

NATURE-BASED SOLUTIONS AND RE-NATURING CITIES

OUTCOMES OF THE H2020 EXPERT GROUP

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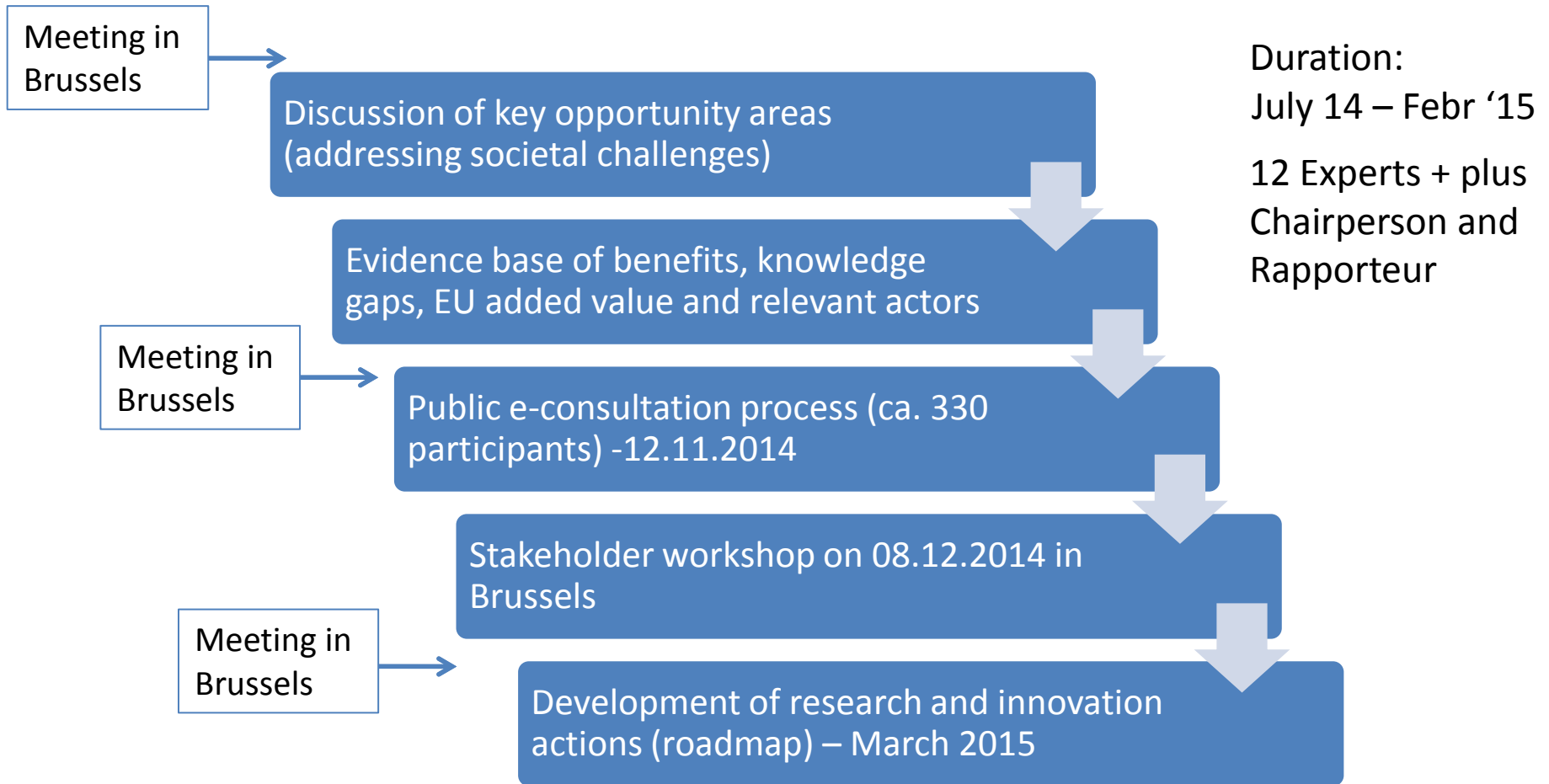
Content

- ▶ Purpose and activities of H2020 group
- ▶ Key opportunity areas and research and innovation actions for NBS
- ▶ In the spotlight: Sustainable urbanisation

H2020 Expert group: NBS & Re-Naturing Cities

- ▶ Societal Challenge 5 “Climate action, environment, resource efficiency and raw materials”
 - ▶ Support the EC (DG Research) on past activities, asses policy relevant state-of-the art, scientific knowledge and innovation
 - ▶ Forward looking reflection and establish coherent EU reference policy framework for R&I and R&I agenda
 - ▶ Turn challenges into innovation opportunities
- *„Europe to become a world leader both in R&I and in the growing market for NBS“*

