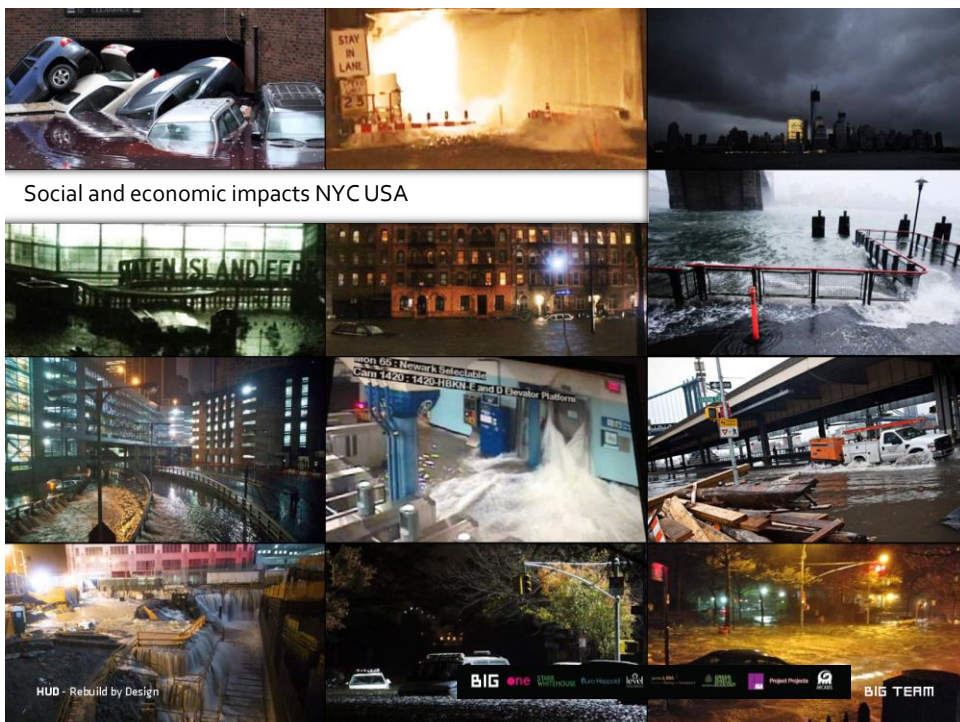


**2050: Majority of World Population will live in Coastal and Delta Cities  
(25% growth)**










## Extreme weather events and socio-economic losses



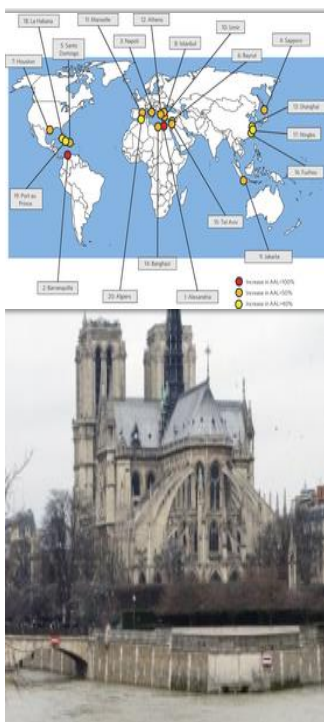
**Economic losses experienced, e.g.**

- Central Europe, 12.4 billion Euro
- New York City, 36 billion US Dollar

New York City, USA, after Sandy

HUD - Rebuild by Design

BIG ONE BIG TWO BIG THREE BIG FOUR BIG FIVE BIG SIX BIG SEVEN BIG EIGHT BIG NINE BIG TEN BIG ELEVEN BIG TWELVE BIG THIRTEEN BIG FOURTEEN BIG FIFTEEN BIG SIXTEEN BIG SEVENTEEN BIG EIGHTEEN BIG NINETEEN BIG TWENTY BIG TWENTY ONE BIG TWENTY TWO BIG TWENTY THREE BIG TWENTY FOUR BIG TWENTY FIVE BIG TWENTY SIX BIG TWENTY SEVEN BIG TWENTY EIGHT BIG TWENTY NINE BIG THIRTY



