



UNISDR

The United Nations Office for Disaster Risk Reduction

LISBON'S RESILIENCE ACTION PLAN

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Lisbon

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- Main Shocks
- Main Stresses

Think Global Act Local

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Conclusion

Team

RESILIENCE



“capability to adapt, enhance and recover the territory and the community, without compromising future generations, to answer and overcome adverse situations or traumatic events, more or less (un) predictable”



RESILIENCE STRATEGY





LISBON

Area:

- 84,97 km²
- Totally classified as urban soil
- 85% classified as consolidated area
- 10 km² classified as urban forest

Economics:

- Lisbon
 - Product per capita (USD):
 - GDP (% of Portugal): 46%
 - Employment rate (% of Portugal): 32.7%
- Portugal
 - GDP per capita (2015): \$ 19.122
 - Gini Coefficient (2014): 34%
 - Ave. household income (USD): ☆
 - Cost of living: ☆

Population:

- 19,3% of Lisbon Region population
- 547.733 habitants (residents)
 - 46% Male
 - 54% Female
 - 12,9% less than 15 years old
 - 23,9% 65 years old or more
 - 17,1% with one or more disability
 - 5,7% immigrants or with dual nationality
 - 6.446 habitants/km²
- 1 million people during the day
- Literacy Rate (% literate population): 96.81%
- Poverty Rate (% population not in poverty): 19%
- Total number of households (2015): 245.894
- Persons per unit: 2.19



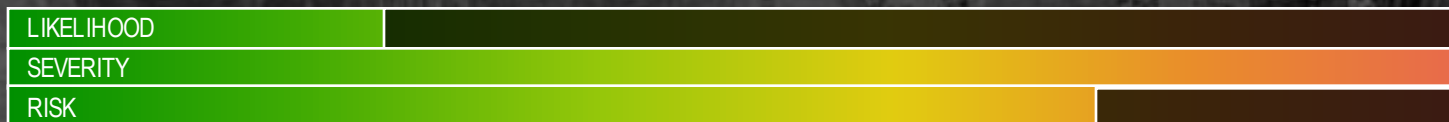
LISBON – MAIN SHOCKS



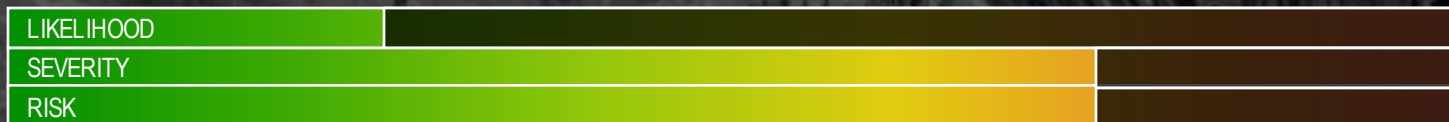
EARTHQUAKE



FLOOD



WIND / GUST



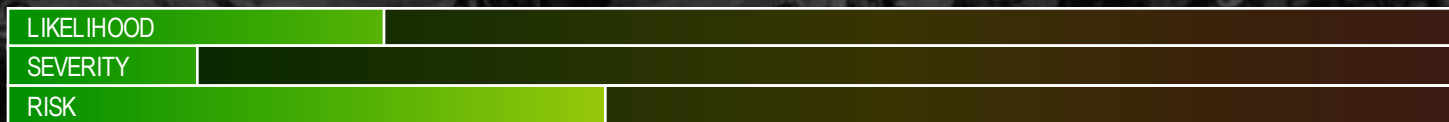
MARITIME AGITATION



MAXIMUM TEMPERATURE



MINIMUM TEMPERATURE





LISBON – MAIN SHOCKS





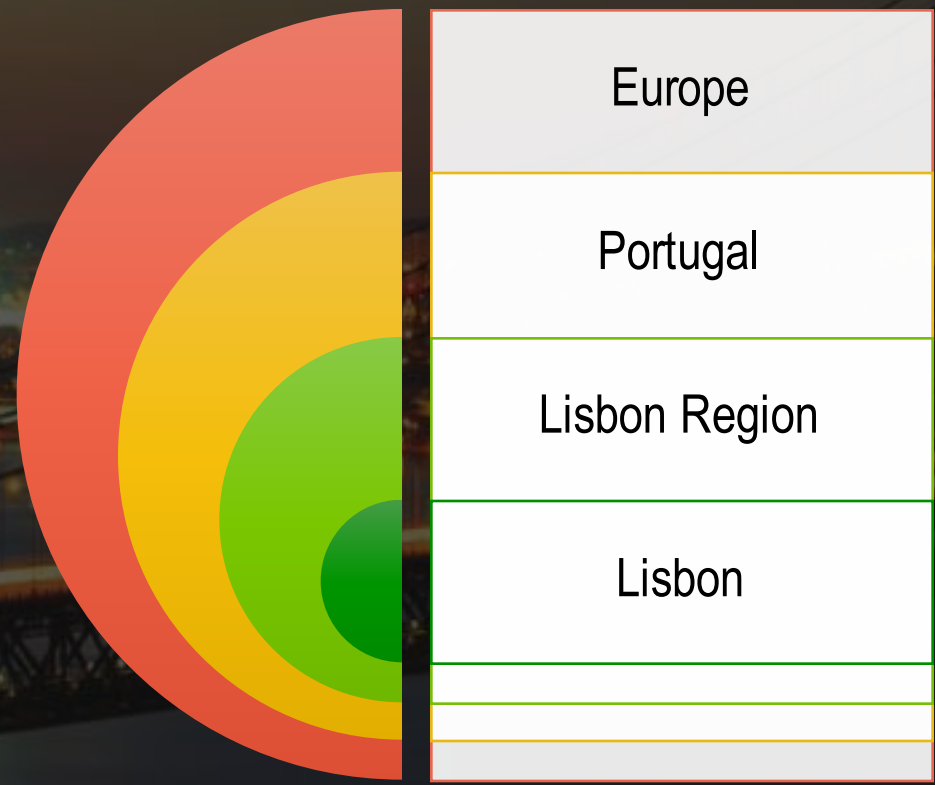
LISBON – MAIN STRESSES

- Population aging
- Buildings aging
- Infrastructures aging
- Climate changes
- Poor accessibility
- Social cohesion and inclusion





THINK GLOBAL ACT LOCAL





THINK GLOBAL ACT LOCAL

ANSWER

CONNECTIVITY

CONFIDENCE

FORCE

VIEW

IMAGE

REACH

FLEXIBILITY

SAFETY

ROBUSTNESS

COURAGE

SUSTAINABILITY

ADAPTATION

CAPACITY

OVERCOMING

RESISTANCE

STRATEGY

MITIGATION

RECOVERY

COHESION

PARTNERSHIP

PROACTIVELY

INVESTMENT



ACTION PLAN PROCESS





INSIGHTS

U-Score Methodology

- After the first research on the stakeholder's websites and thematic meetings, we have organized workshops to gather information and conduct brainstorming. After the first draft we have made consultations by invite to get more feedback.
- We also participate and gather information from finished and on-going projects to get more insights from more people and to get more perspectives on similar subjects.

U-Score National Workshops & Meetings

- U-Score Kick Off Workshop – Amadora, 16-17 April 2015
- U-Score Salford Workshop – 1-2 October 2015
- Lisbon Scorecard and Action Plan Presentation – Lisbon, 9 May 2016

Main Projects

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
UNISDR		Making Cities Resilient			U-Score		Action Plan				
ROCKEFELLER						100 Resilient Cities					
UE - FPT					POPALERT						
UE - H2020							RESILENS	RESCUE			
FRAUNHOFER									City Lab Research		



