# Title: Circularity in the City: Opportunities and Challenges

Subject: Circular Economy

* Circular Economy

Abstract:

Today, cities hold a massive opportunity for circularity. The concept is gaining traction globally. Yet, shared understandings, a common language and a thorough examination of the complexities and opportunities for institutional change, innovative business models and informed policy action are still needed. How can cities increase the scale of circular efforts beyond individual initiatives? How can they boost circularity’s impacts and benefits?

Speakers:

#### Maria Colantoni

#### Matthew Fraser

#### Oihana Blanco Mendizabal

#### Bruno Hervet

Conference:

please have your seat and welcome to

this afternoon session when we are where

we are talking about opportunities and

challenges when talking about cities

transitioning towards the circle economy

we have here our speakers please join me

we have today Oriana

from in the Basque oh yeah Ana Blanco

will will talk about the the mainly from

the perspective of an institution public

private institution which is working on

innovation within the companies and

within the administration too we have

here bruno run away from suez he will

give us a perspective of the

implementation in a city and also

matthew fraser from circle economy with

a great experience also in investigating

and research on job and skills and the

implementation in this of the circular

economy in different environments so

please Oyama

yeah okay good afternoon to y'all I'm

gonna try to be specific in my messages

try to be as quick as possible hopefully

you won't get sleep and hopefully you

will have a few questions afterwards we

will leave a little bit of things for

your interpretation and and and for your

brains to to work a little bit

throughout the messages that we will

share with you so throughout my

presentation I will try to answer to

these two questions specified in the

definition of the session that we are at

and these to you I'm showing you it's

how can cities a scale of circular

efforts beyond individual initiatives

and the second question is how can the

boosts circularity impacts and benefits

just a short overview of who we are we

are the Basques innovation agency the

past country is a small region in the

north of Spain we have a big innovation

system public-private we are one of

those organization around 45 people

private nonprofits Association and our

partners are coming from different

worlds it's the public administration

its companies its technology centers

it's innovation organizations and we are

organized in different areas we are

actually working and fostering circular

economy from the foresight part this is

this don't mean that it's not related

with the rest of the areas but from our

perspective circular economy is

something that has to do with the future

so this future vision integrated into

foresight in so this is where I'm from

those of you who come from Spain will

obviously find these kind of funny we

are

basically known in Spain for being a

lippy

exaggerated and for think that we are in

the center of the world well it's part

of the truth okay this is a map of the

world something comic okay but the

reality is that we are small region you

have you can see a few figures over

there it's three provinces we are the

fourteenth autonomous community in terms

of surface so again not very big around

two million inhabitants you can make a

picture on your own of what size of

cities we are talking about but we have

a very high industrial concentration so

this is something to take into account

in terms of the type of price that we

are trying to develop from the

innovation agency of course as many

others we have a high dependence on

energy or material on other type of

resources and this is a constraint but

the cities are actually very interlinked

so when talking about cities we are

talking about systems it's not the same