## Predicted losses from extreme weather events

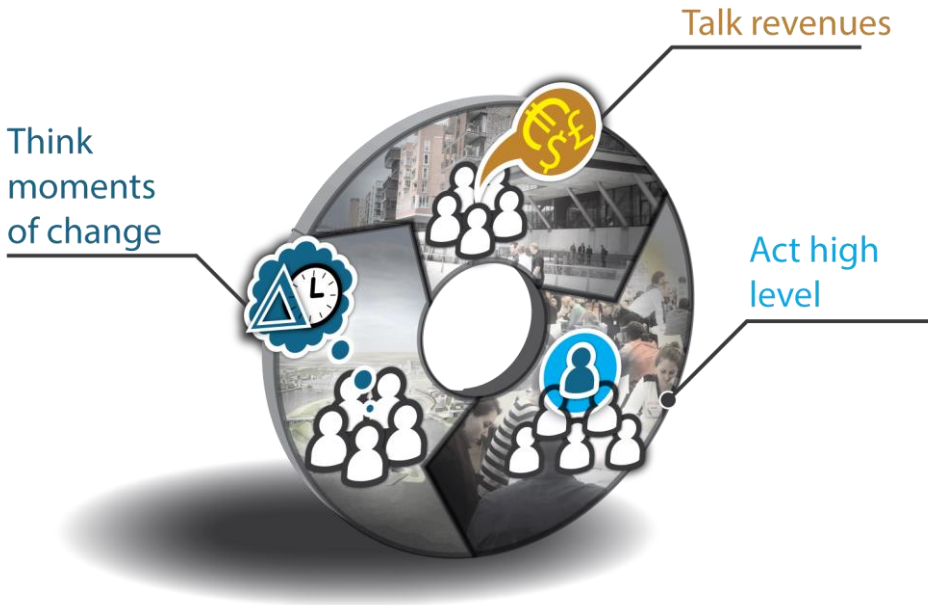
**World bank research** (September 2013)

- **136 coastal cities:**
  - Current: \$6 billion a year
  - In 2050: \$52 billion a year
- **Worldwide coastal cities and areas**
  - In 2050: \$1 trillion a year

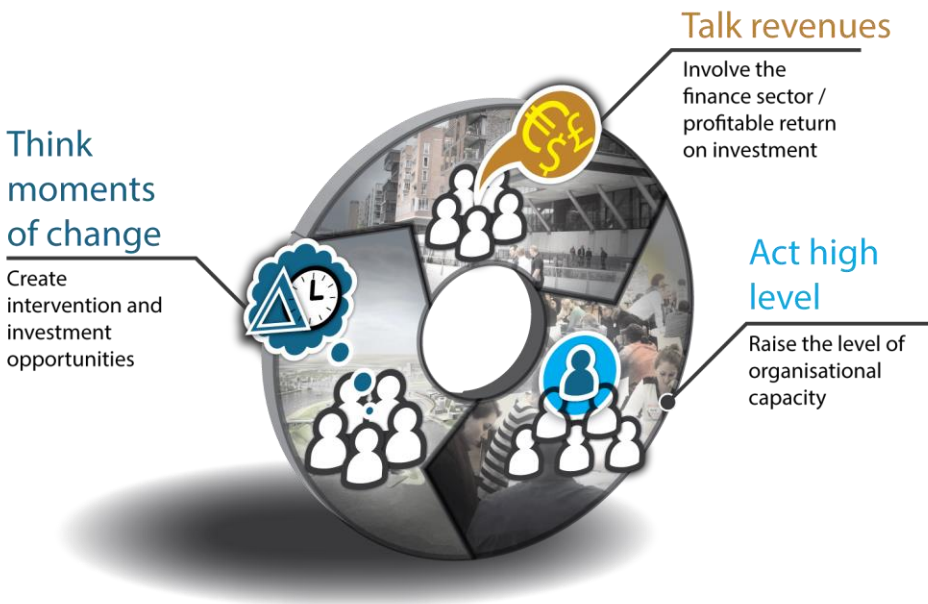
**City of Paris** (OESO, 2014)

- **Seine-flooding similar to 1910**
  - € 60 billion losses
  - 5 million people affected,
  - 400.000 jobs threatened