INSIGHTS

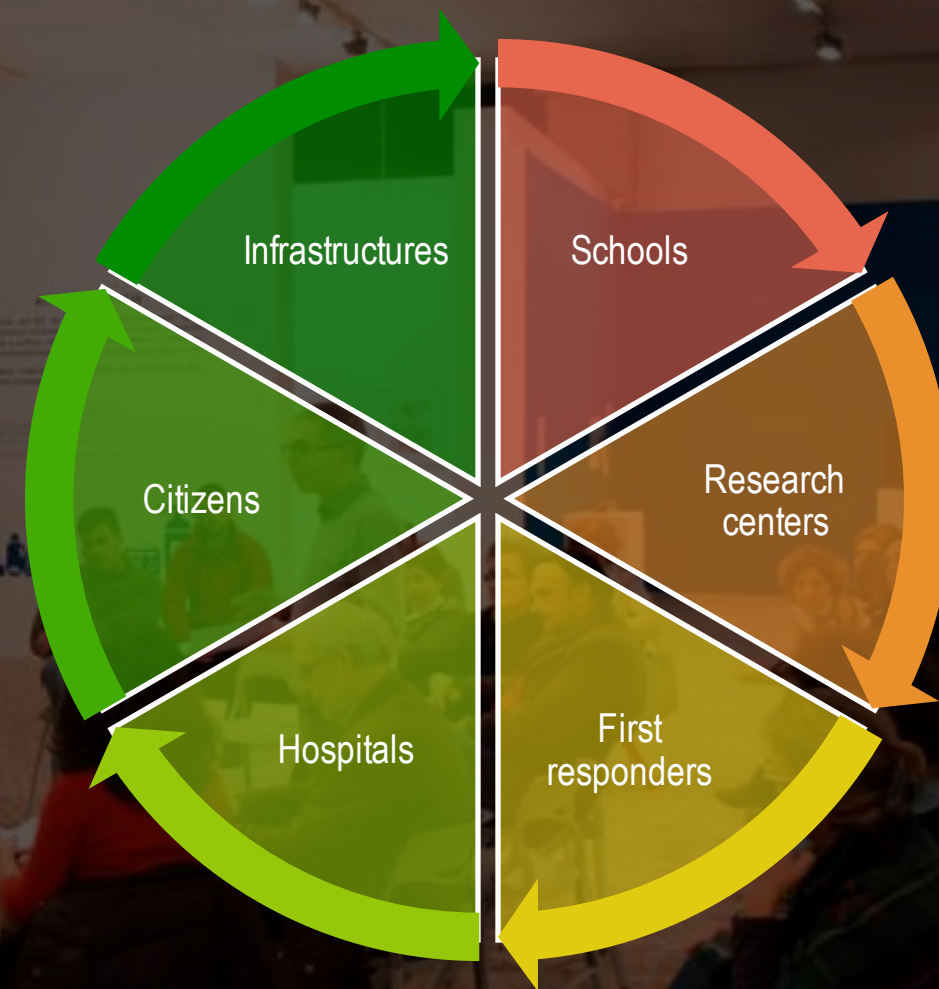
Stakeholders

- Municipal Commission of Lisbon's Civil Protection: Mayor, Municipal Coordinator of Civil Protection, Fire Brigade Commander, volunteer fire brigades, police forces, Captain of the Port of Lisbon, Health Officer, Hospitals, Social Security Institute, Parish Councils, Portuguese Red Cross, National Institute of Forensic Sciences, the Public Prosecution Service, universities and national organizations, critical infrastructure providers, public and private services, solidarity institutes, NGO, etc.
- Municipal Commission of Lisbon's forest protection
- Infrastructures companies

Institutions

- Schools, Research Centres, Hospitals

Citizens



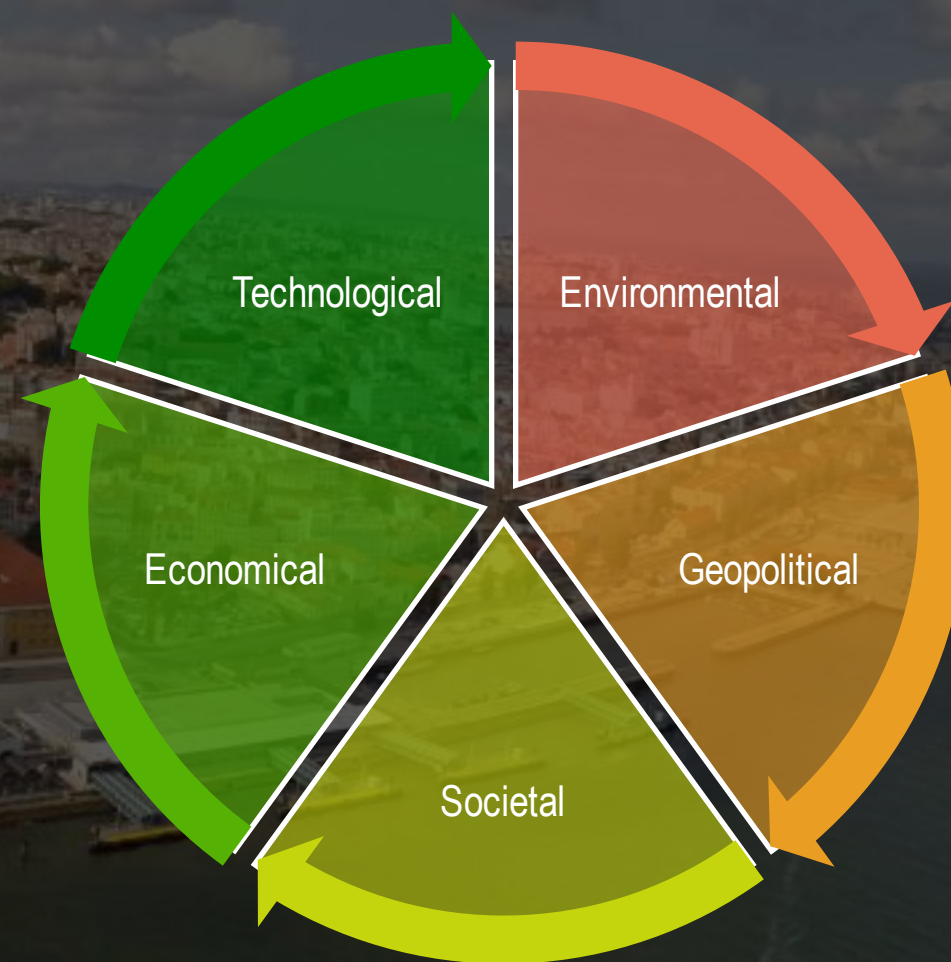
RISKS

To evaluate risk we took the Sendai Framework approach to measure Lisbon resilience using the Scorecard.

The Local Urban Indicators are based on the 'Ten Essentials for Making Cities Resilient' framework which has been updated in line with the Sendai Framework for Disaster Risk Reduction (2015-2030).

The objective of the tool has been to:

- assist local authorities and other stakeholders in assessing their current & future needs and capacities,
- bring together stakeholders to define strategies and common goals,
- gain a holistic understanding of city's' status including their interrelationships; and
- identify policies and interventions that would improve the city's resilience, thereby generating solutions that touch multiple aspects of the city



Top five most impactful Risks

RISKS



RISKS





RISKS

Essentials

E1
Organize for disaster resilience

E2
Identify, understand and use current and future risk scenarios.

E3
Strengthen financial capacity for resilience

E4
Pursue resilient urban development and design

E5
Safeguard natural buffers to enhance the protective functions offered by natural ecosystems

E6
Strengthen institutional capacity for resilience

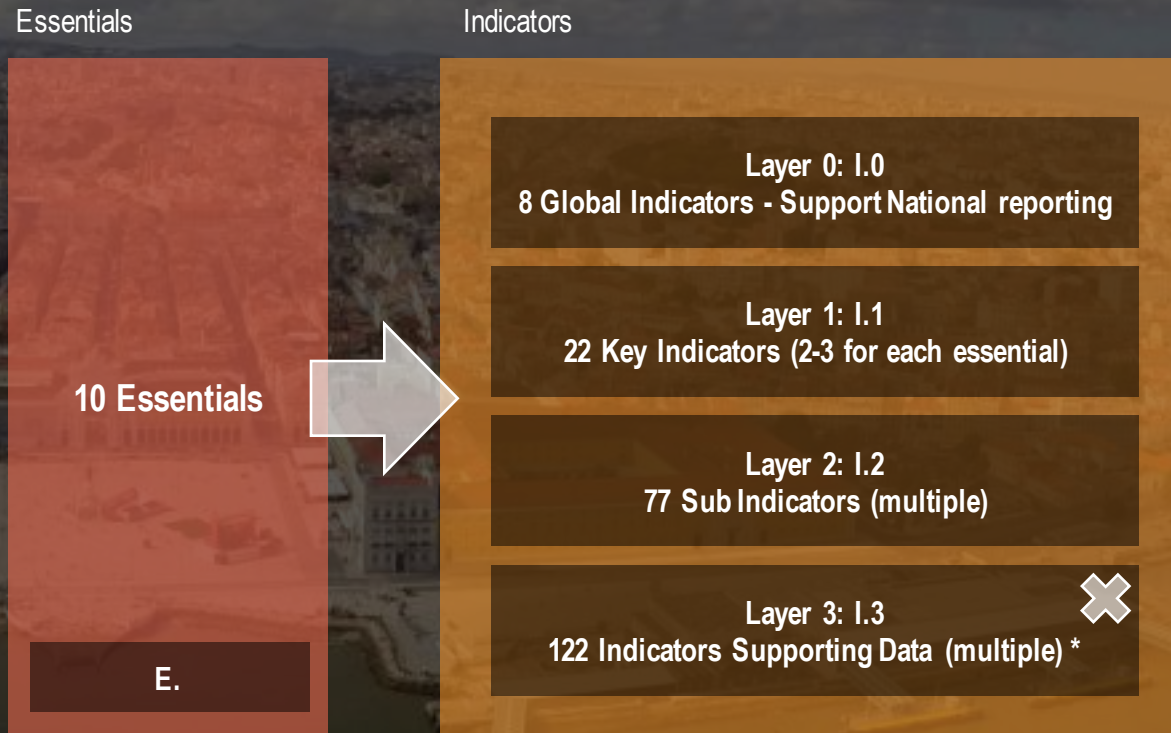
E7
Understand and strengthen societal capacity for resilience