thing to talk about a city which has

eight million inhabitants or talk about

small cities with four hundred thousand

which makes it a little bit narrow in

terms of scope to try to promote

projects that are already related to

that specific and geographic area that

is why the approach in terms of how to

foster the circular economy from an

innovation agency which is regional it

can be focused only in small cities but

trying to work in cities with this

territorial approach a little bit

broader ok how do we foster surco

economy okay this is the this picture is

part of publication of our very

internationally known consultancy

company and it's basically okay

I need more wool I can feed these sheep

to make it grow big and big and big and

big and get more rule but is that really

what we want I mean this is a kind of a

little monster so is this really getting

value out of it I mean are we do we want

to do anything just to get the best out

of it so how do we get more with the

same resources that we have or with less

resources we can feed ships and make

them big like this or we can do it

somewhere in another way so from an

innovation agency perspective obviously

innovation is the key and why because if

we go back to that picture that picture

is basically resource efficiency but

where is innovation when we only talk

about resource efficiency this is

something that we think it's missing in

many of our dialogues and in many of our

projects in the products that we develop

I'm talking about projects in a global

way so innovation needs to be holistic

also this is a word very used in many

conferences but yes it makes sense it

has to be elastic even though it's

difficult so we need technology

technological innovation we need

technology the one that is out there

that is basic that is needed but

technological innovation is nothing

without non technological innovation and

it's nothing without behavioral changes

so we need to combine all three visions

otherwise it's from our perspective is

kind of complicated to move ahead and

this is how we this is how we try to do

it this is our proposal we try to focus

in projects

in cities from a territorial perspective

but also trying to develop projects

related to industry as I said before we

have a very high industrial

concentration so even though we promote

projects in the cities we kind of forget

about the industry and the impact that

the industry has in the indie city and

the other way around

and we need to focus also in consumption

so we try to act in these three scopes

or access throughout different

initiatives for mainly initiating and

expanding projects I see as you see on

the top of the picture I don't know if

you see it correctly

of course raising awareness depending on

the sector the awareness is not that

evident trying to promote ourselves as a

region as a circle region and of course

making connections with others we have

our knowledge but we don't know

everything and trying to include in all

these access a number of enablers we

need the public administration we need

public procurement we need education we

need all the type of instruments that

can foster a circular economy and that

are very needed I'm going to come back

to that in a minute but just to let you

know we are currently developing

projects in two cities two of the main

cities in the Basque Country one is

Vitoria has days the other one is in

Bilbao the one in Bilbao we are

developing it together with circle

economy we are implementing their CT

scan and we have generated a local

consortium to make it a reality

hopefully we will have the results by

the end of this year so I'm not really

allowed to talk about these

a lot more but to let you know that we

are working in in in in the cities and

again trying not to focus projects only

in terms of behavior or in terms of what

is more evident in the cities which is

mainly related to ICT applications

[Music]

