



# RESEARCH CONNECTIONS

RESEARCH – PARKS, ENVIRONMENT, BIODIVERSITY AND CONSERVATION

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**TITLE:** Defining and measuring the social-ecological quality of urban greenspace: a semi-systematic review (2015)

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**AUTHORS:** Ashlea J. Hunter, School of Environmental Sciences, Charles Sturt University, Albury Wodonga, NSW, Gary W. Luck Professor in Ecology and Interdisciplinary Science, Institute for Land, Water and Society, Charles Sturt University, NSW

**ABSTRACT**

Various disciplines have examined the role of urban greenspace in delivering a wide array of social-ecological values to urban residents. This semi-systematic review of 50 studies assesses how links between the social and ecological qualities of urban greenspace have been measured to establish social-ecological values, and what qualities researchers have used to define greenspace type. Our review identified that differences in the definition and measurement of greenspace and its ecological and social

qualities can have a profound impact on interpretations of greenspace value. We argue that it is critical to acknowledge the heterogeneity among different greenspace types, and to use suitable metrics of greenspace ecological and social quality accordingly. We present a heterarchical typology of greenspace qualities (rather than a hierarchical typology of urban greenspaces) that can be used to define greenspace type and identify research clusters, gaps and emerging lines of inquiry into the social-ecological values of greenspace.

**PUBLISHED:** Urban Ecosystems, April 2015.

Download article: <http://link.springer.com/article/10.1007/s11252-015-0456-6>

PRICE : US \$39.95

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**TITLE:** Toward Improved Public Health Outcomes From Urban Nature (2015)

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**AUTHORS:** Danielle F. Shanahan and Richard A. Fuller, School of Biological Sciences, University of Queensland, QLD,

Brenda B. Lin, Commonwealth Scientific and Industrial Research Organisation Land and Water Flagship, Aspendale, VIC, Robert Bush, Julie H. Dean, and Elizabeth Barber, School of Population Health, University of Queensland, QLD, Kevin J. Gaston, Environment and Sustainability Institute, University of Exeter, United Kingdom.

**ABSTRACT**

There is mounting concern for the health of urban populations as cities expand at an unprecedented rate. Urban green spaces provide settings for a remarkable range of physical and mental health benefits, and pioneering health policy is recognising nature as a cost-effective tool for planning healthy cities. Despite this, limited information on how specific elements of nature deliver health outcomes restricts its use for enhancing population health. We articulate a framework for identifying direct and indirect causal pathways through which nature delivers health benefits, and highlight current evidence.

We see a need for a bold new research agenda founded on testing causality that transcends disciplinary boundaries between ecology and health. This will lead to cost-effective and tailored solutions that could enhance population health and reduce health inequalities.

**PUBLISHED:** American Journal of Public Health | March 2015, Vol 105, No. 3.  
Download <http://www.fullerlab.org/wp-content/uploads/2015/01/Shanahan-et-al-2015.pdf>  
Price: FREE

**TITLE:** Extreme sports in natural areas: looming disaster or a catalyst for a paradigm shift in land use planning? (2012)

**AUTHOR:** Shelley Burgin Nigel Hardiman, School of Natural Sciences, University of Western Sydney, NSW

#### ABSTRACT

Historically, visitors' motives for visiting protected areas included 'rest, relaxation and reinvigoration'. Ecological impacts were typically low. Recent trends have increased use of protected areas for extreme sports, with greater numbers undertaking more active recreation, such as extreme sports. The effect of this trend is considered, together

with potential management options. We propose that the development of appropriately targeted and delivered educational programmes could minimise environmental degradation. However, to maximise ecological conservation in protected lands we consider that a major paradigm shift is required. This will require a more strategic, holistic approach to planning and managing outdoor recreation/sport destinations incorporating collaboration across stakeholders. Based on past experience, to continue with the current model will ultimately accelerate biodiversity loss, degradation of protected areas, and loss of recreational amenity.