E8
Increase infrastructure resilience

E9
Ensure effective preparedness and disaster response

E10
Expedite recovery and build back better

RISKS



Data for Layer 3 is not present in this document



RISKS

Indicators - Layer 0

- Essential 1
 - A - Does the Local Government's Master plan (or relevant strategy/plan) adopt Sendai Framework: **Yes**
- Essential 2
 - B - Number of deaths due to hazardous events per 100,000 population/per year: **0** - 2015 data and regarding only critical accidents or catastrophes
 - C - Number of people directly (injured or ill, evacuated, relocated) affected due to hazardous events per 100,000 population/ per year: **0**
- Essential 3
 - D - Direct economic loss due to hazardous events: **Unknown** (there is no assessment costs)
- Essential 8
 - E - Damage to critical infrastructure due to hazardous events - # of health facilities destroyed/ damaged: **0**
 - E - Damage to critical infrastructure due to hazardous events - # of educational facilities destroyed/ damaged: **0** (only the 1st cycle- 6~12 years - are municipality scope)
 - E - Damage to critical infrastructure due to hazardous events - Length of basic services disrupted per year (water and sanitation, Electricity, Healthcare, Comms, IT systems, power/energy, transport): **0**
- Essential 9
 - F - Number of people covered by Multi-hazard early warning system per 100,000 population: **Unknown** (there is free public service available on an app and website. There is also another restricted service for all the Portuguese municipalities).

RISKS

Indicators - Layer 1

Layer 1 consists in 22 Key indicators that to be answer with one of the following options:


- Strongly agree
- Partly agree
- Disagree

To be able to analyze all the information regarding the same scale we have transform this options into the following numeric values

- Strongly agree - 5 points
- Partly agree - 3 points
- Disagree - 1 points

For instance, taking the Essentials answers for Layer 1 we have:

- 4 questions: 1.1, 1.2, 1.3 and 1.4
- 1.1: Partly agree
- 1.2: Partly agree
- 1.3: Strongly agree
- 1.4: Partly agree
- The final score for Essential 1, Layer 1 is: 3.5

The adopted color scale was: 1  5



RISKS

Indicators - Layer 1





RISKS

Indicators - Layer 2


Layer 2 consists in 22 Sub indicators that should be answer if the answer to the respective Layer 1 question was Strongly agree or Partly agree. On those questions, the option will be:

- Yes
- To an extent
- No

In some cases we couldn't answer the question, on those the response is Unknown. This answers (only 4 weren't take into account for the final score).

To be able to analyze all the information regarding the same scale we have transform this options into the following numeric values

- Yes - 5 points
- To an extent - 3 points
- No - 1 points
- Unknown - 0 points (doesn't count to the average)