linked to tourism or restaurants or

sectors like that but trying to

incorporate the industry the heavy

industry in the projects in the city and

related to the awareness which we think

is very important to you what we have

done is we have created a platform where

we are trying to get involved in it all

of the companies organizations from

different sources that are currently

developing projects in circle Academy it

can be basically anything related to

circle economy it doesn't have to be

like the most sophisticated project I

mean it can be a servitization project

it can be a remanufacturing project but

it can be an education project because

what we want is not only to position the

territory but basically that those that

are not understanding the circle economy

as a opportunity at the moment can see

other options can see what others are

doing and can get ideas out of it so we

can be more and more and more following

these this path just a few conclusions

and what I think are the main

opportunities and challenges

opportunities for the cities of course

reducing resource dependence that is

very evident improving productivity

reducing environmental impacts but also

developing new technologies and business

models we shouldn't forget about

business models even though that's like

one of the most difficult parts Internet

of Things is base

take for that but we need to explore we

need to try we need to understand that

things are very keen to you not being

positive like the first time not even

the second one maybe not even on the

third time that we try but we need to

try because you who don't try new models

new ways of doing it's gonna be we're

gonna be like stick in the same point

all the time and this is mine it's not

from the organization even though we

promote collaboration but it's still

that's the biggest challenge

collaboration is something that we

always say happens and need to happen

but it's from my perspective still the

biggest challenge so hopefully we will

I mean shake our minds a little bit and

think about this a little bit more so

that was all from my side thank you very

much just one thing that I didn't

remember to mention before you can use

the ask about application there well I

think you have to download it I don't

know very well how it works but you can

use an app to send your your questions

so after all the presentations we can

resume your questions and transfer it to

the speakers you can also be able to to

use the microphone so please Matthew

thank you very much I'm really happy to

be here I think it's fair to say that

we're all here because we recognize that

cities in some way are really at the

epicenter of change and to work on

solutions of the future of the future

really does mean to work in cities in

the city in the urban environment I'd

like to talk just a few to you about a

few points from my work my perspective

about how cities can and in fact are in

some cases already sort of leading that

transition toward a circular economy are

maybe actually just to back up a little

bit our organization called circle

economy is really our mission is

actually to sort of facilitate the the

sort of on-the-ground implementation of

the circular economy and Anna pointed

out we do city scans with a lot of

European cities right now but we also

work with a lot of different sectors and

the interesting thing about cities is

really this is the place where ever

everybody sort of comes together and we

get to really try to get that

collaboration going which is indeed

difficult at times one of the the

biggest ways I think that cities can

really lead in the transition I I mean

change is messy to put it sort of

bluntly and when you're trying to sort

of create large-scale system change

there needs to be experimentation and a

lot of learning and what we do primarily

through our circle city scan is really

guide policymakers municipal officials

and also sectors and business officials

through a process where we talk about

circular economy and set a unique

circular economy vision for cities

but also really try to see tangibly how

that would look sort of on a

down-to-earth level matching different

sectors as you can see here in this

image what would that really look like

from a sort of ideal circular economy

perspective and of course identifying

first steps which would be pilot

projects that are of course

strategically aligned with the larger

vision but also just as importantly

visible and tangible into the lives of

citizens I think this is this is really

key to bring about change and to show

that there is although there is a

positive message to be to be sought yeah

I mean obviously connected to that is

collaboration we actually just started a

new program within circle economy on the

built environment from an impact point

of view that's huge because I think the

recent numbers say that about 50 percent

of global emissions come from how we

handle materials and when you look at

sort of the materials that are sort of

sitting in the city a lot of them are

materials allocated to the built

environment so there's a massive

opportunity here for cities to play a

role but it also takes a lot of

collaboration the construction and

development sector is is is huge and and

and large but this is what we really aim

to do with a lot of our our services is

really bring people together and see how

we can begin to make small movements but

really start to begin to move the ball

forward

the next thing and I think this is also

what I've been lucky enough to see over

the past couple of years is obviously

circular economy it's not necessarily a

new concept but a repackage concept that

has a lot of familiar philosophies and

principles embedded within it but now I

think we're at the point and especially

within cities where we're going from a

few pilot projects and a few successful

businesses now to quite an extensive

database and in fact circle economy has