**PUBLISHED:** online <http://www.tandfonline.com/doi/full/10.1080/09640568.2011.634228#abstract>  
PRICE: AU \$40.00

**TITLE:** Sustainable development control? Zoning and land use regulations for urban form, biodiversity conservation and green design in Australia (2014)

#### AUTHORS

Nicole Gurran, Catherine Gilbert, Peter Phibbs, Faculty of Architecture, Design and Planning, University of Sydney, NSW

#### ABSTRACT

This paper examines how Australian land use plans incorporate provisions for sustainable urban form, design, biodiversity conservation, and climate change. Despite the long-standing sustainability objectives in state policy frameworks, a survey of 291 comprehensive plans finds implementation within local instruments is far from universal. Differences in patterns of policy adoption, as well as potential explanations for these differences, including geographical location, patterns of residential growth, the socio-economic composition of local communities, political forces, and policy evolution over time, are explored. Overall, areas experiencing more intensive growth tend to have newer plans, which in turn, contain more sustainability provisions, suggesting a responsive rather than repressive relationship between development pressures and regulatory development control.

**PUBLISHED:** online <http://www.tandfonline.com/doi/full/10.1080/09640568.2014.967386#.VcqusCww-Uk>  
Price: FREE

**TITLE:** Nature - How Do I Value Thee?: Let me count the ways (2015)

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**AUTHORS:** Gary Luck Professor in Ecology and Interdisciplinary Science, Institute for Land, Water and Society, Charles Sturt University, NSW, Manu Saunders, Ecologist, Institute for Land, Water and Society, Charles Sturt University, NSW

**ABSTRACT**

Ecologists Gary Luck and Manu Saunders explore one of conservation's most pressing issues - how to value nature and acknowledge that value in ways that have social and political force.

**PUBLISHED:** *Wildlife Australia*, Volume 52 Issue 1, (Mar 2015), pp 38-39. Download <http://search.informit.com.au/documentSummary;dn=999892319797732;res=IELHSS> PRICE: AU\$8.00.

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**TITLE:** Benefits that matter to managers: an exploratory study of three national park management agencies (2014)

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**AUTHORS:** Brent D. Moyle, School of Tourism and Hospitality management, Southern Cross University, QLD, Betty Weiler School of Tourism and Hospitality management, Southern Cross University, QLD, Susan A. Moore, School of Veterinary and Life Sciences, Murdoch University, WA

**ABSTRACT**

Understanding and conveying the benefits of providing visitor experiences in national parks is critical for their survival, but to date has received relatively little attention. This paper uses a series of semi-structured interviews and an online survey with senior/executive managers from three Australian parks agencies, as well as an analysis of corporate and strategic documents, to identify each agency's strategic focus with respect to benefits associated with the provision of visitor experiences. Results reveal 39 personal and community-wide benefits that mattered for managers across the three Australian parks agencies. Key benefits identified by senior/executive-level managers included accessing natural experiences, connecting with nature, and appreciating scenic beauty and the protection of biological diversity. These findings can help inform communication designed to reposition national parks, which is critical if agencies are to remain viable as providers of recreation and leisure experiences in the twenty-first century.

**PUBLISHED:** *Managing Leisure*, Volume 19, Issue 6, 2014. Download <http://www.tandfonline.com/doi/full/10.1080/013606719.2014.910003#abstract> PRICE US\$40.00.