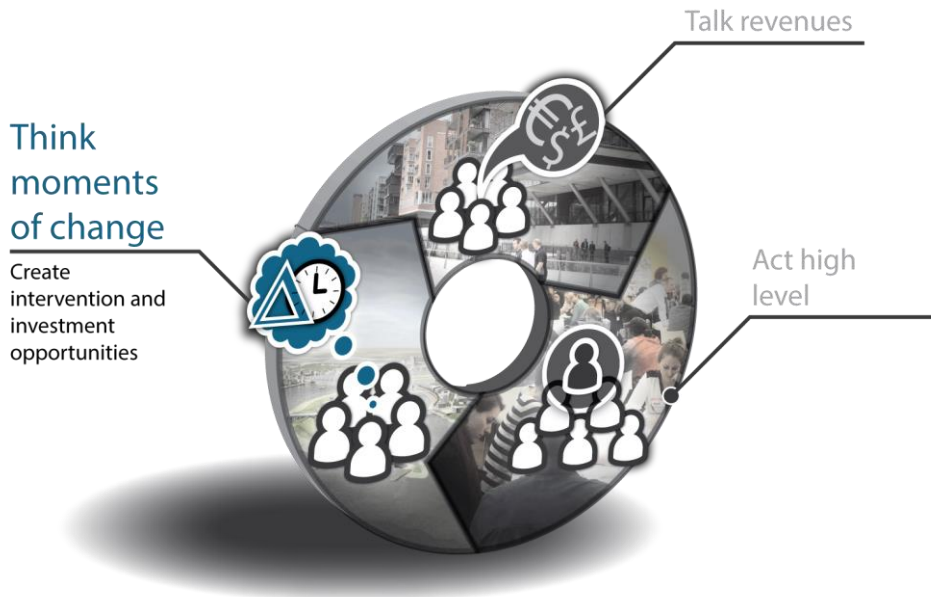
# Resilience Pathway 2.0



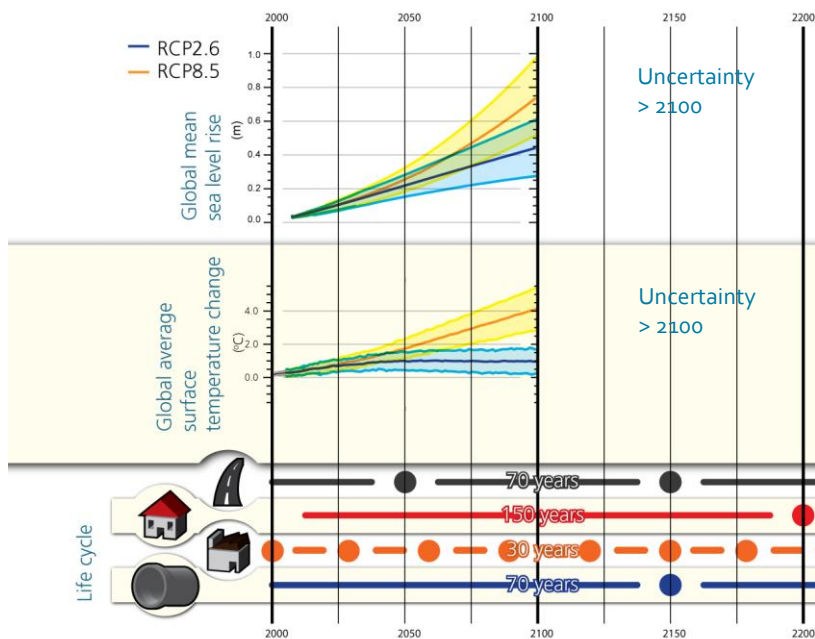