The adopted color scale was: 1  5



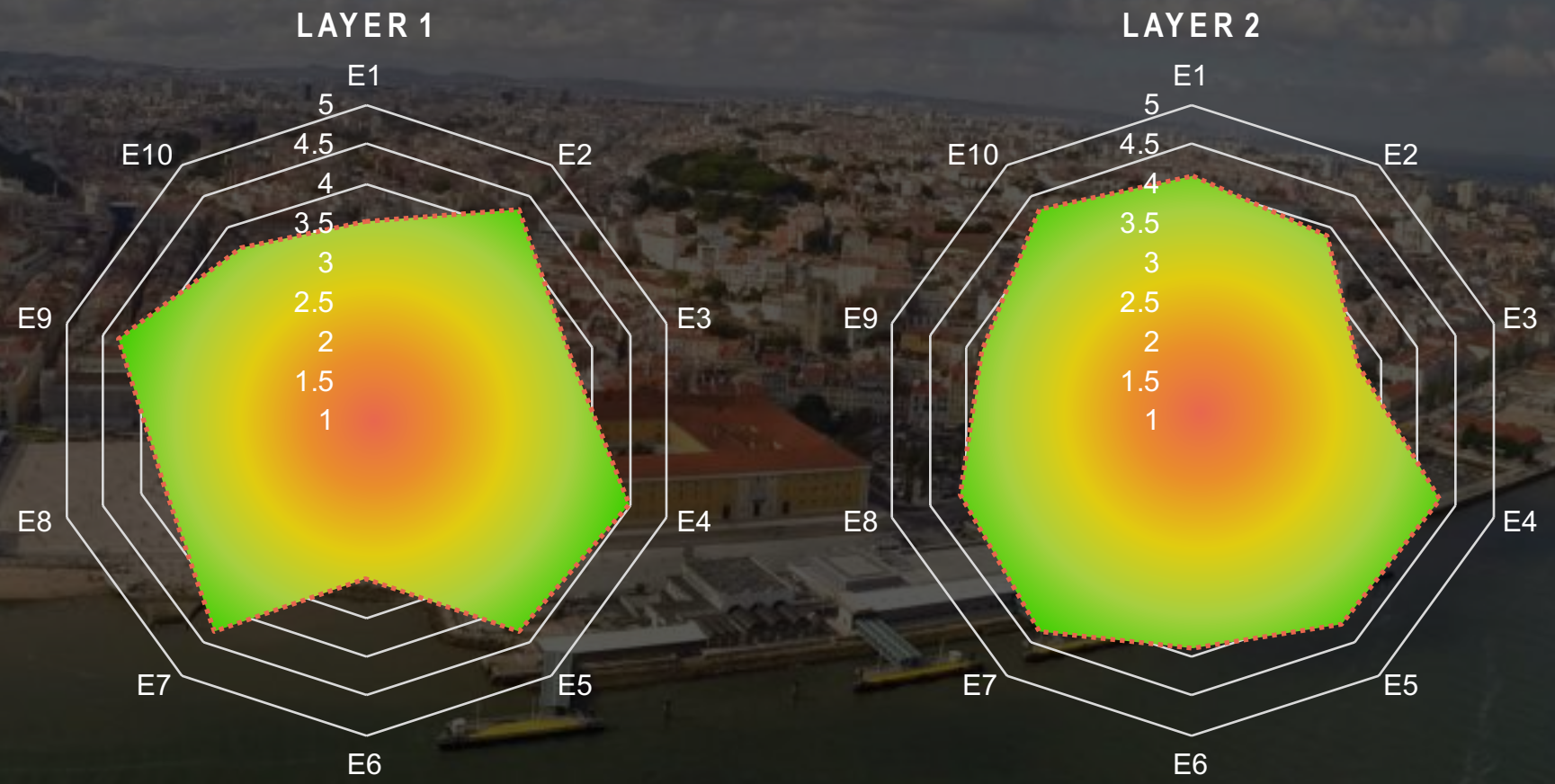
RISKS

Indicators - Layer 2



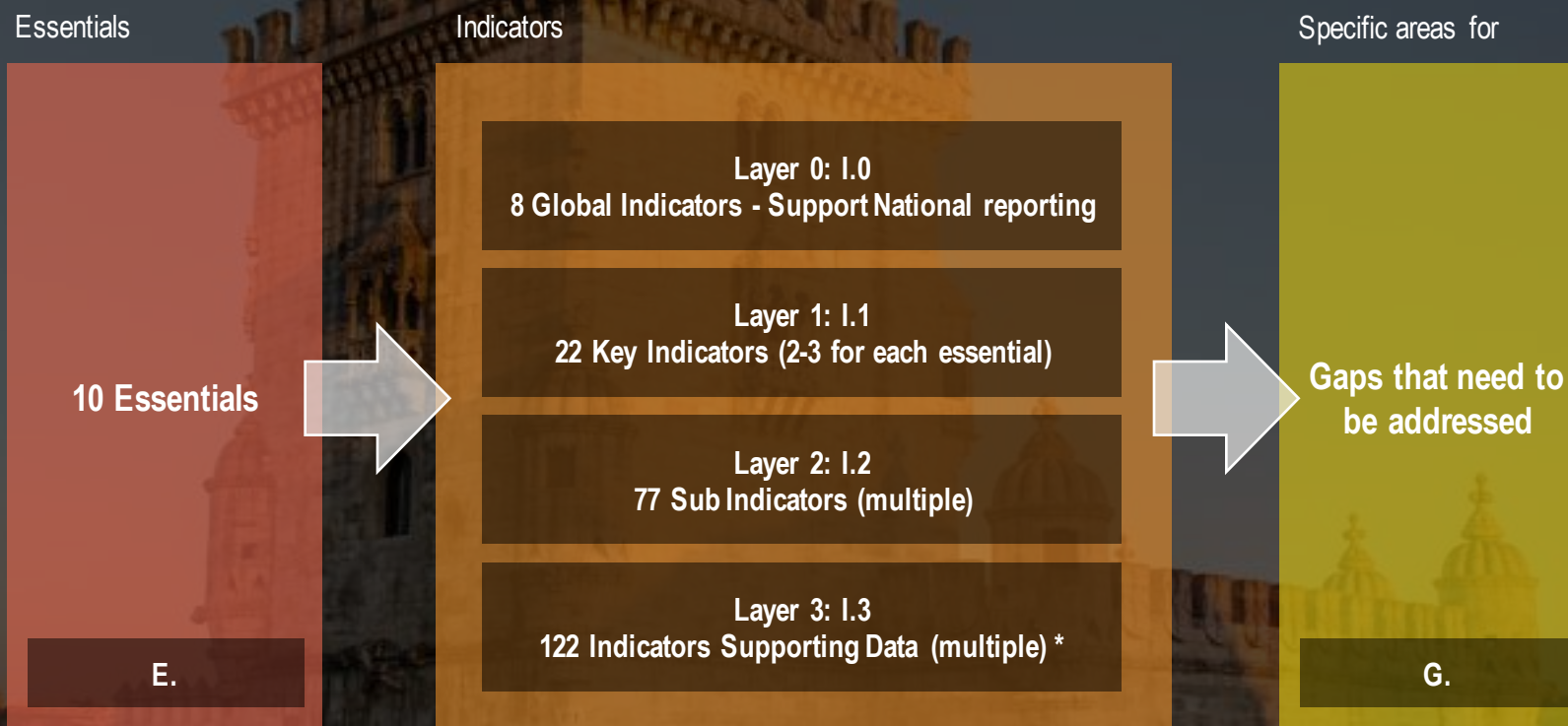
RISKS

Indicators - Layer 1 vs. Layer 2





IMPACTS





IMPACTS

For each sub-indicator of each essential it is important to ensure the priority areas reflecting all the choices in a 2016 ~ 2020 strategy.

The objective is to evaluate the impact of each sub-indicator in each essential as a whole. Then, define and prioritize actions for each of one.

Since the answers for Layer 2 are more detailed than the answers for Layer 1 those will be used for the rest of the analysis.

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
QUESTION 1	●	●	●	●	●	●	●	●	●	○
QUESTION 2	●	●	●	●	●	●	●	●	●	●
QUESTION 3	●	●	●	●	●	●	●	●	●	○
QUESTION 4	●	●	●	●	●	●	●	○	●	●
QUESTION 5	●	●	●	●	●	●	●	●	●	●
QUESTION 6	●	●	●	●	○	○	●	●	●	○
QUESTION 7	●	●	●	●	○	●	●	●	●	○
QUESTION 8	●	○	●	●	○	●	●	●	●	○
QUESTION 9	●	○	●	○	○	●	○	○	○	○
QUESTION 10	○	○	○	○	○	●	○	○	○	○
TOTAL LAYER 2	●	●	●	●	●	●	●	●	●	●



IMPACTS

One strategy to measure the impact of the indicators is to evaluate which sub-indicators must be improved in order to elevate the most important indicators for the city, score, to the maximum level.

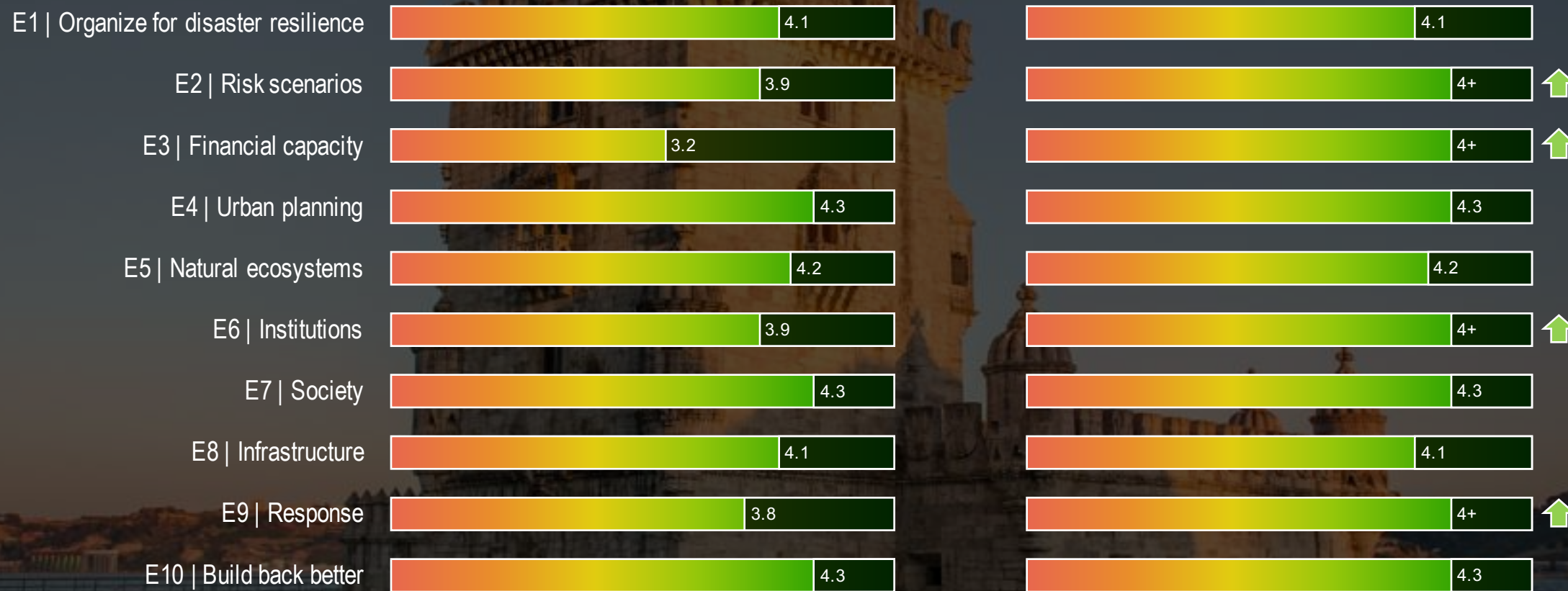
	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
QUESTION 1	●	●	●	●	●	●	●	●	●	●
QUESTION 2	●	●	●	●	●	●	●	●	●	●
QUESTION 3	●	●	●	●	●	●	●	●	●	●
QUESTION 4	●	●	●	●	●	●	●	●	●	●
QUESTION 5	●	●	●	●	●	●	●	●	●	●
QUESTION 6	●	●	●	●	●	●	●	●	●	●
QUESTION 7	●	●	●	●	●	●	●	●	●	●
QUESTION 8	●	●	●	●	●	●	●	●	●	●
QUESTION 9	●	●	●	●	●	●	●	●	●	●
QUESTION 10	●	●	●	●	●	●	●	●	●	●
TOTAL LAYER 2	●	●	●	●	●	●	●	●	●	●



IMPACTS

Data for 2015

2016 ~ 2020 Strategy



ACTIONS



Essentials

Indicators

Specific areas for

Actions required

10 Essentials

E.



Layer 0: I.0
8 Global Indicators - Support National reporting

Layer 1: I.1
22 Key Indicators (2-3 for each essential)

Layer 2: I.2
77 Sub Indicators (multiple)

Layer 3: I.3
122 Indicators Supporting Data (multiple) *



Gaps that need to be addressed

G.