a knowledge hub with well over 500

successful case studies on circular

economy across all different sectors and

I think that's a sign of success in

itself really just to say that there are

so many examples around the world and

what I'm focusing on these days with

cities is really helping helping cities

sort of take a next step by really

measuring how they're currently

performing what sort of targets and

goals they may have within the circular

economy and how they can really measure

progress towards that those those larger

multifaceted goals I think if we look

around today obviously there's a lot of

uncertainty and I think connectors did

that quite a lot of anxiety we see

circular economy as not only a solution

for sustainable development but a much

more resilient model for our economy but

that being said one of the the main

questions that we get within cities is

really what can a circular economy bring

in terms of employment so we're doing

quite a lot of research now to develop

metrics by which cities can begin to use

to measure their progress but also the

current state and the first metric that

we worked on together with

the Erasmus happiness Economic Research

Center in the Netherlands was an

indicator sort of methodology to

actually measure the number of circular

jobs and you may be asking what is the

circular job and of course that's really

difficult to define I mean there's quite

a large body of literature defining

green jobs even though that's quite high

level and a bit vague we're talking

about something quite specific with the

circular economy so we turn to the seven

key elements that we use which basically

describe the that the main tenants the

main principles of a circular economy

and we did some research by to look at

how we could define jobs based around

these principles what we came up with is

a definition on one hand a circular job

is any full-time or part-time occupation

that directly involves one of those

seven elements where a directly circular

job would be directly involving one of

those elements as sort of a key task

within that job function where an

indirectly circular job would be

something that supports that maybe just

to make that a bit more tangible in

light blue we have the directly circular

jobs which would be something like solar

panel and installer or an appliance

technicians that someone who sort of has

a more hands-on and direct relationship

with with resources whereas in the the

three dark blue circles you have more

supporting functions but I would say

potentially even more important things

like designers and architects data

analysts directors of trade associations

and and so on who can actually

bring together different organizations

and facilitate collaboration at a higher

level this is this first round which is

what we did in the past year is is

really just a first step in a long

trajectory of research and what we were

able to do is establish a baseline

number of circular jobs in the

Netherlands what we estimated is there

is a little over 800,000 jobs in the

Netherlands the the light-blue part of

the the pie diagram here shows the the

direct the direct circular jobs where

the darker blue shows the the indirect I

think what's interesting here is that

despite the Netherlands actually being

kind of known for as being a knowledge

economy and a quite advanced service

economy in many cases the number of

directly circular jobs

far outweighs the the indirectly one

thing also just to point out here as a

consequence of our research was also to

look at the requirements basically a

proxy for saying sort of skill level

across these jobs a lot of the core

circular economy jobs are actually quite

low skill compared to the the average

across the economy whereas the

indirectly or supporting the

facilitating jobs are significantly

higher skill so I think again taking

taking into perspective that this is

really our first step in many I think

these are very interesting conclusions

and I of course I'd be happy to talk

about them but I think there's already

some some value for cities here one is

that cities clearly have a baseline and

of course that's going to look quite

different for every city in every region

also from that you can clearly get a

sense of the sort of relative strengths

and weaknesses within that city or

region

what's important for people like me who

work with cities is already I have

better insight on who to bring together

around the table and really how to how

to build strong ventures and pilot

projects but what we hope to do in a

longer term vision is and also this goes

back to the the sort of the knowledge

base the the number of case studies that

are out there showing successful

circular economy initiatives hopefully

what we can do is give some sort of

predictive modeling as to what sort of

employment this could bring to cities in

the future based on other initiatives so

I think there's a lot of exciting

lessons to be learned here even though

as I said this is a really a first step

but also just to wrap wrap it up I think

we're not so far away and this is

something that I'm working very hard on

to really automate a lot of services so

that so that any city around the world

can can sort of log in understand some

basic statistics around their current

level of circularity where the sort of

key pain points are where the lot of the

impacts are connect to other cities

around the world that have excellent

best practice pilot projects and

businesses and also connect internally

to the right stakeholders within that

city or region to really land these

projects and get them going so I think

in short circular economy in cities is

looking very bright and yeah I'm very

much looking forward to continuing not

only to push on collaboration but really

to get some some metrics there so that

cities can begin to measure and take

control of the transition toward a

circular economy Thanks

[Applause]