# Resilience Pathway 2.0

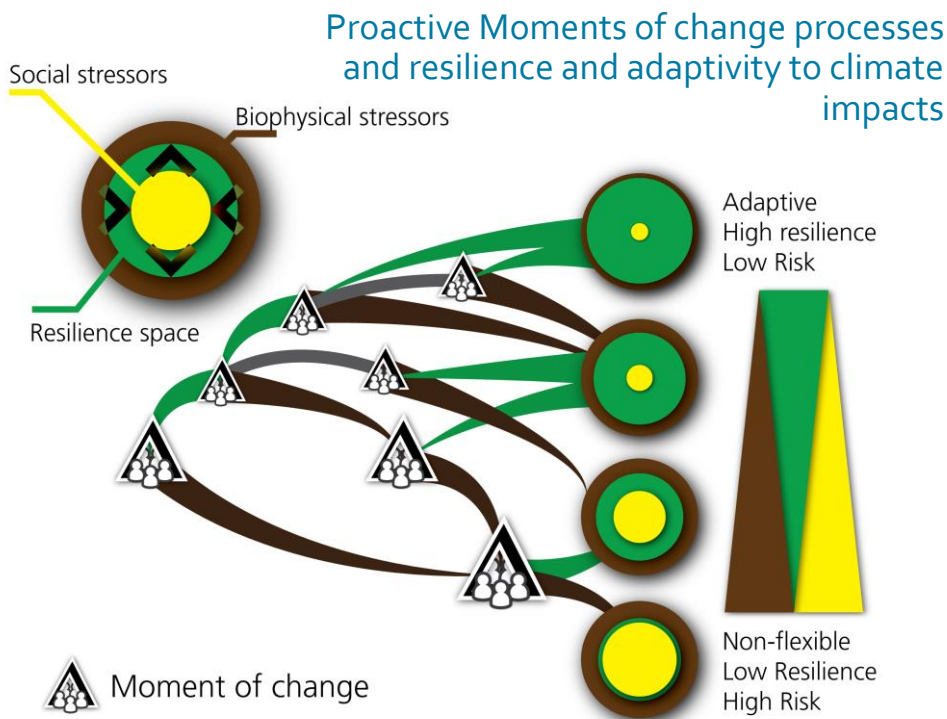
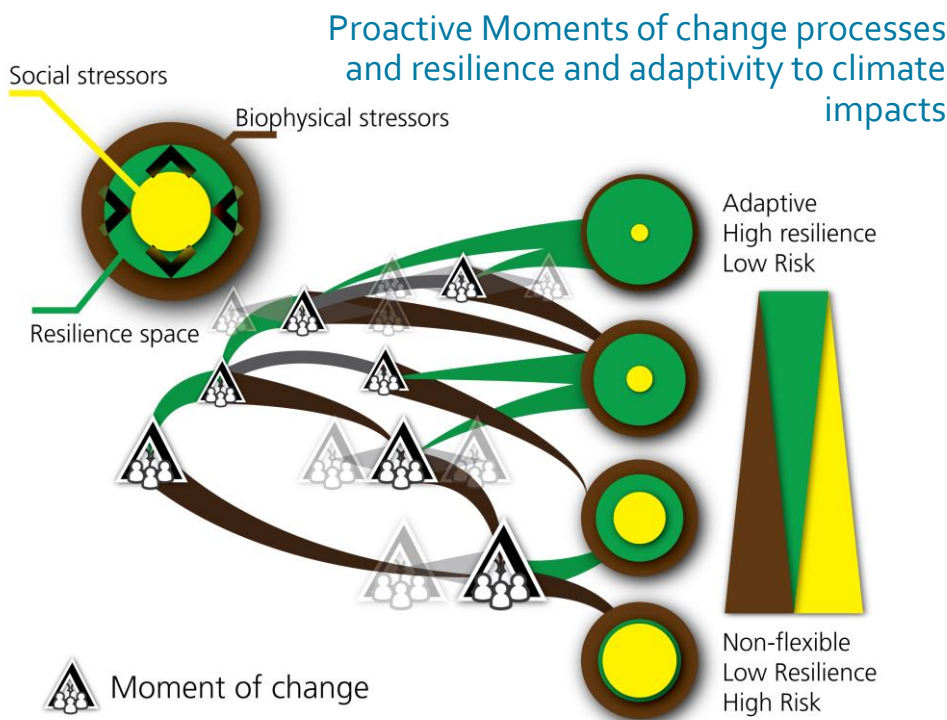