Specific actions required to address the gaps

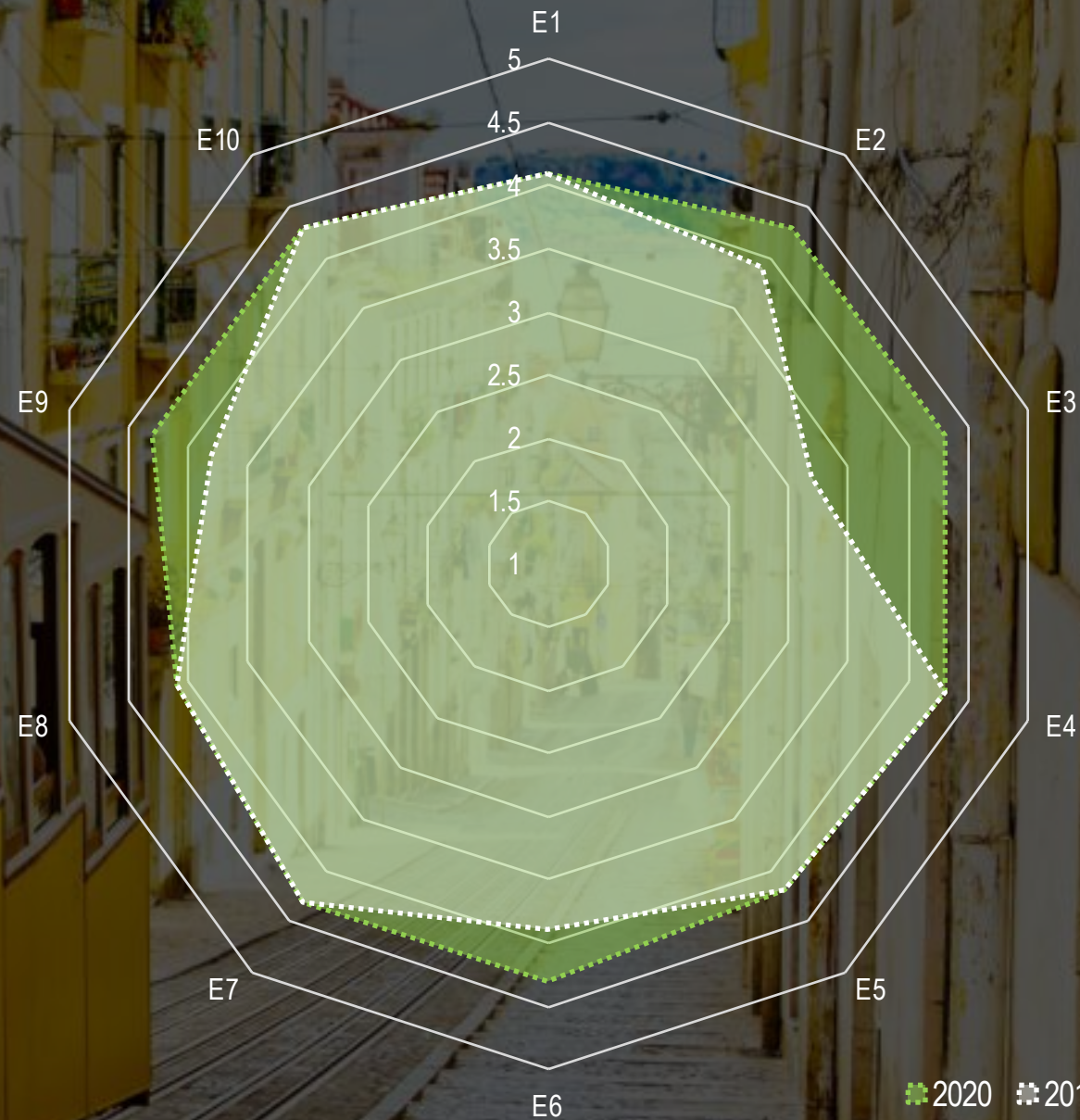
A.

ACTIONS

2015 Data vs. 2016 ~ 2020 strategy

Which sub-indicators need action?

- Scoring 5 – Ideal scoring, no action needed
- Scoring 4 – No action needed unless the impact is high
- Scoring 3 or lower – Action needed



■ 2020 ■ 2015



ACTIONS

First, we define the gaps presented on each sub-indicator and after this analysis we will aggregate them into actions to leverage them with specific projects in a time based approach. These Gaps were identified based on the indicators score and also their impact.

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
QUESTION 1			G.09				G.25	G.28		
QUESTION 2		G.05		G.16						G.36
QUESTION 3		G.06	G.10	G.17	G.19				G.31	
QUESTION 4	G.01	G.07	G.11			G.21	G.26		G.32	G.37
QUESTION 5		G.08	G.12		G.20	G.22		G.29	G.33	G.38
QUESTION 6			G.13				G.27			
QUESTION 7	G.02								G.34	
QUESTION 8	G.03		G.14	G.18				G.30	G.35	
QUESTION 9	G.04		G.15			G.23				
QUESTION 10						G.24				

G.# - Identified Gap

S.I.# - Sub-indicator for each essential



ACTIONS

Essential E1 - Organize for disaster resilience



G.01 - 1.2.1

Lack of authority and resources for lead agencies

- A.01 - Promote a workshop to the local managers to present metrics and the proposed action plan to help them to understand the goals and benefits of a city with a resilient strategy. Also define one resilience strategy with all the managers of the local authorities and the relevant stakeholders.

G.02 - 1.4.1

Investment doesn't take enough risk analysis into account

- A.02 - Elaborate economical models taking into account previous events.

G.03 - 1.4.2

Not enough disaster evaluation to get resilient benefits

- A.03 - Elaborate economical models taking into account previous events and put on evidence the resilient benefits.

G.04 - 1.4.3

Lack of norms and standards to define risk levels for decision makers

- A.04 - Define a resilience strategy based on norms, standards and good practices to expose risk levels.



ACTIONS

Essential E2 - Risk scenarios



G.05 - 2.1.2

Lack of risk assessments based on hazards cascading effects and also trans-boundary risk

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.

G.06 - 2.1.3

Investment doesn't take enough risk analysis into account

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.

G.07 - 2.1.4

Climate change data exists but is not organized in a common platform

- A.06 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario. This platform should be able to receive inputs from the contributing agencies.

G.08 - 2.2.1

Automatic mechanisms to integrate risk and distribute to all the city departments are not implemented

- A.05 - Create a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.



ACTIONS

Essential E3 - Financial capacity



G.09 - 3.1.1

The mechanisms to get financial support are not transparent or hard to discover

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.

G.10 - 3.1.3

Mechanisms to get funds for resilient actions have restricted access or are under development

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.

G.11 - 3.1.4

There is a need to be more clear in the economical impacts of the different risk and their impact

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.

G.12 - 3.1.5

Financial plans for climate change in long term have restricted access or are under development

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.

G.13 - 3.2.1

A contingency fund for from the city budget to resilient related areas have restricted access or are under development

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.

G.14 - 3.3.1

Mechanisms to support city's vulnerable population exists but not aligned with all the risks and their impacts

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.

G.15 - 3.3.2

The city doesn't promote insurance coverage

- A.07 - Define a resilience strategy based on norms, standards and good practices and also resilient budgets aligned to all the risks, their impacts and scenarios.



ACTIONS

Essential E4 - Urban planning



G.16 - 4.2.1

Local urban plans have strong awareness of and actions to mitigate local stresses and provide access for all the critical infrastructures and services but they need to be more up-to-date

- A.08 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario. This platform should be able to integrate with real-time information.

G.17 - 4.2.2

The plans exists but they need to be up-to-date with emergency and contingency planning

- A.08 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario. This platform should be able to integrate with real-time information.

G.18 - 4.4.3

There are some successful training related projects but they should be improve to give access to more people

- A.09 - Continue to have training and awareness objectives in the personal and digital/online formats

ACTIONS

Essential E5 - Natural ecosystems



G.19 - 5.1.3

The awareness exists but is not shared or well documented through the city departments or to other stakeholders

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.

G.20 - 5.2.2

There are some trans-boundary agreements but their and the respective materialized action have restricted access or are under

- A.01 - Promote a workshop to the local managers to present metrics and the proposed action plan to help them to understand the goals and benefits of a city with a resilient strategy. Also define one resilience strategy with all the managers of the local authorities and the relevant stakeholders.



ACTIONS

Essential E6 - Institutions



G.21 - 6.2.3

There is no standard process to capture, store and share relevant data across institutions or they have restricted access or are under development

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.

G.24 - 6.4.2

There are some collaboration within public authorities and the civil society but the roles and obligations are still under development

- A.11 - Define processes based on the resilience strategy to improve and insure the collaboration between authorities, private sector and society.