well Matthew I think I have a circular

job so what hope so I hope I do first I

wanted to share with you a few elements

of the definition that I have for what

we could call circular economy is not

just about slowing rows all these

finishing benefits is not at all about

that

it is about sustainable growth through

innovation and collaboration I think

that was clearly highlighted by my

colleague bill before and I'm happy to

see that we share the same and common

understanding around this it is very

much about continuing to create value

while preserving natural resources you

have it here and in this in this quick

graph I'm not digging into the detail

but there are many levers to push you

growth and at the same time preserve

natural resources it goes very much from

innovation to responsible production

smart consumption then considering waste

not as a waste but as a resource and

work very hard in designing together how

to limit the externalities and then

these are the key factors the key

conditions and the key way you bundle

them together to achieve economic growth

while preserving natural resources so

we're talking today about cities about

central cities why are we shaping

resourceful cities well what's the whole

point yes cities represent only 2% of

the world's surface but as we all know

here 50% of the world population 75

percent of the energy consumption and 80

percent of co2 emissions so clearly if

you want to do something about solving

the resource scarcity and the trend that

has been highlighted all over the press

even in the yesterday if you had a

chance to go through this this alarm

that was sent by 15,000 researchers

worldwide on the fact that we are going

down the road to nowhere you do have to

act in an on cities on the way they are

being organized and being the way they

consume and the way you can improve this

co2 emissions figure that you have here

this energy consumption whereas we all

know that the trend of the 50%

population is not going to decrease so

let me give you one concrete example of

what I would consider as being a

successful project that to my point of

your tackle some of these challenges let

it take me to the song so for those of

you who don't know the song disjoint the

capital city of the historical region of

Burgundy in the eastern France very much

one on one word for the mustard

obviously for the excellent wines of of

what going and soon the city is going to

be a hopes of famous as it is developing

a project but becoming a smarter or more

secular city concretely the city of

Dijon has launched a bid which was

awarded to Suez and its partner sit

alone and we energy service to become

the first centralized and connected city

with a unique management for a certain

level of

different silos and vertical within the

city the innovation here relies on

unbundling bundling sorry what was

unbundled before and organizing

different verticals that did not

communicate the city of Dijon has

decided to start with five verticals

which are around which you can see on

the graph here

CCTV's traffic regulation and traffic

line so how can I improve my my mobility

in the city public lightning

safety and fire security and relocation

of vehicles of city flee that's one

first dimension of the project second

dimension is start working on the

interface with other public services

such as West collection such as water

distribution such as public transport

and mobility so again for the very first

time at the scale of a city of 300,000

inhabitants a city is defining itself in

terms of global management and global

organization not but not by silo but

from a holistic perspective with a

transversal solution what are the

expected outcomes from the city very

tangible and short-term results actually

that's why should be considered as a

very concrete business case the first

quick win expected by the city is that

by developing this solution you will

have an upgrade and a better management

of the municipal equipments we as the

industrial that has been selected by the

city we have a performance objective to

be achieve really soon about generating

sixty-five percent in terms of money

saving for the city in terms of energy

being related to street lighting so that

that's very tangible that's very

concrete that tackles one of the main

challenges of all the cities worldwide

which is how can I save money without

deteriorating the level of service okay

that's the first aspect the second

aspect is about the better better

coordination of services we all had

experience once in our life the city in

which the street in which we work or in

which we live in which the public

services walking on water are going to

cut the street for one week because they

have to fix something three months after

the guys from I don't know cable or

fiber optic are going to cut the same

street okay

because they have to intervene and

change something that has to be changed

and four months left they're the guys

from an example energy or gas okay

that's saying that we have all

experienced in our in our day to day

life so far there was no other way to do

it because all these services we

organizing say loaded there was no

coordination no trans versality now

tomorrow in the city of Dijon you will

have a tool of solution to coordinate

all those guys and say guys you are all

of you going to make your intervention

the very same week so I don't have to

cut the street three times one week in

the year but only once in the year okay

so gives you a clear idea of again

you're saving money for the people for

the taxpayer for the citizen and you are

avoiding nuisance about mobility in the

neighborhood because it's - it is not

cut three weeks in the whole year is cut

only once

ok that's one element and the last

element is obviously about public safety

improvement with a unique tool that

allows you to control and coordinate the