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**TITLE:** Relating Social Inclusion and Environmental Issues in Botanic Gardens (2014)

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**AUTHORS**

Asimina Vergou, Botanic Gardens Conservation International, Richmond, UK, Julia Willison, Royal Botanic Gardens, Kew, Richmond, UK

**ABSTRACT**

Botanic gardens have been evolving, responding to the changing needs of society, from their outset as medicinal gardens of monasteries and university gardens to more recently as organizations that contribute to the conservation of plant genetic resources. Considering that social and environmental issues are deeply intertwined and cannot be tackled in isolation from one another, a new challenge is now presented to botanic gardens: How can they redefine their purpose and expand their current roles in conservation, research, amenity and education in order to continue to be socially relevant? Empirical data regarding the impact of pilot community projects run by four UK botanic gardens show how it is possible in practice to address social, economic, political, neighbourhood, individual and group dimensions of exclusion whilst achieving public participation in plant conservation. This study presents the evaluation results regarding the outcomes of the Communities in Nature initiative which illustrated how botanic gardens can grow a social role and be socially relevant institutions that engage with their communities and address issues of social and environmental importance. Recommendations suggest that addressing social issues should target addressing the causes of exclusion as much as the effects.

**PUBLISHED:** *Environmental Education Research* (2014). <http://www.tandfonline.com/doi/full/10.1080/13504622.2014.984161#abstract> PRICE US\$40.00

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**TITLE:** Integrating Horticulture into Cities: A Guide for Assessing the Implementation Potential of Rooftop Greenhouses (RTGs) in Industrial and Logistics Parks (2015)

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**AUTHORS:** Esther Sanyé-Mengua, Ileana Cerón-Palma, Jordi Oliver-Solà, Juan Ignacio Montero, Joan Rieradevall Institute of Environmental Science, University of Barcelona, Spain

**ABSTRACT**

Recently, the application of rooftop greenhouses (RTGs) to integrate agriculture into cities has increased, although the area where they can be potentially implemented has not been quantified yet. Consequently, this paper aims to design a guide to evaluate the potential implementation of RTGs in industrial and logistics parks and to apply the guide to the case study of Zona Franca Park (Barcelona, Spain). Eight percent of the rooftops were identified as feasible for a short-term implementation of RTG, according to the defined technical, economic, legal, and agricultural criteria. Estimations indicated that the annual tomato production in this area could account for almost 2,000 tons, which is equivalent to the yearly tomato demand of 150,000 people. Besides, this production could substitute imported tomatoes, and avoiding their distribution would represent savings of 65.25 t of CO<sub>2</sub> eq·m<sup>-2</sup>.

**PUBLISHED:** *Journal of Urban Technology*. Volume 22, Issue 1, 2015, pages 87-111. Download: <http://www.tandfonline.com/doi/full/10.1080/010630732.2014.942095#abstract> PRICE: US\$40.00

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**TITLE:** Mapping the drivers of Climate Change Vulnerability for Australia's Threatened Species (2105)

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**AUTHORS:** Jasmine R. Lee, Ramona Maggini, Richard A. Fuller, School of Biological Sciences, The University of Queensland, QLD

**ACADEMIC EDITOR:** Ulrich Joger, State Natural History Museum, GERMANY Effective conservation management for climate adaptation rests on understanding the factors driving species' vulnerability in a spatially explicit manner so as to direct on-ground action. However, there have been only few attempts to map the spatial distribution of the factors driving vulnerability to climate change. Here we conduct a species-level assessment of climate change vulnerability for a sample of Australia's threatened species and map the distribution of species affected by each factor driving climate change vulnerability across the continent. Almost half of the threatened species assessed were considered vulnerable to the impacts of climate change: amphibians being the most vulnerable group, followed by plants, reptiles, mammals and birds. Species with more restricted distributions were more likely to show high climate change vulnerability than widespread species. The main factors

driving climate change vulnerability were low genetic variation, dependence on a particular disturbance regime and reliance on a particular moisture regime or habitat. The geographic distribution of the species impacted by each driver varies markedly across the continent, for example species impacted by low genetic variation are prevalent across the human-dominated south-east of the country, while reliance on particular moisture regimes is prevalent across northern Australia. Our results show that actions to address climate adaptation will need to be spatially appropriate, and that in some regions a complex suite of factors driving climate change vulnerability will need to be addressed. Taxonomic and geographic variation in the factors driving climate change vulnerability highlights an urgent need for a spatial prioritisation of climate adaptation actions for threatened species.