G.22 - 6.2.4

There are some engagement with national/international networks based on on-going projects but there is not a long term plan

- A.10 - Define budget and roles for people to engage in the known networks based on the resilient strategy

G.23 - 6.4.1

There are some collaboration within public authorities and private sector but the roles and obligations are not well defined

- A.11 - Define processes based on the resilience strategy to improve and insure the collaboration between authorities, private sector and society.



ACTIONS

Essential E7 - Society



G.25 - 7.1.1

Healthcare and social assistance programs are improving

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.

G.26 - 7.2.2

A grassroots collaboration exist but not specific to disaster resilience building

- A.12 - Define a strategy and allocate people time to be able to participate and improve collaborative networks

G.27 - 7.3.1

The general public is aware but the programs are being extended, or created new one, to serve more targeted groups

- A.09 - Continue to have training and awareness objectives in the personal and digital/online formats



ACTIONS

Essential E8 - Infrastructure



G.28 - 8.1.1

There are some shared understanding between city and utility providers but risk scenarios are not up-to-date or in real time

- A.13 - Create a tool to simulate risk scenarios and share the information across the multiple stakeholders.

G.29 - 8.2.1

There are regulation for construction but it doesn't take into account all the effective risks and their scenarios

- A.14 - Improve regulation based on a resilient strategy.

G.30 - 8.2.4

The drainage is old and need improvements but there is a on-going plan

- A.15 - Take into account a resilient strategy on the actual plan and implement a sensor network based on risk scenarios simulations

All Lisbon's infrastructure are managed by the private sector



ACTIONS

Essential E9 - Response



G.31 - 9.2.1

There are plans for operation during an emergency but risk scenarios simulation are not up-to-date data or conclusive sometimes

- A.16 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario as also to be able to simulate different risk scenarios.

G.32 - 9.2.2

The plan has a allocate capacity as well as resources but the data and scenarios should be more precise

- A.16 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario as also to be able to simulate different risk scenarios.

G.33 - 9.2.3

The plan has a allocate capacity as well as resources but the data and scenarios should be more precise

- A.16 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario as also to be able to simulate different risk scenarios.

G.34 - 9.3.2

EW systems exists and are available online but they should be more preventive and their communications should be in more channels (web standards, mobile, text messages, etc.)

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.

G.35 - 9.3.3

EW resources and tools exists but they should be more preventive and their communications should be in more channels (web standards, mobile, text messages, etc.)

- A.05 - Create and share a platform for multiple stakeholders and agencies in order to be able to get a full risk scenario.



ACTIONS

Essential E10 - Build back better



G.36 - 10.1.2

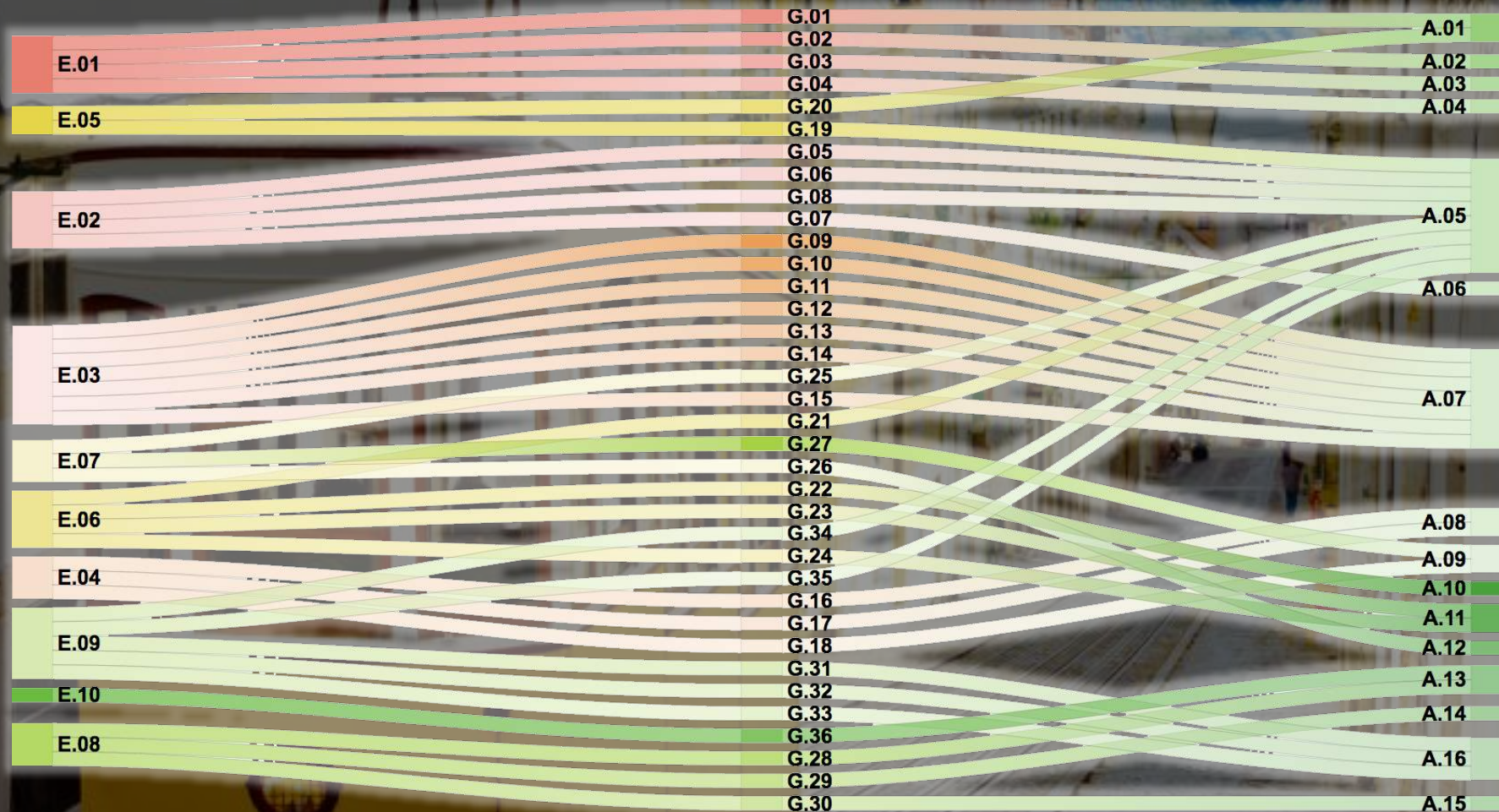
There is regulation that define roles and responsibilities but there is a need for more agile processes namely for trans-boundary hazards and cascading effects.

- A.13 - Create a tool to simulate risk scenarios and share the information across the multiple stakeholders.



ACTIONS

Mapping between Essentials, Gaps and Actions



E. # - Essential
G. # - Identified Gap
A. # - Action

Colors are used just for representation and not associated to risk or impact level

ACTIONS



ACTIONS

Some actions are similar or complementary of each other. To ensure that all the actions follow the same approach and to define projects for all the gaps identified, the actions will be joined into main groups.

These main groups of actions will generate needs for projects that will be conceptualized and organized in time.



PROJECTS





PROJECTS - LESSONS LEARNED

On-going projects

Local emergency planning project and Civil Protection Volunteer Training

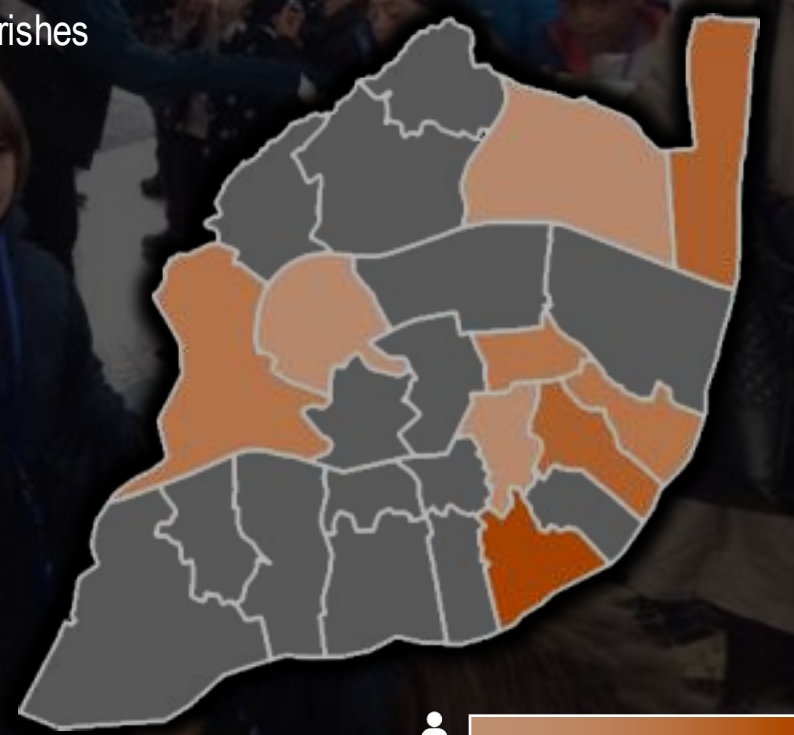
- 300 / year
- 9 parishes

Training for teachers on internal emergency plans for schools

- 10 sessions / year
- 180 participants / year

Exercises and drills

- 100 / year





PROJECTS - LESSONS LEARNED

Tinoni / Growing Up (IN) Safety

- Project for awareness training in Civil Protection and Safety
 - www.tinoni.com
 - casadotinoni.blogspot.pt/

Aims

- General aims:
 - To make various and decisive contributions towards achieving efficient self-protection and effective solidarity for the protection of all.
- Specific aims
 - To alert children to the various dangers or situations that may cause accidents, or in other words to ensure that each child effectively knows the risks to which he or she is exposed in daily life.
 - To inform children of the most suitable rules and behaviour to adopt in each situation.