# Resilience Pathway 2.0

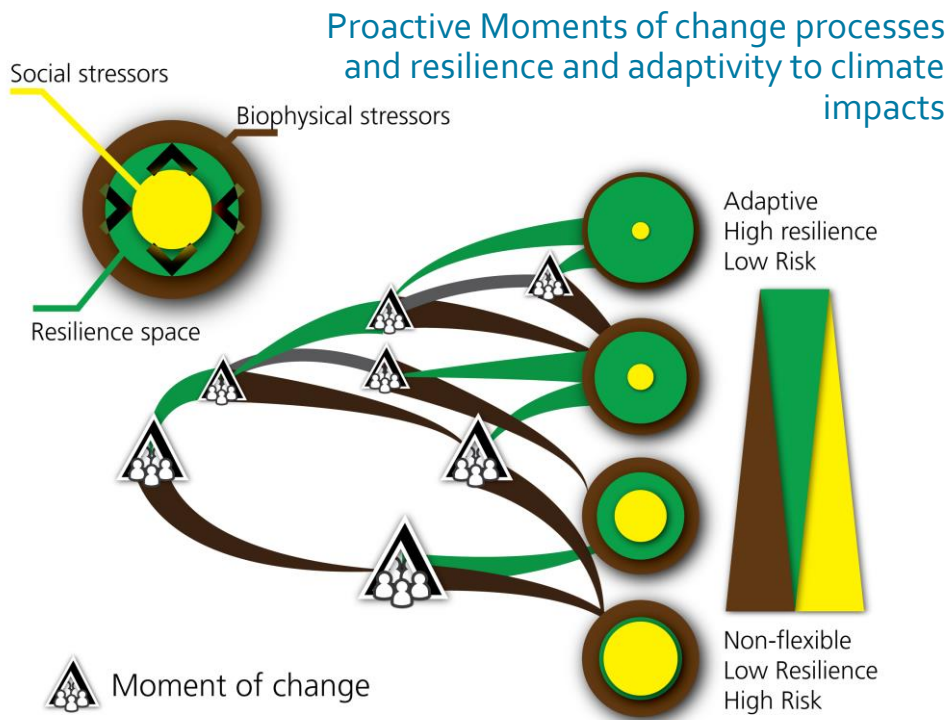


## Importance of every decision









### Beach Resort Scheveningen: Dike-under-Boulevard concept





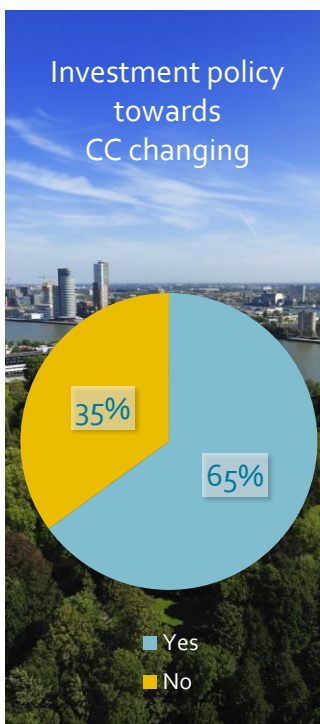
## Copenhagen, moments of change



## 'Retro-vitalizing' RDM Campus Rotterdam: Research, Design & Manufacturing



# Resilience Pathway 2.0



## Finance sector is ready for climate business

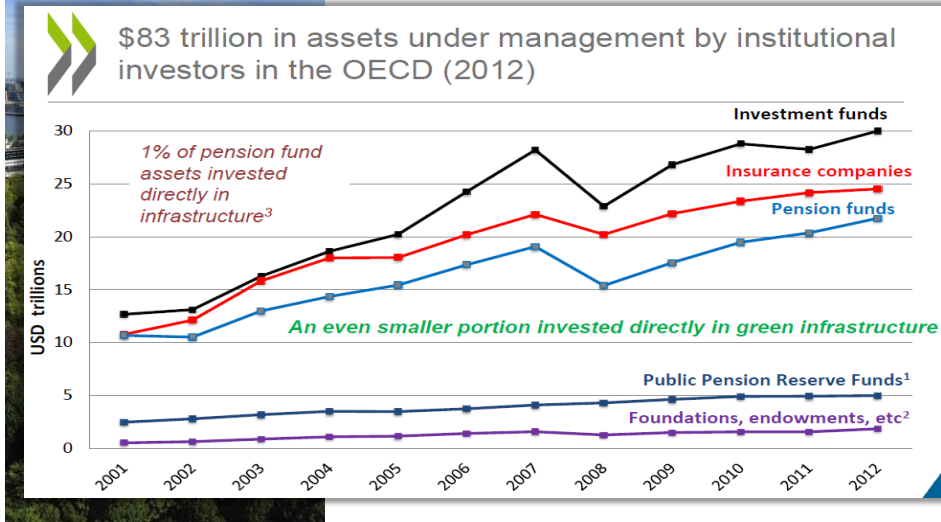
Consulting finance stakeholders: 65% confirms a trend towards investments in climate resiliency

Approaches from brokers with funds to invest;