**PUBLISHED:** To download the full report: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0124766>  
Price: FREE

**TITLE:** Planning, governance and rural futures in Australia and the USA: revisiting the case for rural regional planning (2014)

**AUTHORS:** T.H. Morrison, School of Geography, Planning & Environmental Management, The University of Queensland, QLD, Marcus B. Lane, Faculty of Arts, Education & Law, Griffith University, QLD, Michael Hibbard, Department of Planning, Public Policy & Management, University of Oregon, Eugene, USA

#### ABSTRACT

Rural regions in post-industrial countries confront significant new challenges, particularly in relation to climate, biodiversity, unconventional resource development and energy. Yet at a time when the contours of these challenges are still being sketched, and preliminary, planned interventions undertaken, the practice of rural planning finds itself at a low ebb. We examine two 'critical cases', one each from Australia and the USA, to explore the issues and options for capacity of rural regional planning to surmount these new challenges. Our examination indicates the urgent need for a renewed discourse on rural regional planning.

**PUBLISHED:** online 2014. Download <http://www.tandfonline.com/doi/full/10.1080/09640568.2014.940514#abstract>  
PRICE: US\$40.00

**TITLE:** What is the role of trees and remnant vegetation in attracting people to urban parks?

**AUTHORS:** D. F. Shanahan, R. A. Fuller, School of Biological Sciences, University of Queensland, QLD

#### ABSTRACT

Public parks commonly contain important habitat for urban biodiversity, and they also provide recreation opportunities for urban residents. However, the extent to which dual outcomes for recreation and conservation can be achieved in the same spaces remains unclear. We examine whether greater levels of (i)

tree cover (i.e. park 'greenness') and (ii) native remnant vegetation cover (i.e. vegetation with high ecological value) attract or deter park visitors. This study is based on the park visitation behaviour of 670 survey respondents in Brisbane, Australia, detailing 1,090 individual visits to 324 urban parks. We first examined the presence of any clear revealed preferences for visiting parks with higher or lower levels of tree cover or remnant vegetation cover. We then examined the differences between each park visited by respondents and the park closest to their home, and used linear mixed models to identify socio-demographic groups who are more likely to travel further to visit parks with greater tree cover or remnant vegetation cover. Park visitation rates reflected the availability of parks, suggesting that people do not preferentially visit parks with greater vegetation cover despite the potential for improved nature-based experiences and greater wellbeing benefits. However, we discovered that people with a greater orientation towards nature (measured using the nature relatedness scale) tend to travel further for more vegetated parks. Our results suggest that to enhance recreational benefits from ecologically valuable spaces a range of social or educational interventions are required to enhance people's connection to nature.

**PUBLISHED:** Published online: 8 November 2014. This article is published with open access at [Springerlink.com](http://www.springerlink.com). Download <http://www.fullerlab.org/wp-content/uploads/2014/12/Shanahan-et-al-2015.pdf>  
Price: Free

# NEW ZEALAND

**TITLE:** Parks for Sport and Recreation Third Phase Evaluation of Impact Research Report (2014)

**AUTHORS:** Jo McFadyen & Glynis Longhurst  
Waikato Institute of Technology, Hamilton, NZ

#### ABSTRACT

In conjunction with Sport NZ goals and purpose of investment, a 'Parks for Sport and Recreation' project was implemented in June 2010, in the form of collaborative project by Sport Waikato and Hamilton City Council (HCC), along with Wintec and University

of Waikato and other relevant groups, as part of their 'Active Communities Strategy'. The communities included in the 'Parks for Sport and Recreation' project were Fairfield, Crawshaw and Melville as they were identified as low socio-economic areas that each had a Sports or Recreation Park available.

This project began by an attempted literature search for similar programmes and projects in other countries. Unfortunately, we were unable to find readily available, published articles on specific park, sport and recreation projects within the project time restrictions. The following is a report

generated as the third phase of evaluation of the 'Parks for Sport & Recreation' project through participant observations in all three parks, as well as interviews with key stakeholders.