Target population

- Children in the Basic System of Education in the Municipality of Lisbon.

Subject areas:

- There are four priority areas of intervention, in which potential risks may be grouped together:
 - safety in the street and public spaces
 - safety in the home
 - attitudes towards earthquakes
 - fire prevention.



PROJECTS - LESSONS LEARNED

Dissemination of information in different channels

- Institutional website - www.cm-lisboa.pt/viver/seguranca/protecao-civil
- Social networks / Facebook
 - Tinoni - www.facebook.com/Tinoni-10150109273660445/
 - Lisbon SMPC - www.facebook.com/Protec%C3%A7%C3%A3o-Civil-de-Lisboa-883900264970078/





PROJECTS - LESSONS LEARNED

Participation of the Lisbon SMPC (with scope and type of participation)

On-going

- **100 Resilient Cities** – Rockefeller Foundation - www.100resilientcities.org/cities/entry/lisbon [International - Partner]
- **U-SCORE** - UNISDR making cities Resilient: Lisbon is getting ready [International EU, H2020 - Advisory Board]
- Population Alerting: Linking Emergencies, Resilience and Training – **POP-Alert**, University of Greenwich www.pop-alert.eu [International EU, FP7 - Partner]
- Realizing European ReSILiencE for Critical INfraStructure – **RESILENS**, Future Analytics Consulting www.resilens.eu [International, EU, H2020 - Partner]
- DRiving InnoVation in crisis management for European Resilience – **DRIVER**, Swedish Defense Research Agency (FOI) driver-project.eu [International, EU, FP7 - Advisory board]
- Campaign “**Making Cities Resilient: My City is Getting Ready**”; CML through the Civil Protection Service www.unisdr.org/campaign/resilientcities/cities/view/133 [International - Partner]
- **ClimAdapt Local**: Lisbon Municipal Strategy for Adaptation to Climate Change www.apambiente.pt/index.php?ref=x164 [International - Partner]
- **RESCCUE** - RESilience to cope with Climate Change in Urban arEas - a multisectorial approach focusing on water, Cetaqua - AQUATEC Proyectos para el sector del Agua SA [International, EU, H2020 - Partner]

PROJECTS - LESSONS LEARNED

Participation of the Lisbon SMPC (with scope and type of participation)

Finished

- **Alert4All** Project, Deutsches Zentrum für Luft- und Raumfahrt e.V. (Project Coordinator) www.alert4all.eu [International, EU, FP7 - Advisory board]
- Critical Response in Security and Safety Emergencies – **CRISYS**, EOS - European Organization of Security, www.eos-eu.com/Middle.aspx?Page=crisys&tID=2 [International, EU, FP7 - Advisory Board]
- Implementação do Plano de Segurança do Ciclo da Água a Lisboa – **Prepared**, LNEC, EPAL, SINTEJO, ERSAR. www.prepared-fp7.eu/prepared-lisbon-portugal [International, EU, FP7 - Partners]
- **Sistema Operacional Integrado de Prevenção do Risco Meteorológico em Lisboa** meteo.ist.utl.pt/private/cm/ [National - Partners]
- **Urban Heat Island – UHI**, IPMA, Lisboa E-Nova, Edisoft, INDRA ESPACIO, National Observatory of Athens, www.urbanheatisland.info [International - Partners]
- **Floods CBA**, Sigma Consultants, Middlesex University, University Nova Lisboa, www.floodcba.eu/main [International - Advisory Board]



PROJECTS

Six projects were identified with the following proposed Timeline.





PROJECTS

Mapping between Actions and Projects



A. # - Action
P. # - Project

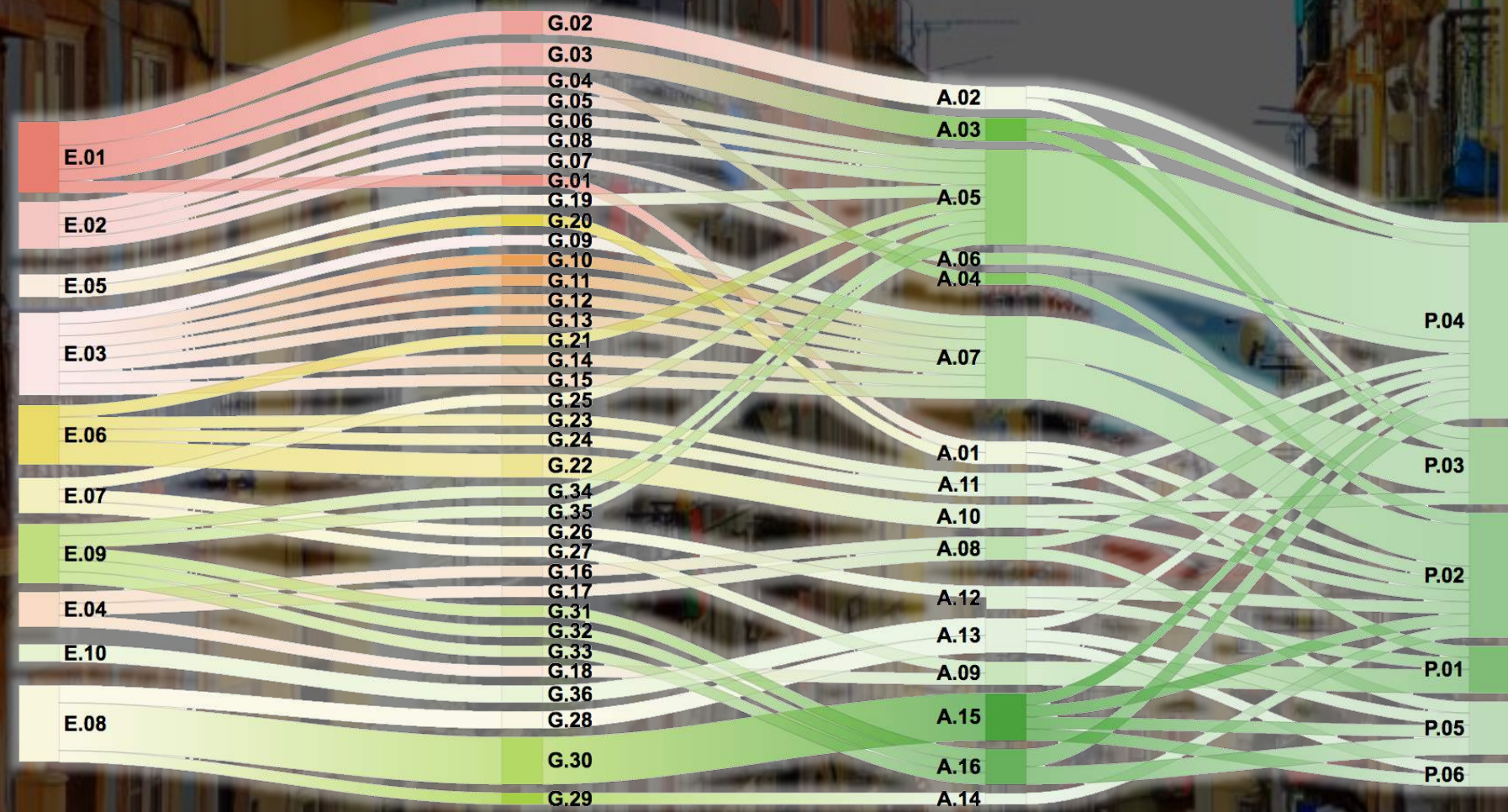
Colors are used just for representation and not associated to risk or impact level

PROJECTS



PROJECTS

Mapping between Essentials, Gaps, Actions and Projects



E. # - Essential
 G. # - Identified Gap
 A. # - Action
 P. # - Project

Colors are used just for representation and not associated to risk or impact level

PROJECTS



PROJECTS

P.01 Educate and share Lessons Learned

OBJECTIVE Provide know-how on a periodic basis in a personal but also digital way. With this training there will be more people more aware and with more know-how on the subject.

