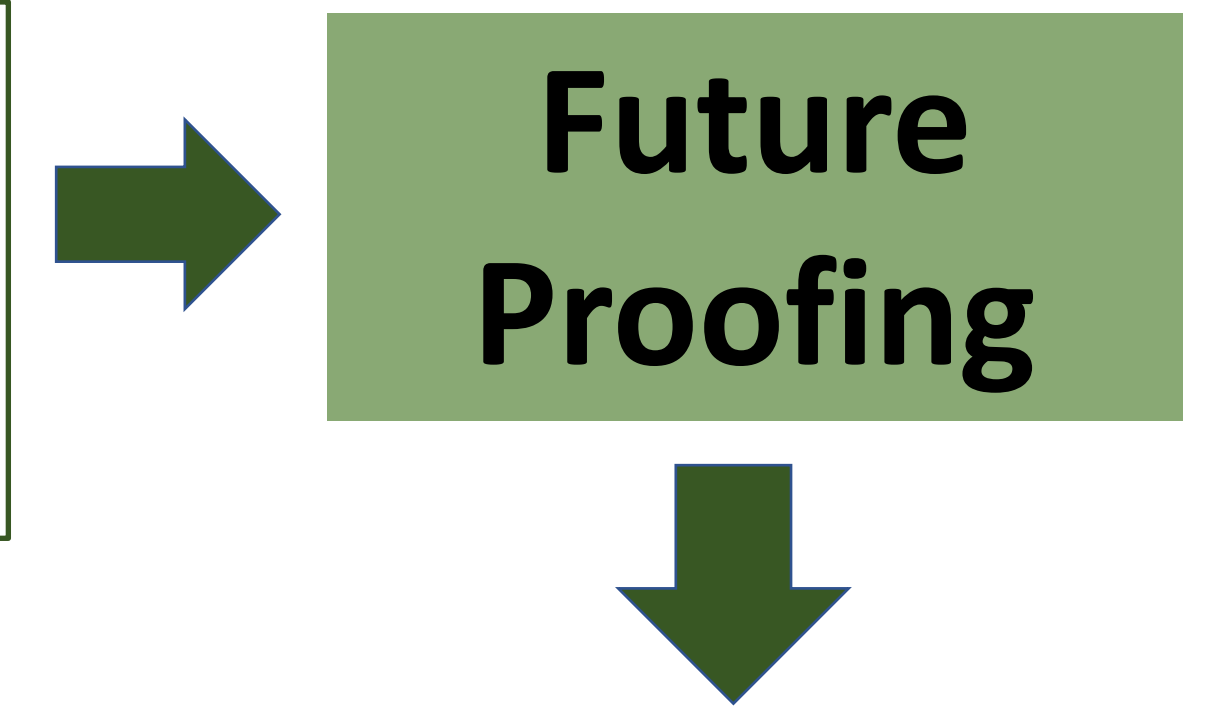


Integrated nature-based infrastructure solutions to increase urban city resilience

Cities face growing environmental, social, and economic challenges that threaten the resilience of urban areas and impact residents. Integrated nature-based infrastructure solutions have emerged as a concept that promotes biodiversity of cities and address a range environmental, economic, and societal challenges that improve citizen health and wellbeing.



Four principal goals that can be addressed by nature-based solutions (EC, 2015)

Sustainable urbanisation can motivate economic growth as well as improve environmental conditions making cities more attractive, and promoting citizen health & well-being.	Restoring degraded ecosystems can improve the resilience of ecologies, enabling them to deliver vital ecosystem services and meet other societal challenges.	Developing climate change adaptation and mitigation using nature-based solutions can provide more resilient responses and enhance the storage of carbon.	Improving risk management and resilience can lead to greater benefits than conventional methods and offer synergies in reducing multiple risks.
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Enhancing Sustainable Urbanisation

Nature-based solutions in the city can cut energy and resource costs and act as carbon sinks to mitigate risks of climate change. Green Roofs- Energy savings ≈ 10-15%, 12% reduction in energy demand, reduce high cooling loads in buildings by 66%, with 4-hour reductions in cooling energy demand Also contribute to improving human health.