- Projects >100 – 500 million, about climate resiliency, long term returns

Big investors communicate willingness to invest in resiliency

# Talk Revenues, sustainable

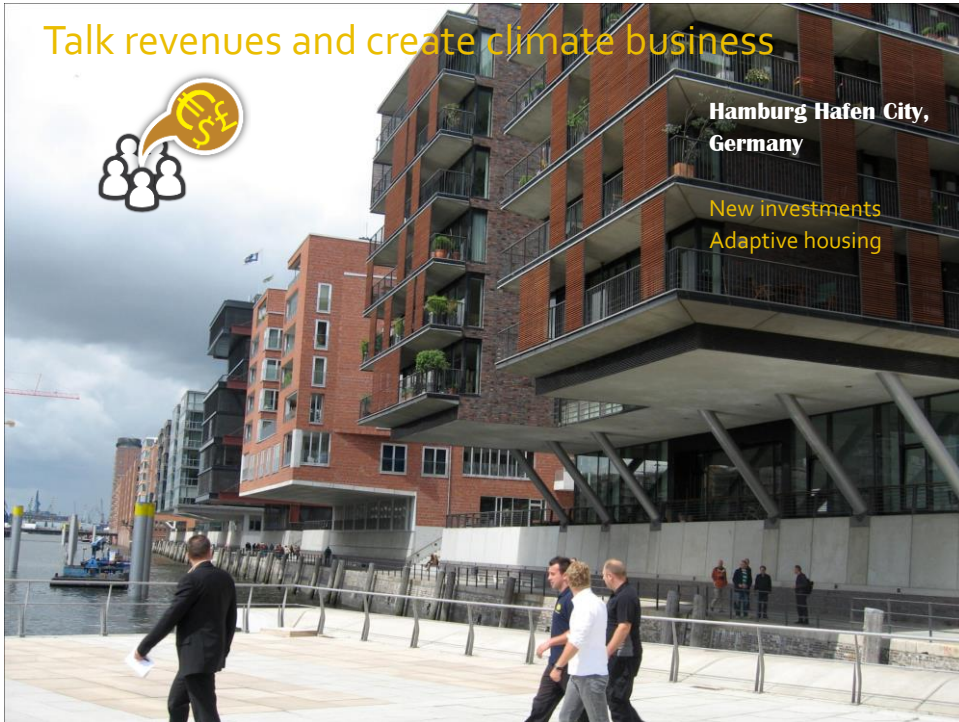


## Talk revenues and create climate business



Hamburg Hafen City,  
Germany

New investments  
Adaptive housing

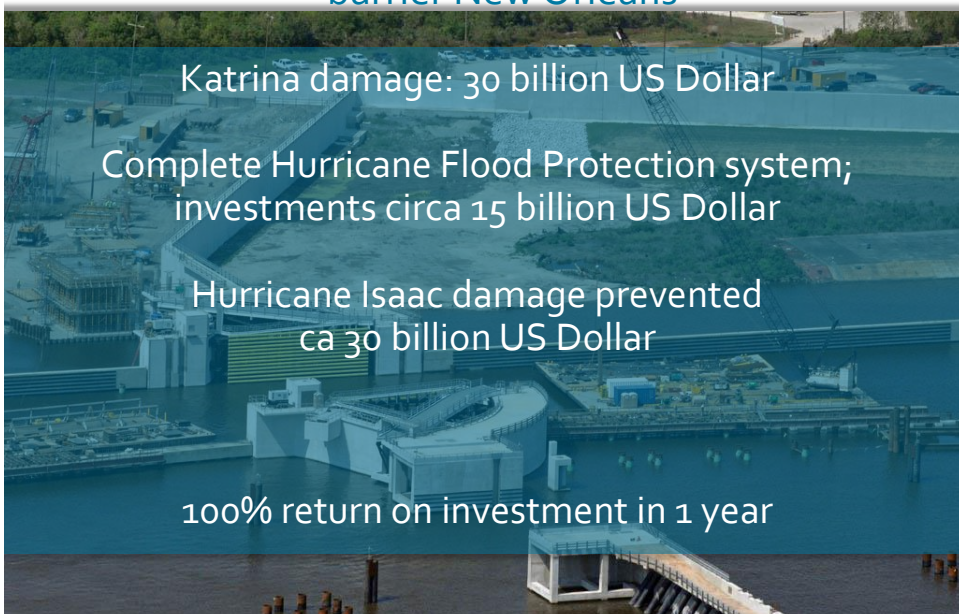




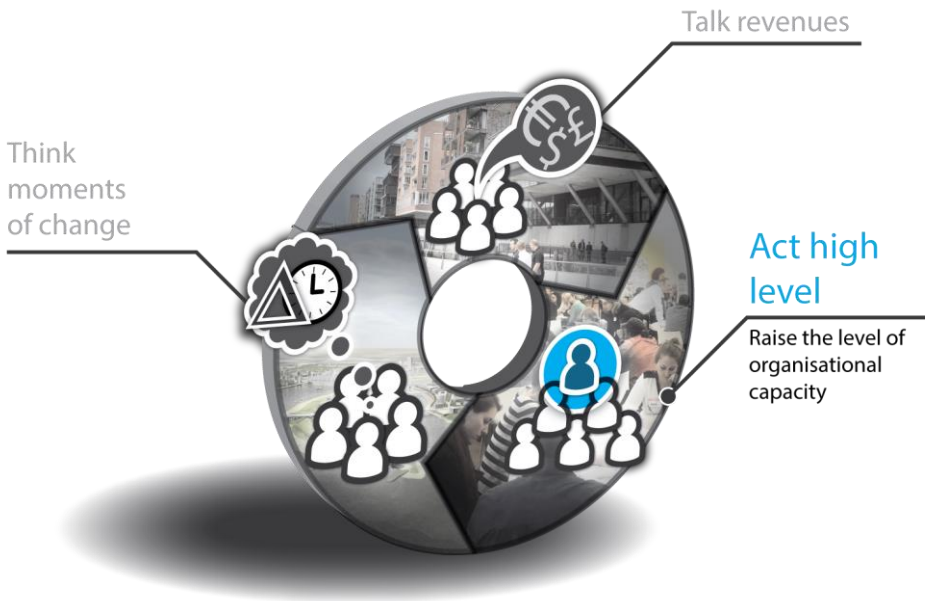
## IHNC storm surge barrier New Orleans



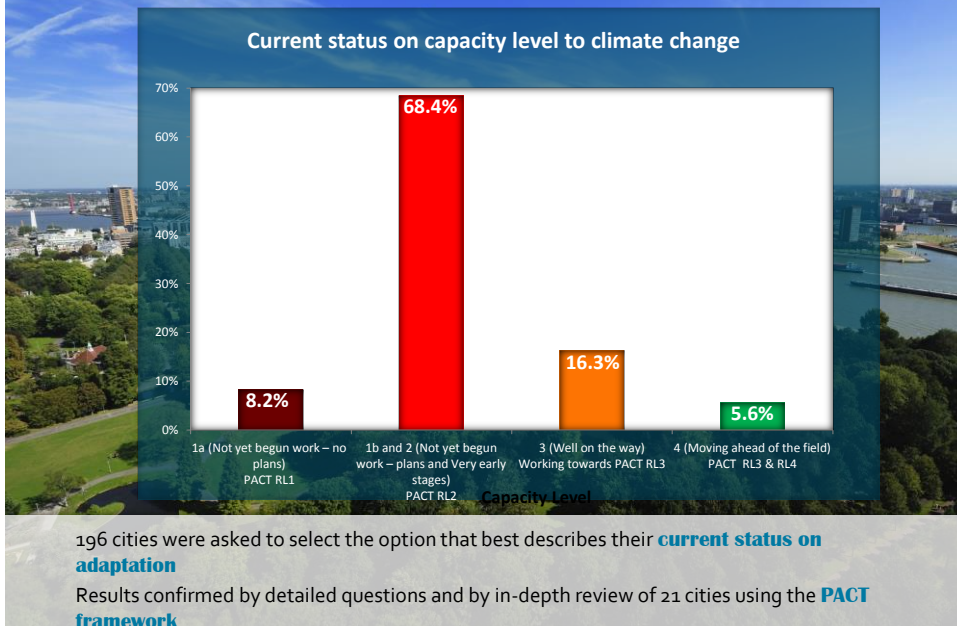
## Profitable business cases: IHNC storm surge barrier New Orleans



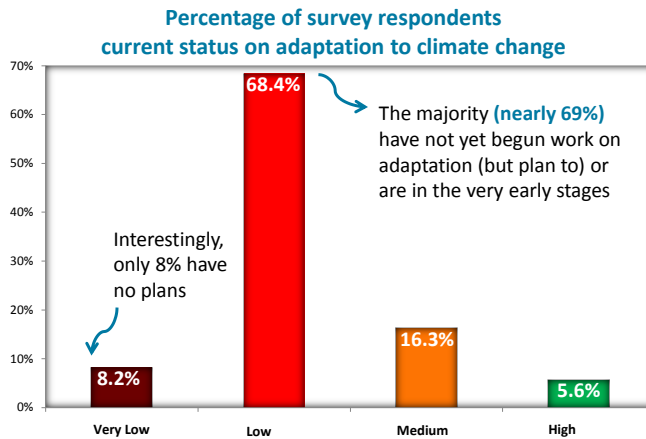
# Resilience Pathway 2.0



## Capabilities in European cities



## Capabilities Level in European cities



- **'Very Low'** = city not acting on extreme weather or on climate change and no plans to do so
- **'Low'** = considering acting on current extreme weather, but not on climate change, but not yet begun or at very early stages.
- **'Medium'** = cities have a programme on at least some current risks but doing no work yet on future climate change.
- **'High'** = beginning to act on future climate change and also on extreme weather.