This is provided to HCC to inform the assessment of project performance, effectiveness and sustainability, along with providing further recommendations for future projects of a similar nature.

**PUBLISHED:** online. Download: <http://researcharchive.wintec.ac.nz/3195/>  
Price: Free

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**TITLE:** Auckland's local & premier parks: Community use and values (2011)

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**AUTHOR:** New Zealand Tourism Research Institute

**ABSTRACT**

This report, prepared for Auckland City Council, focuses on resident use of Local and Premier Parks in Auckland City. The report also examines what Auckland City residents feel about urban parks and how they influence quality of life. Among the conclusions of the report are that parks play an essential role in the everyday lives of urban residents. Local and Premier Parks are both highly valued – but for reasons that differ depending on demographic, family life cycle and residential factors.

**PUBLISHED:** online. To download <http://nztri.aut.ac.nz>  
Price: Free

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**TITLE:** Opportunities and Challenges for Peri-Urban Recreation in New Zealand's Fastest Growing Cities (2013)

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**LEAD AUTHOR:** Adrian Field , Synergia Ltd, NZ

**ABSTRACT**

As New Zealand's urban population has grown, so too has the number of people living in the transition zone between rural and urban. These 'peri-urban' areas are often key sites of competing demands between recreation and other land uses, and also between different types of recreation. This research explores the drivers and experiences of outdoor recreation in peri-urban areas in New Zealand's three fastest-growing cities: Auckland, Hamilton and Tauranga. The research provides insights on two areas of exploration:

Are peri-urban areas a potential area of significant growth in demand and supply of outdoor recreation within the context of changing demographic trends and participation preferences?

- How do opportunities for outdoor recreation in peri-urban areas relate to those in areas further away from towns and cities?

**PUBLISHED:** online. Download <http://www.srknowledge.org.nz/wp-content/uploads/2013/08/Synergia-report-Peri-Urban-Recreation-in-NZ-Cities-FINAL1.pdf>  
Price: FREE

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**TITLE:** Voting with their feet: use of recreation sites on public conservation land and waters by New Zealanders (2015)

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**LEAD AUTHOR:** Sven Schroeder, Department of Conservation

**ABSTRACT**

Voting with Their Feet describes New Zealanders patterns of visitation to Public Conservation Land & Waters at a national and regional level. It uses infographics to indicate the regions that visitors come from, and to describe regional visitor markets. Data is sourced from the Department's Survey of New Zealanders an annual nationwide survey of 4200 New Zealanders and focuses on the top 60 destinations used by New Zealanders within public conservation lands and waters.

**PUBLISHED:** New Zealand Department of Conservation. Download [www.doc.govt.nz](http://www.doc.govt.nz)  
Price: FREE

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# INTERNATIONAL

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**TITLE:** Characterizing Stormwater Treatment Efficiency at the Laboratory Scale for Effective Rain Garden Design (2015)

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**AUTHORS:** An Liuab, Graduate School at Shenzhen, Tsinghua University, Shenzhen, China, Yizi Jianga, Cooperative Research and Education Center for Environmental Technology, Kyoto University-Tsinghua University, Shenzhen, China, Seok Dockkoc Department of Civil and Environmental Engineering, Dankook University, Republic of Korea, Yuntao Guanad School of Environment, Tsinghua University, Beijing, China

**ABSTRACT**

Rain garden is one of the most important low impact development treatment systems of urban stormwater runoff. Unfortunately, the treatment efficiency of rain gardens is not satisfactory due to the ineffective design. This can be attributed to the lack of knowledge on

the relationship between the treatment efficiency and influential factors. This research study characterized the stormwater runoff treatment efficiency in laboratory-scale rain garden systems. It was noted that media types and pollutant species are two key influential factors of the treatment efficiency compared to the operating parameters, such as pollutant influent concentration, operating time, and inflow hydraulic loading. Additionally, the research results indicated the difference in treatment efficiency for particulate and dissolved pollutants, and this is independent of media types and operating parameters. This implies that taking into account the targeted pollutant characteristics, such as solubility, should be preferred in the effective rain garden design.