H2020 Expert group: Process and activities



Understanding of NBS

- ▶ Inspired by, supported by or copied from nature
- ▶ Maintaining and enhancing natural capital as basis
- ▶ Can address a variety of societal challenges
- ▶ Potential to be cost-effective, resource- and energy-sufficient and resilient to change
- ▶ Potential to contribute to green growth, future-proofing society, fostering citizens well-being and human health and providing business opportunities

Research & Innovation Agenda on Nature-Based Solutions and Re-Naturing Cities

Goals	Research & Innovation Actions
Enhancing sustainable urbanisation	 <p>Urban regeneration through nature-based solutions</p>
	 <p>Nature-based solutions for improving well-being in urban areas</p>
Restoring degraded ecosystems	 <p>Establishing nature-based solutions for coastal resilience</p>
	 <p>Multi-functional nature-based watershed management and ecosystem restoration</p>
Developing climate change adaptation and mitigation	 <p>Nature-based solutions for increasing the sustainable use of matter and energy</p>
	 <p>Nature-based solutions for enhancing the insurance value of ecosystems</p>
Improving risk management and resilience	 <p>Increasing carbon sequestration through nature-based solutions</p>

Stimulate economic growth as well as improving the environment, making cities more attractive, and enhancing human well-being

Improve the resilience of ecosystems, enabling them to deliver vital ecosystem services and also to meet other societal challenges

Provide more resilient responses and enhance the storage of carbon

Lead to greater benefits than conventional methods and offer synergies in reducing multiple risks

Actions relevant for cities

Sustainable urbanisation

- ▶ Cities: 73% of Europe's population, 82% by 2050
- ▶ Risks and challenges: resource availability, equitable economic growth, quality of urban environments, demands for new construction and infrastructure etc.
- ▶ Decoupling economic growth from depletion of resources
- ▶ Natural areas and features in/around cities delivering ES
- ▶ Strategic opportunity areas for NBS – 3 main challenges:
 1. Economic development (new business models, circular economy..)
 2. Environmental impact (urban resilience, ..)
 3. Social dimension (people's happiness, diseases, obesity ...)

SU: Urban regeneration through NBS

- ▶ New uses for underused and unused land and grey infrastructure (derelict and fringe areas)
- ▶ Provide openings for business
- ▶ Innovation in business models driven by sustainability



- ▶ Cities as (living) laboratories for innovation, experimentation and testing cost-effectiveness
- ▶ Use of existing city networks to replicate projects and upscale

Photo source: http://img.locationpartnership.com.s3-website-eu-west-1.amazonaws.com/dbims/IW206_1.JPG



New York Low Line (Underground park)



Promenade Plantée (Paris)



Community garden



Parco Nord (Milan)

Photo sources: NY: <http://trendland.com/wp-content/uploads/2012/02/ny-lowline-underground-project-6.jpg>, Paris: <http://www.localnomad.com/en/blog/wp-content/uploads/2013/02/high-line-paris.jpg>, Community Garden: http://www.edmonton.ca/residential_neighbourhoods/community_garden.jpg, Milan: <http://www.telecolor.net/wp-content/uploads/2014/08/parconord.jpg>

SU: NBS for improving well-being in urban areas

- ▶ Integrating NBS into urban design and planning
- ▶ Access to green spaces and good quality landscape, enhance neighborhood spaces
- ▶ Effects: health, well being, social cohesion, crime and community support
- ▶ Need for demonstration projects
- ▶ Resonate with urban publics; citizen empowerment and citizen-driven innovation are key
- ▶ Explore new forms of stakeholder participation in urban design and planning



SU: NBS for improving well-being in urban areas (examples)



Mayesbrook Park (London)

Photo source:
http://www.clydewaterfront.com/media/2321830/glasgow%20green_13200%20mi2.jpg



Glasgow Green Renewal

Photo source: S Williams
(<http://www.londongardensonline.org.uk/images/sitepics/BAD013-sitetn.jpg>)

EU as inspiration and world leader – Key actions

- ▶ Enhance evidence base and rationale for NBS implementation (at greater speed and scale)
- ▶ Develop, demonstrate and replicate innovative NBS
- ▶ Set the scene for application across policies, sectors and actors
- ▶ Need to explore new governance and institutional, business and finance models which leverage private and public funding