different services I'm thinking of the

firemen I'm thinking of the of the

police station and thinking of on

everything has to do with ambulance and

the control you haven't straight

lightning if you have to increase the

the the light in the street because

there is in this or this area a certain

level of crisis today you have the

control command center that allows you

to coordinate and have a better action

on an reaction on what's happening

that's one dimension the other dimension

that the city asked us to thanks to all

the data that is going to come from all

the different public services to build a

data lake whose objective is to foster

the digital economy of the city you are

here in the city which is located

halfway between Paris 15 million

inhabitants and Rio which is 3 million

inhabitants both city are extremely

dynamic attracting investment attracting

digital startup so how

can you exist in this map when you are

300,000 inhabitants city just like area

in the middle okay by innovation

what kind of innovation how can you

support innovation how can you boot

boost your digital ecosystem how can you

help your young entrepreneurs okay

how can you motivate young guys being

hydrated from Paris or you or everywhere

in Europe to come here to build up your

EO just that by providing them an

ecosystem that they have nowhere else

and it's not about putting money okay

it's about putting data that will allow

them to think and elaborate and and

develop new ideas new services that no

one has ever imagined yet just because

they didn't have the data okay that's

the second angle and and and a very

important objective for the mayor the

city so to conclude on this concrete

business case I think it gives a pretty

accurate definition of what can be a

circular city okay it's not the only

kind of answer you can bring to the

secularity issue that was raised before

and then raised in my introduction but

again it is concrete it is happening now

the contra has been a worried in

September okay after two years of

competition between different very large

corporations and I think it's very

interesting that do to keep it as an

example circular economy in City is much

more than recycling and reusing

innovation can be fostered and

encouraged by political leadership by

taking decision okay that are disruptive

decision on the way you organize the

city and this is what the the

the mayor of Dijon has done he has

introduced a huge disruption on the way

he is organizing the city collaboration

between local and state government will

be key because here you need a global

framework that allows you to enter into

this kind of contract funding long term

investment public procurement incent

incentive transitional arrangement are

absolutely crucial that's part of the

engineering here that's part of the

disruption in the business model and my

conclusion is that I think that was

highlighted also before by my colleagues

smart cities circular cities it is not

about technology it's about business

model is about mindset is about how you

organize things and how you how you put

different actors around the same table

okay engage them in competition put

implement contracts implement new

business model and this is how you make

six happen thank you very much

thank you all three you gave us really

deep insights of what a circular city

looked like so now we have a time for

four questions from the audience

I don't know if we have microphones

around and also I would like to have the

D iPad to know whether we have a

questions from the app anybody I'm sure

we are plenty of questions after these

great presentations so oh great all

right thank you very much great

presentations wiles hearing here

Brazilian living in Dubai so you can

imagine the different scenarios I live

in my life right and in Dubai we have

huge leadership to get things done right

so there is a massive vision and purpose

to get you know a happiness agenda you

know so that cohesion that all of you

have been emphasizing here is kind of

directed from the highest of the

leadership of the country but you know

that the country is formulated in a way

that makes it easy we have a ruler in

the country that top-down

create that vision my original country

that's not the case right so we have

different political agendas and I mean

everybody wants to take a piece of

everything I would like to hear more

from you guys on leadership to get

really the circular economy to to work

so what is it required for leaders to

create an impact around circular economy

I think you raised one of the key points

as well as far as as my experience is

concerned you need a vision which is

clearly expressed and this is what you

should explain expect from political

leadership I have no opinion on whether

one system or another is is more adapted

that should not be the point I mean

things are what they are in Brazil

because because of the history of Brazil

and because of Brazilian identity and

things the same applies for Dubai and

the result is not the same and that's

fine

in both cases okay to buy is one city

you have cities in Brazil with very

strong political leadership okay in the

South many but I don't want to to

pinpoint one of the other ones and and I

remember having a discussion with the

mayor of porto alegre which is a guy

that has an amazing political trajectory

he did astonishing stuff for the city

this gentleman he has a vision he has

political leadership and he implemented

what had to be done

and that's the key starting point in the

business case I mentioned it all starts

by phosphite semaine a political leader

that has a vision for what he needs and

what he wants

but for his city and he has it's done

from my perspective it has to do viously

with having a vision but it has to do

also with having the circular economy as

a key element incorporated in all of the

different departments at political in