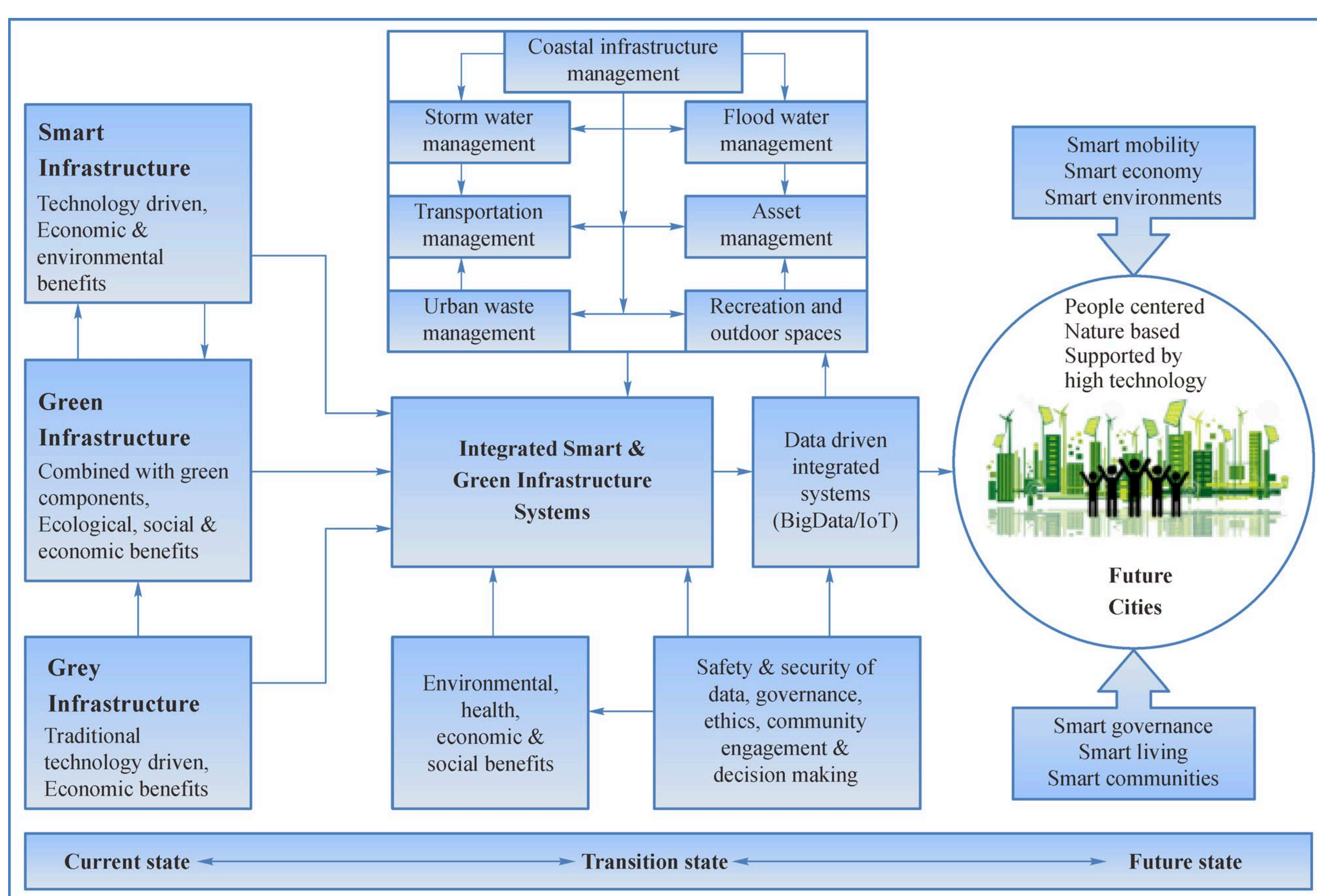
Reducing urban heat stress- Urban parks reduce ambient daytime temperature by an average of 0.94°C; average night-time reduction of 1.15°C.

Living close to green space has a positive influence on general health indicators and may also reduce crime rates. Provision of access to good quality green space for every household in England could lead to annual savings of £2.1bn in averted health costs.