## Acting high level

City of New York City





Acting high level

City of New York City



Acting high level

City of New York City



## Acting high level

City of New York City



## Resilience Pathway 2.0



Think  
moments  
of change

Create  
intervention and  
investment  
opportunities



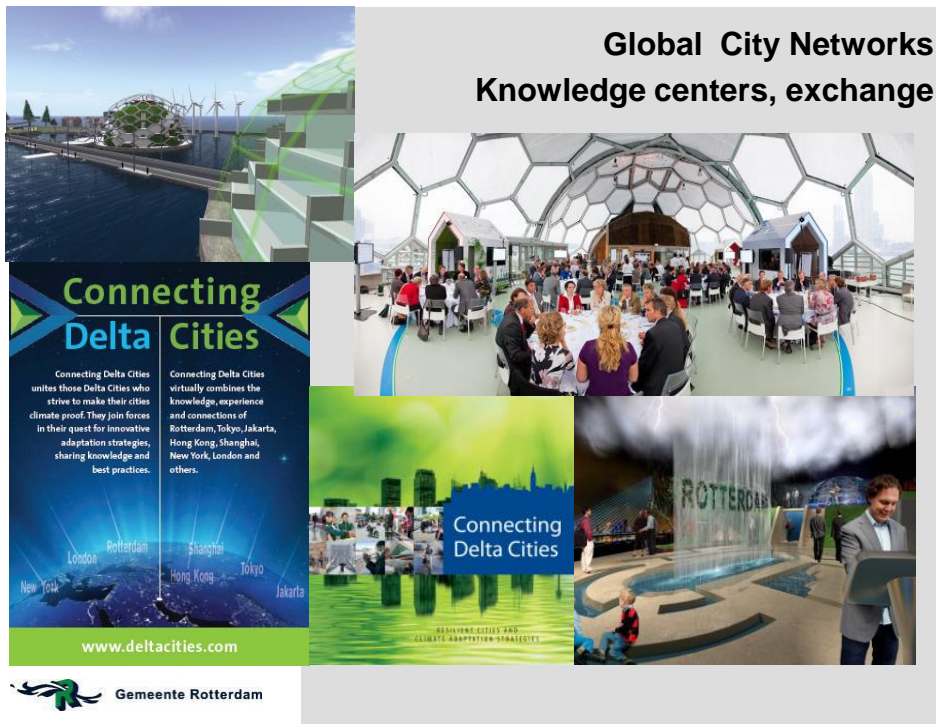
Talk revenues

Involve the  
finance sector /  
profitable return  
on investment

Act high  
level

Raise the level of  
organisational  
capacity



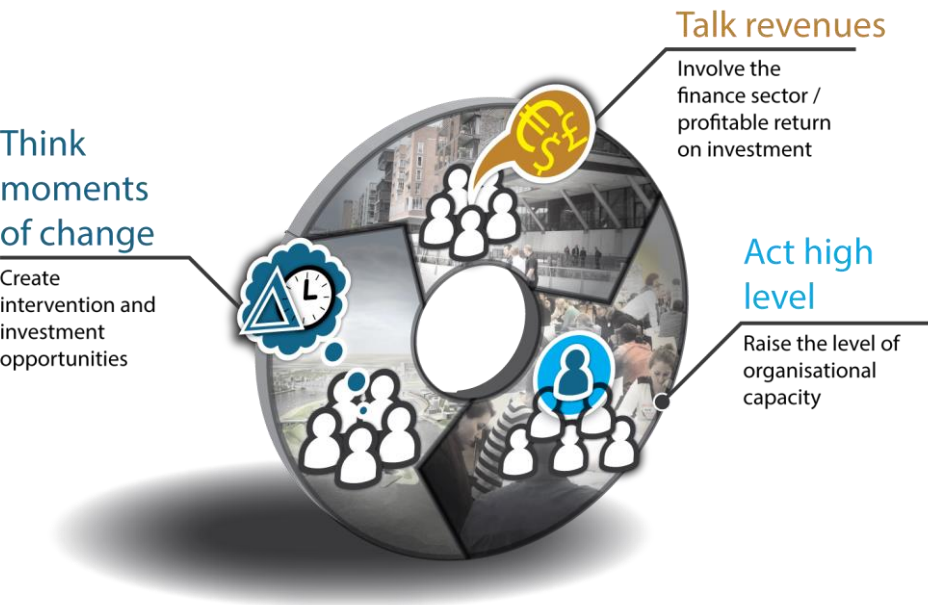


## West Closure Complex New Orleans

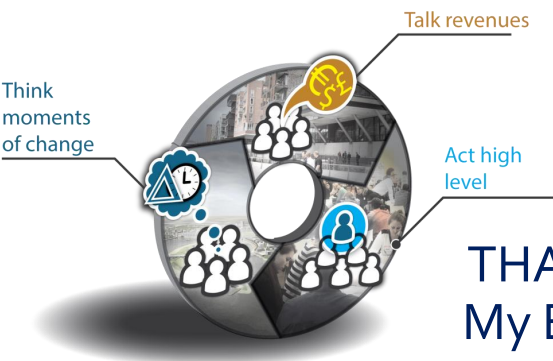




# Resilience Pathway 2.0



## Resilience Pathway 2.0



THANK YOU ALL  
My Business View  
on  
Climate proofing of  
Deltas

Stephan Ritter | ARCADIS

of change  
moments  
think

Act high