the political structures and I'm going

to explain myself if we focus and or if

the political leadership of the circle

economy is only linked to the business

promotion department that's an

incomplete vision if it's only promoted

by the environmental department in the

government that's an incomplete vision

and I can continue on that I mean it has

to be again something incorporated in

the agenda of all of the departments

otherwise again it's my vision of this

but otherwise it's very complicated to

have a real deployment of the circular

economy in the cities in the regions in

the countries I I see it complicated

yeah I don't know how much I can really

add to that but more just to underline I

I think obviously leadership is critical

but leadership can also sort of take

many forms on one hand I I think what we

see I mean even just you know if you

kind of look around on social media or

the internet actually a lot of

leadership is really coming from cities

these days and I think there's even an

opportunity for them to perhaps you know

on issues of perhaps climate change even

surpass national ambitions so I think

for sure leadership is critical and it's

happening in cities but as Ayanna points

to what ends I think it's actually sort

of a rallying call to get everybody

together

work in a new way and if you are still

sort of operating sort of in silos which

is the sort of common term then how good

is the leadership really it's it's a

complicated question but I think I would

agree with the rest of the panel can you

explain more about the city scan I don't

know if this is open can you explain

more about the cities can you you were

developing also tools to scale it up to

make it easier for a new cities to join

this movement yeah I'd be happy to talk

about it it's it it's basically a kind

of a process whereby we we get together

key decision-makers within the

municipality and the city and within

different business communities to really

sort of set a vision together so what is

circular economy let's get all on the

same page but then also let's really

understand where your city is at what

are your challenges and what are you

what does that city particularly sort of

built built to excel at and we really

try to actually just kind of build

around those characteristics but really

coming from I guess the sort of core

analysis that we bring is really the the

material flow analysis approach so

obviously circular economy is about sort

of cycling resources in its simplest

sense

so what we do is is really from a

material flow point of view really

looking at how different resources move

through a city or a region we really try

to just sort of connect the dots and of

course it's I could easily talk for an

hour about how we do that but but it's

really looking at sort of not only how

do you establish opportunities for

symbiosis or sort of sort of trading or

cascading of value valued flows between

industries but also as I think all of us

have touched on is kind of rethinking

business models in a new way so that you

can essentially decouple the value that

you would get as a consumer from the

resource implications of that surface

and that's that's really sort of the

essence of what we do and then actually

we rely quite heavily a lot on local

organizations like you know Bosque and

others to actually sort of really drive

that that local agenda and make sure

that it happens on the ground and of

course that's where all the difficult

work comes in but it's it's really

taking a lot of that enthusiasm and

energy that and insights that we get

from the sort of beginning phases of the

analysis and really sort of landing

those into concrete projects that don't

need to be the sort of ultimate project

but need to need to be strategic enough

to connect to a larger vision but also

in my opinion sort of visible and kind

of tangible enough so that it people can

really see that this is this is an

option and then this this really brings

value to them and there is something to

it so I think it's I would summarize the

sort of city scanners it's a journey

that we take with cities basically just

a sort of kick start the whole process

toward moving

there are many questions about me John

so I will read the first one which is

the most potent how much of the 65

percent energy savings in Dijon comes

from the systems approach and how much

from the low-energy light from

low-energy light okay

excellent question 5050

so if I rephrase the question

65% of the energy bill reduction for the

city half of it is coming from upgrading

the hardware so the street lightning

post and the other half comes from a

better use adapted to what happened

actually really in the streets

okay so adapting your consumption or

what it is actually needed there's

another question related to the the

population and how this affects the

prices the circular economy change

prices or it's a barrier for poor

populations in any way did you find any

challenge about this and how to include

poor population in the system well I can

answer from what I have experienced it

should not actually I don't see why and

how what we call a circular City should

become more expensive well that's really

not what I defend and what we try to

implement I'd stress on our projects

which should be the other way around

when I have discussion with mayor's they

all tell me the same thing more or less

they say I have to do more with less

less is less money more can be more

service more transparency more

attractiveness more whatever you want

but less is always the same less money

and innovation is about your capacity to

answer to this question if you can only

answer to the first part of the question

which is how can I do more my personal

belief you are not really being very

innovative

okay and this regarding your research on

job creation what kind of skills did you

detect are mainly related to the