**PUBLISHED:** Desalination and Water Treatment, Volume 54, Issue 4-5, 2015. Download <http://www.tandfonline.com/doi/full/10.1080/19443994.2014.954002#abstract>

PRICE: US\$48.00

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**TITLE:** Declining National Park Visitation: An Economic Analysis, 2014

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**AUTHORS:** Thomas H. Stevens, University of Massachusetts, USA, Thomas A. More, University of Burlington, USA, Marla Markowski-Lindsay, University of Massachusetts, USA

**ABSTRACT**

Visitation to the major nature-based national parks has been declining. This paper specifies an econometric model that estimates the relative impact of consumer incomes, travel costs, entry fees and other factors on per capita attendance from 1993 to 2010. Results suggest that entrance fees have had a statistically significant but small impact on per capita attendance. Increasing fuel prices (travel costs) relative to income has had a more significant effect suggesting that park policies reducing the cost of attendance may be desirable. >

**PUBLISHED:** Journal of Leisure Research (2014) 46(2), pp 153-164. Download: <http://js.sagamorepub.com/jlr/article/view/4820/4043>  
PRICE: Free.

**TITLE:** Coping with Climate Change in the Pacific Islands Region – Community Tourism and Climate Change in Vanuatu

**AUTHORS:** Dr Min Jiang, Professor Terry DeLacy, Adjunct Professor Steve Noakes, Victoria University, Vanuatu

**COMMISSIONED BY:** German Federal Ministry for Economic Cooperation and Development (BMZ)

#### ABSTRACT

Tourism represents a significant economic activity in the Pacific. It is one of the largest export sectors in the majority of the nations of the Pacific and provides great opportunities for economic growth, employment, and sustainable development. Tourism is vulnerable to a range of risks including natural hazards, economic downturns, health epidemics, market fluctuation, etc. Due to its highly climate sensitive nature, Pacific tourism is identified as a hotspot for major impacts of

climate change that will affect tourism destinations across the region and exacerbate natural hazards, markets, and other associated risks. As a main component of the regional programme 'Coping with Climate Change in the Pacific Islands Region' supported by GIZ in partnership with the Secretariat of the Pacific Community (SPC), this project aims to strengthen the capacity of selected Pacific Island countries (Samoa and Vanuatu) to cope with climate change impacts and associated risks on the community tourism sector. This project is undertaken by a team from Victoria University, Melbourne (VU), Pacific Asia Tourism Pty Ltd., and local experts in Vanuatu. The main activities undertaken in the project include stakeholder consultation workshops, community tourism initiative mapping, risk analysis and vulnerability assessment of two selected community tourism initiatives, and implementation of adaptation measures in the two selective community tourism initiatives (Havannah Harbour and Ngune-Pele Islands).

Research objectives and likely significance to stakeholders Research

objectives of the project include: 1) Review and refine frameworks for understanding and assessing vulnerability of community tourism to climate change risks, 2) Undertake vulnerability assessments of community tourism in two selected study areas, develop and prioritise adaptation strategies, and 3) Implement adaptation strategies in the two selected community tourism initiatives, and evaluate the effectiveness of the implementation. The vulnerability assessment and adaptation implementation are both based on stakeholder engagement and participation, through which stakeholder interests and priorities, and local knowledge are incorporated in the activities. The adaptation strategies implemented in the two community tourism initiatives have a strong focus on awareness raising, training, and capacity building, contributing to increasing the communities' resilience to a range of risks that face tourism including climate change.

**PUBLISHED:** To obtain a copy of the full report contact Wulf Killmann [wulf.killmann@giz.de](mailto:wulf.killmann@giz.de)

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