business model, learn from this outstanding new urban business concepts.

More examples. The (Bochuist 0:08:42) in Copenhagen for example and the Media Evolution City in Malmö. The Media Evolution City in Malmö, you can see the new workplace here, and the principle of the centre is shown here. It's a network of - it's a meeting place with network business units and they are all related to this meeting place. I can show you what is happening in another way.

Human capital based workplace/company

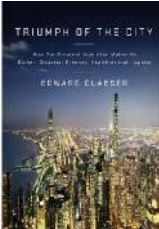


- New organisation
- New stimulating environment
- New urban officebuildings
- New work places
- Urban locations
- New working model
- Self management
- The company as a servicecenter for creative people

'The wealth of cities'

Business productivity is much higher in great cities

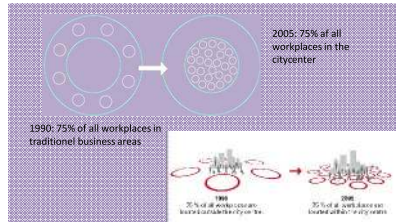
The urban surplus is at least + 50 %



There is money in city development

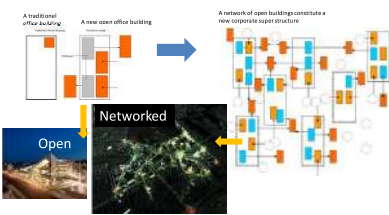
The Malmö discovery

Innovative companies moves to the citycenter

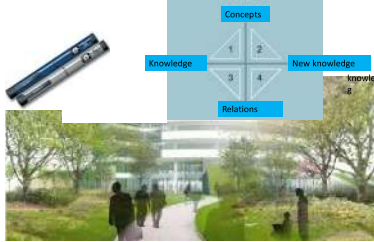


The Economist

Openness, connectivity and intrgration – a megatrend



Novo Nordisk – innovation model
the 4th innovative space



HealthCampus Trondheim

The networked business-urban environment



Connecting People

New urban workplaces in the city



The Bryghus project – an open workplace, Copenhagen

Public space in the building

Media Evolution City, Malma

Break through!

How the attractive urban space, facilities and lifestyle attracts companies to the city



Attractive urban space, Urban facilities, Urban companies



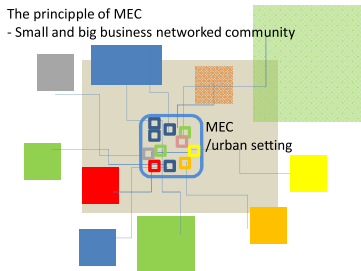
Media Evolution City Malmö

37 -45 Here you see a traditional company and it is developing in four steps. First you have this traditional organisation. Then you have the situation where people are working elsewhere, not only in the company. You also have network companies, where one business is connected to other businesses that work together. If you combine that you have a new structure of the urban company.

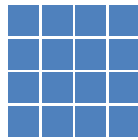
If you have lots of urban companies like this, then you have a much complex integrated workplace structure in the city. This will transform the city. Now, we come to the fourth urban space. The space in-between, it's an old idea but it has a new meaning. Where do you get your best ideas? In the office? When you're paying for it? In the business meeting? Maybe. But, also in the bath, in the car, train, café, in the woods, stimulating places and moments.

You have to make space and time to new ideas. Face to face, the fourth urban space is working in many forms. How do we facilitate culturally, organisational, physical? That's a question. We have to develop the competence of the space in-between. Do you remember the fourth innovative space at (Novartis 0:11:15), as I mentioned before?

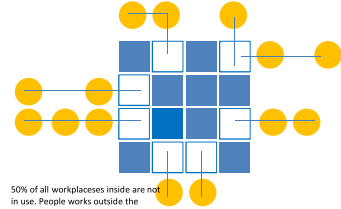
Per RIISOM / 37-45



Transformation of the traditional company – in 4 steps

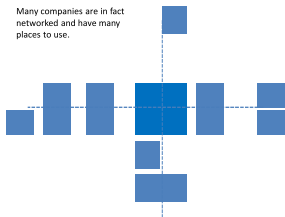


1) Workplaces inside and outside



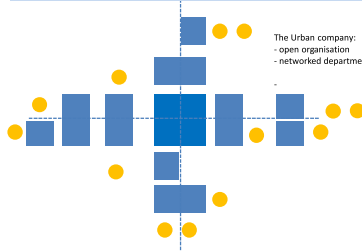
2) Networked companies

Many companies are in fact networked and have many places to use.



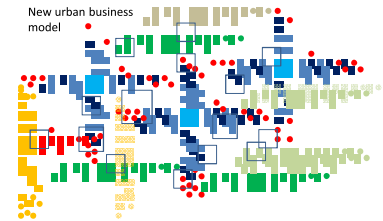
3) Combined urban company

The Urban company:
- open organisation
- networked department



4) Complexes integrated workplaces

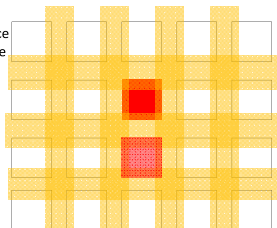
New urban business model



3 The 4th urban space

The power of the space in between

Competence of the space in between



The office The square

The 4th urban space: corporate /urban hyperspace

Connecting People
Connected ideas
Open
Informal
Casual
Useable
Think space
Idea generator
Space in between
Pause
In the meantime
Something in between
Difference

46- 54 Many great ideas rise in the space in-between. This is the fourth urban space between the private office and the public square, as shown over there. The fourth urban space comes in different times, forms and locations. The external, internal and the hybrid one. I will show you some examples.