PROMOTED This project will be promoted by the Lisbon SMPC as a follow up of the already on-going initiatives. This projects aims to create more awareness and give more instruments based on personal training as also on close interactions with local schools, universities, state laboratories, etc.

DURATION All year(s)

COSTS Current budget from the Municipality of Lisbon for the on-going activities. External total investment need for science and research as also for training in specific areas namely cyber-security: 15.000 € / year



Direct Target
 Indirect / Collateral target



PROJECTS

P.02 Resilient Strategy

OBJECTIVE
Define and implement a Resilient Strategy for the city of Lisbon. Processes and interactions between the users and the organizations need to be very well defined so that Lisbon can be communicated and sensed as a Resilient city. For each process, roles must be defined to ensure their success.

PROMOTED
This project must be promoted by the managing team of the Municipality of Lisbon involving all the main stakeholders as also the research centers and communities.

DURATION
Average of 1.5 consultants during 9 months

COSTS
Total external investment need: 110.000 €



Direct Target
 Indirect / Collateral target



PROJECTS

P.03 Resilient Budget

OBJECTIVE
Define budgets, get funds and allocate them to resilient projects analyzing their economical results. These budgets should be aligned with the - P.02 | Resilient Strategy - to guarantee that all the resources are available on each defined milestone.

PROMOTED
This project should be promoted by the Lisbon SMPC in articulation with the financial department of the Municipality of Lisbon with the empowerment of the European union. To ensure the execution it's mandatory to have someone from municipality decision team.

DURATION
Average of 1.5 consultants during 6 months

COSTS
Total external investment need: 90.000 €



Direct Target
 Indirect / Collateral target



PROJECTS

P.04 Resilient Platform

OBJECTIVE
Build and maintain a data and services platform to be able to serve not only organizations but also schools, research centers, and citizens with all the data and information necessary to prevent and to respond to many phenomena. The platform should be web-based to allow access from anywhere and everywhere (multiple devices) and also to provide information in standard protocols.

PROMOTED
Lisbon SMPC in articulation with the National Authority for DRR.

DURATION
Average of 2 consultants during 8 months plus 0.5 consultants during 9 months

COSTS
Total external investment need: 200.000 €



Direct Target
 Indirect / Collateral target



PROJECTS

P.05 Resilient Sensors Network

OBJECTIVE
Build a network of smart sensors integrated within the Resilient Platform. This way the Platform will get real-time information providing more realistic views of the territory and the society as also to provide value information for the Alert and Warning systems. These sensors should include smart building structural health, traffic and congestion, etc

PROMOTED
Lisbon SMPC in articulation with the ITC of the Municipality of Lisbon and also with the main telecom operators in Portugal.

DURATION
Average of 2 consultants during 6 months plus 0.1 consultants during 9 months

COSTS
Total external investment need: 330.000 €



Direct Target
 Indirect / Collateral target



PROJECTS

P.06 Resilient Risk Analysis Tool

OBJECTIVE

Extend the Resilient Platform to turn it into the perfect Tool to simulate and anticipate situations as also to make the response more effective using what-if scenarios. All these functionalities should be available, online in a web-based application, to different professionals depending on their roles in the main Resilient Platform.

PROMOTED

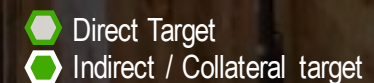
Lisbon SMPC in articulation with the National Authority for DRR.

DURATION

Average of 3 consultants during 6 months

COSTS

Total external investment need: 180.000 €





MONITOR



MONITOR

The six projects identified should be monitored according to their scope to ensure the evolution of the essentials scoring.

The projects will influence the essentials in the following way:

P.01	Essentials E.01, E.02, E.04, E.07	P.04	Essentials E.01, E.02, E.04, E.05, E.06, E.07, E.08, E.09, E.10
P.02	Essentials E.01, E.02, E.03, E.06, E.07, E.08	P.05	Essentials E.04, E.08, E.09, E.10
P.03	Essentials E.01, E.03, E.06	P.06	Essentials E.08, E.09, E.10



MONITOR

The bellow objectives were defined in order to simplify the future monitoring.

Data for 2015

2016 ~ 2020 Strategy

E1 | Organize for disaster resilience



E2 | Risk scenarios



E3 | Financial capacity



E4 | Urban planning



E5 | Natural ecosystems



E6 | Institutions



E7 | Society



E8 | Infrastructure



E9 | Response



E10 | Build back better





CONCLUSIONS

The city of Lisbon is on the perfect track to become a more resilient city and there are some areas that should be improved. These areas were identified promoting actions which were aggregated into projects to be implemented.

The need of more political involvement and decisions is obvious in order to involve more stakeholders (public and private) to work with the city as a unique and articulated being. This involvement will result in a better prevention for the city and facilitate all the processes for response.

Several strengths were identified, particularly in the Lisbon SMPC team, which are evident by the results obtained in all on-going and finished projects as well in other actions. There are several ideas and implementation capacity (supervisory / management when it comes to advanced technological projects) but is obvious the lack of financial resources allocated to these initiatives.

Something that became clear is that a Resilient city depends not only on technology and processes but also in a close proximity to the population, and other entities such as parishes where the creation of the awareness for this area is crucial.



CONCLUSIONS

About the tool

The main benefits of U-Score Framework were:

- Defines the Framework strategy for the city development and contributes to strengthening resilience
- Increased partnerships and encourages exchanges of methodologies, information and experts and the possibility of sharing good practices, ideas and knowledge (at different levels)
- Identifies barriers (financial, political, linguistic) and promote solutions
- Understand the threats impact at different administrative levels of the city
- Enables city to provide updated and reliable information to the public

The main drawbacks of U-Score Framework were:

- Resources and time intensive
- Difficult to translate in local languages, especially technical terminology
- Difficult on selection of the data source and in obtaining systematic data, especially from the private sector
- High number of indicators, some of them not appropriate for the city context
- Difficulties in assessing all parameters in a quantitative manner and difficult application of the measuring scale



CONCLUSIONS ABOUT THE TOOL

About the tool

Recommendations for other cities

- Face the self-assessment as a project and define responsibilities and a plan with milestones to be achieved
- Need to be clearly linked with the legal planning instruments in force and national strategies
- Building a user-friendly application/platform to centralize all the relevant information/data and share with all the stakeholders in order to improve awareness
- Define a baseline and select a set of appropriate indicators for a specific goal to be achieved
- Aim to integrate the resilience action plan into the municipal master and emergency civil protection plans
- Maintain the multi-stakeholder dialogue even after finalizing the self-assessment

TEAM



- United Nations Office for Disaster Risk Reduction (UNISDR)

Strategic Consultant on behalf of UNISDR

- Sandro Batista - sandro.batista@focus-bc.com

- Public Awareness division of Lisbon's Civil Protection Service

Coordination

- Maria João Telhado, Head of division
- Sofia Baltazar, Expert

Team

- Manuel João Ribeiro, Director
- Ana Godinho
- Marco Morais
- Luisa Coelho
- Sibila Sobral



This document contains the feedback report on the draft local-urban indicators based on its usability, data availability and relevance and it also represents the DRR & Resilience Action plan for the city of Lisbon developed using the pilot local –urban indicators that is inclusive of the strategy. The main objective of this work is to allow United Nations Office for Disaster Risk Reduction (UNISDR) to: Gain an overview of the process, and insight into the criteria for successfully and sufficiently implementing the local-urban indicators of the Sendai Framework for Disaster Risk Reduction. Understand the methodologies behind the conducting of the implementation of the local-urban indicators process, towards methodologies to inform and develop resilience strategies and following resilience action plans to meet desired goals in capacity building. Gain a deeper understanding of the issues experienced in selected cities/municipalities in their implementation of the indicators as well as development and implementation of a Resilience Strategy and Resilience Action Plan. Identify the best common or ‘standardized’ methodology in development and implementation of the above elements in a way forward in reaching the Sendai Framework target of “increased number of countries with local level disaster risk reduction strategies by 2020”