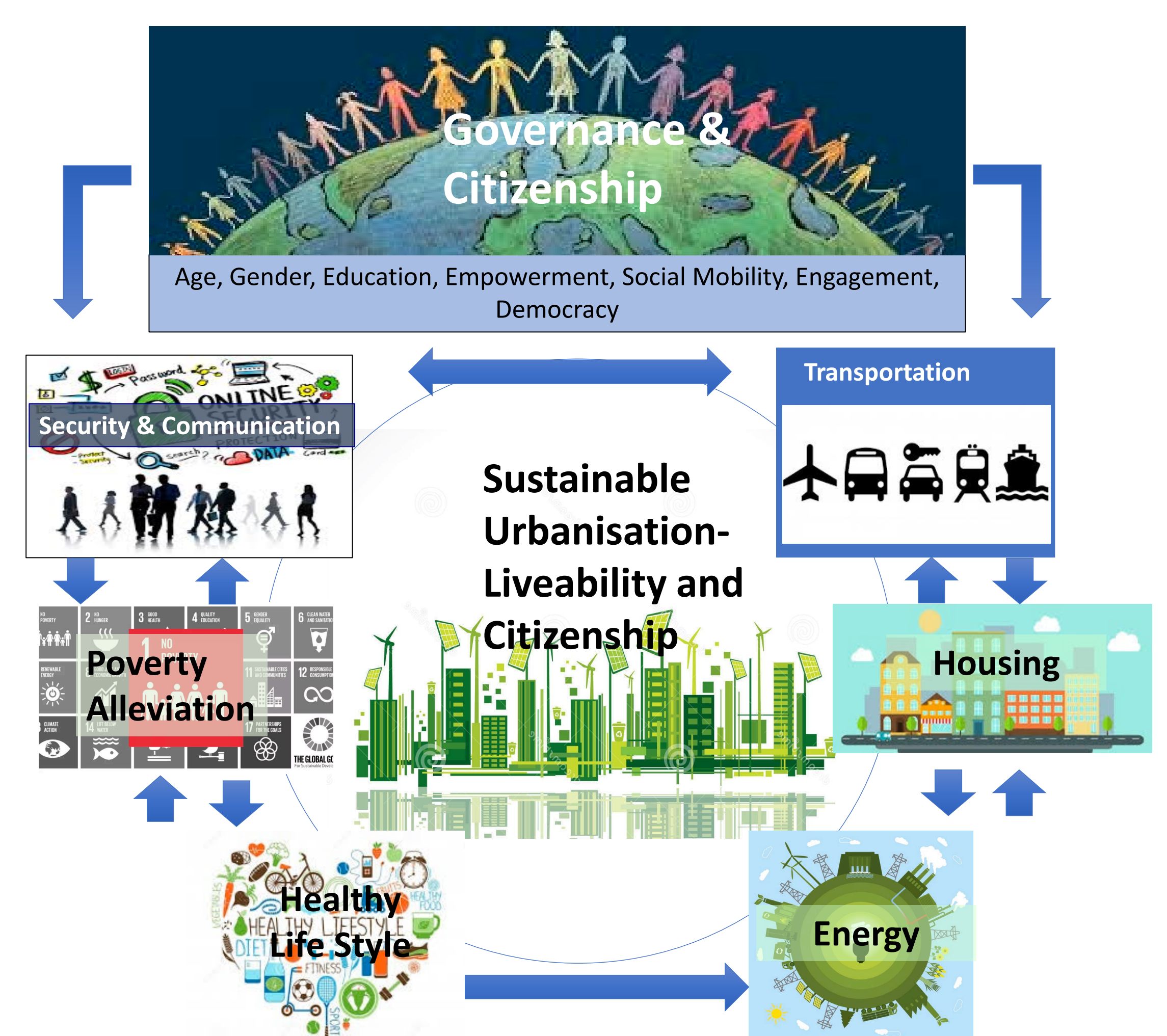
Research & Innovation Areas

Urban Regeneration through nature-based solutions. Nature-based solutions for improving well-being in urban areas	Establishing nature-based solutions for coastal resilience Multi-functional nature-based watershed management and ecosystem restoration	Nature-based solutions for increasing the sustainability of the use of matter and energy Nature-based solutions for enhancing the insurance value of eco systems	Increasing carbon sequestration through nature-based solutions
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Integrated Infrastructure Systems and Drivers that contribute to achieving Future Cities



Strategic opportunity areas



A viable smart green infrastructure strategy requires new legislation for new types of urban development. New governance models including participatory community approaches and place-based strategies are needed to adopt city solutions that enable, mobilise, and sustain local initiatives. These participatory approaches can contribute positively to determine the way forward for adopting nature-based solutions at an individual level as well as at a community level to improve resilience of cities. The physical and mental health and wellbeing of the residents are of critical importance to the quality of life in the city.