Here you see the external public type of the fourth urban space. Here you see external private types. Internal private but open to people. Private invited openness, in and out. And, another example. You can see here private public workplaces in the park. That's a (inaudible 0:12:21) invention. We see many models in modern architecture these days. They are trying to integrate the public space and the private space to make more innovative spaces, as you can see.

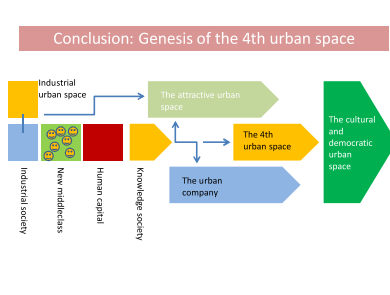
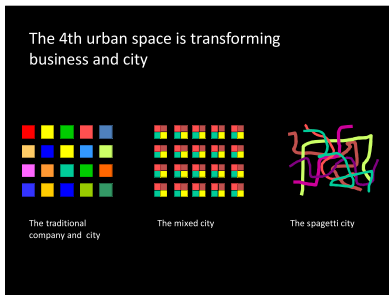
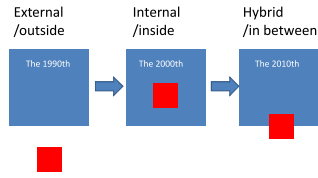
Visions of the fourth urban space. In the meantime, the future perspective of the fourth urban space. You can illustrated in this way, from the traditional city and companies to the left, through the mixed city and urban network companies in the middle and then through the spaghetti city, where it all sums up in a new construction.

The conclusion about the fourth urban space, this is a picture of the genesis of the fourth urban space. It's a little complicated, so I won't go into and explain but you can see it if you want afterwards. But, a driving factor is the human capital transforming through urban capital and so on.

I have a picture here from Barcelona. The great transformation of Barcelona, as a world leading innovative city, started with the establishment of the democratic urban space after years of dictatorship. So, democratic and innovative development is part of the same development. What shall we do? Conclusion: urban power, the new driver in business development.

Per RIISOM / 46-54

Generations of 4th urban spaces



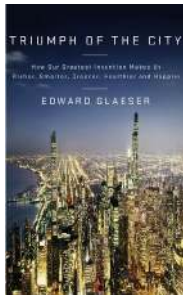
55-62 Nordic City has four indicators of regional and urban economic growth; human resources, up starters, innovation and new technology. Now we can put another one in through this, urban power. The urban capital. The fourth urban space and the urban company, they are already here. They are in the midst of developing, so you have to see, to learn, to understand and to promote.

It's easy in that way because you just have to see, you have to map your urban companies. You have to map your fourth urban spaces. Talk with the companies and workers. How they work, how they innovate. Develop the fourth urban spaces in cooperation with the companies and workers. Build, in that way, a new infrastructure and new urban resources.

Evaluate this value of these urban resources and manage the urban capital in partnership with the other. In Nordic City Network we have two new cases about this kind of development. I won't go into it but you can see it afterwards if you want, two places. The first one is called The Line in Malmö. The next one is Skedsmo in Lillestrøm.

Per RIISOM / 55-62

What shall we do?



Urban power – the new driver

OECD
Regional/urban economic growth

The Drivers:
 - Human resources
 - Upstarters - new businesses
 - Innovation
 - New technology
 - URBAN POWER

The 4th urban spaces and the urban companies - They are there!

See, learn, understand and promote!

How to do?

MAP your urban companies,
MAP your 4th urban spaces,
ASK the companies and workers how they work and innovate,
DEVELOP the 4th urban spaces in cooperation with companies and workers,
BUILD new urban infrastructures and resources,
EVALUATE the value of these urban resources,
MANAGE the urban capital in partnership with the business community.



Cases



NCN Invitation

New urban companies and workplaces.
 New business/urban infrastructures in cities.
 The need and wishes of future businesses, workplaces and employees.
 What they want and what the cities can deliver.

Invitation to a conference and network.
 Who wants to participate?

NCN Odense Charter 2012

Cities for all
Political leadership


Welfare, cultural/social inclusion
the democracy
 Sustainable development
the climat
 Knowledge, growth and wealth
the economic growth
 The regional city
the regional dimension
 The build environment
the city

Nordic City Network – building the new urban society
 www.nordiccitynetwork.com

400

We have collected and analysed 400 pioneering cityprojects in nordic cities, transforming our urban lifestyle, workstyle, cityculture and urban society.

400 projects changing nordic cities



A very short version of my lecture

New urban businesses in the making outthere!

The 4th urban spaces to!

It's a an economic growth driver!

You just have to facilitate!

QUESTIONS?

Response 1: Well, I don't have a question actually, just a comment because this presentation made me really angry. Maybe I'm old fashioned or silly but I have such an impression then, while Europeans are idling with laptops in the cafés in parks, China and India do the growth.

I would like to also mention about something like a sense of belonging. I'm afraid that nowadays in Europe we lose this sense of belonging to the company, to the firm, what actually is, I think, very essential for human life. We need to feel loyalty to the company we work for.

My impression is that we need these places that we work - sorry for this expression but, of course we can get an idea for a project or whatever while sitting on the toilet but, it doesn't make the toilet a workplace. I think that we need more connections, more loyalty, more sense of belonging.

Okay, it was a comment and a fair comment

Q1. I think that was an incredible presentation but I think, that you think, that you can use this kind of thinking to all the cities - to all the alpha cities, only the principal capitals of the cities, and the other cities are out of this process?

No, I think you are right. It's not in all cities you can do that. It's not in all businesses you can do that also. You have to have traditional businesses also in the future. We must not forget this perspective when we're talking about innovative companies and cities. It's not to forget it.