circular economy our high skills or high

education skills or maybe yeah I think

there's actually quite a quite a split

as I showed I think in the last slide of

my presentation is that I mean by

definition a lot of the sort of core

activities of a circular economy do come

down to sort of physical material hand

handling and processing such that it can

be cycled and what that lends itself to

now is what we would call sort of lower

lower skilled labor where let's say

you're repairing electronic devices or

or other other materials or goods but

then also in installing renewable energy

systems things like that I think where

you clearly have high skilled labor is

in the sort of facilitation activity so

when you think about a designer or a

business manager really trying to

fundamentally redesign not only the

product but the system in which that

product exists exists in so just I mean

talking about lighting as a service for

example you're no longer sort of selling

boxes of light bulbs at a store you're

really selling quite an integrated

system that requires well quite a lot of

smart technology obviously but logistics

channels and

reuse and disassembly facilities that

that are somehow connected to

manufacturing I mean there's a lot of

that's a high skilled work that would

really go into the sort of systems

design of what we would want to see in a

circular economy whereby the the sort of

day-to-day management of the circular

economy does tend to be lower skilled

maybe just as it as a caveat to that I

mean this is again something that we've

we've just now taken our first step in

and we and we would actually like to

kind of challenge a lot of these big

numbers that have been thrown around I'm

sure maybe you've seen but you know they

say in Europe they're they're three

million jobs some potential jobs in the

circular economy I mean these sort of

macro economic forecasts are interesting

to capture a headline but but I'm also

very curious myself to see how that

actually looks like on the ground and

what that actually translates into and I

think that's I mean I think also taking

an honest approach about that is useful

for for cities to drive a sensible

policy towards a more sustainable and

hopefully circular City okay is there

any other question from the audience we

have here the microphone it would be the

last one I think please

what I find strange is to talk about

circular economy and talk about doing

less doing more with less and then when

you talk about skills to talk about

specialists essentially you need to do

many more things with much less

resources that is why education has to

become really more allistic less

specialty more skills to do things in

the ancient times I come from Greece and

people could be farmers and warriors and

artists at the same time we have seen

this in the Renaissance with Leonardo

and I think if we give the message for

the material flows and everything it's

okay to him you know more with less but

for the people it is even more important

and this is called efficiency

essentially circular economy is a

contradiction to thermodynamics because

you need to do things over and over

there is no permanent motion but

efficiency is what allows you to extract

more of any given source and as you know

in efficiency there is something from

another famous person Carnot there is a

cycle that gives you limited to

efficiency are we there

I don't know but obviously there is

still you know work to be done and this

is not about technology is not about

business model is really about people

who know to do more things with their

hands in the range yes please the last

one this this will be the last one

hello i'm from the university of girona

in tourism and i think we're very very

quick to talk about how these benefits

can have a an impact on the residents in

a city however obviously tourism is

growing and growing and growing

exponentially with people taking even

more shorter trips to even less known

destinations and i want to know how you

think that the circular economy could

benefit the transit population in the

city and how for example the sharing

economy you mentioned bruno in was part

of your

that's that's a good point and if if I

always come back to my example deserves

a quite touristic City so the question

was right top priority for the city was

upon which the permanent cities and who

permanent residence which makes sense

from this perspective however

attractiveness obviously thought about

investment about digital etc also as

being a very touristic City is a key

element here we have to work on it

because the key question here very easy

there are lots of apps and devices which

are going to be developed to ease the

life or the people who are in the city

okay so I would say the citizens but you

have to get to know that it exists when

you are spending just two days in the

city maybe you don't have time or you

just don't care ok so one of the things

we are going to do to work on and that's

already in the to do list which the city

is what kind of new apps thanks to the

data Lake can we develop for the

tourists okay and that's going to be

most probably one of the hackathons

content we are going to launch and maybe

we don't design it and the city does not

design it but I hope that some startup

is going to do to develop and figure out

something ok so we have the question we

don't have the answer yet but ask me one

year from now I'm sure I can give you a

different answer ok thank you very much

to all of you I think it was a very rich

session and we have to live now because

we are a little bit late just three

words to resume to summarize what we

were talking about I think for a

circular city to be possible we need

innovation

collaboration and holistic approach do

you think it's a good summary okay great

so thank you very much and please join

us in the next session

[Applause]