

Circular models Leveraging Investments in Cultural heritage adaptive reuse

D6.21
 Third series scientific publications







Deliverable D6.21 Third series scientific publications



HORIZON 2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 776758

Call H2020-SC5-2017-OneStageB submitted for H2020-SC5-22-2017 / 07 Mar 2017

Deliverable 6.21

Third series scientific publications

Due date:31/07/2021Submission date:14/08/2021Deliverable leader:CNR-IRISSTypeOther

Author list: Valeria Catanese (CNR-IRISS)

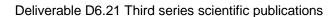
Antonia Gravagnuolo (CNR-IRISS) Serena Micheletti (CNR-IRISS)

Disclaimer

The contents of this deliverable are the sole responsibility of one or more Parties of CLIC consortium and can under no circumstances be regarded as reflecting the position of the Agency EASME and European Commission under the European Union's Horizon 2020.

Dissemination Level

×	PU:	Public
	PP:	Restricted to other programme participants (including the Commission) Services)
	RE:	Restricted to a group specified by the consortium (including the Commission)
	CO:	Confidential, only for members of the consortium (including the Commission Services)





Abstract

As required by Article 29 of the Annotated Model Grant Agreement (*Dissemination of Results - Open Access - Visibility of EU Funding*) and indicated in CLIC "C&D&E Plan annual update" (D 6.1 see Section 5 "Obligations of CLIC beneficiaries"), the CLIC Consortium has disseminated project results as soon as possible, by disclosing them to the public by appropriate means, including in scientific publications (Art. 29.1). Each beneficiary has granted open access to all peer-reviewed scientific publications uploading them mostly on Zenodo platform (https://zenodo.org/) and other open-access repositories (Art. 29.2). In accordance with Art. 29.4 of the AGA, all scientific publications developed within the project contain the following disclaimer giving information on EU funding: "*This research was funded under the framework of Horizon 2020 research project CLIC: Circular models Leveraging Investments in Cultural heritage adaptive reuse. This project has received funding from the European Union's Horizon 2020 research and innovation program under Grant Agreement No 776758*".

The present deliverable provides metadata and abstracts of the third series of scientific publications produced by CLIC Consortium during the last years of project activities from M25 (December 2019) to M45 (August 2021). It includes scientific products that have been published in journals, monographs or conference proceedings, uploaded on the project website at https://www.clicproject.eu/scientific-publications/. A list of forthcoming scientific publications is also provided in this Deliverable.



Partners involved in the document

Participant No	Participant organisation name	Short Name	Check if involved
1 Coordinator	CONSIGLIO NAZIONALE DELLE RICERCHE	IRISS CNR	Х
2	UPPSALA UNIVERSITET	UU	Х
3	GROUPE ICHEC - ISC SAINT-LOUIS - ISFSC	ICHEC	Х
5	TECHNISCHE UNIVERSITEIT EINDHOVEN	TU/e	Х
6	UNIVERSITY OF PORTSMOUTH HIGHER EDUCATION CORPORATION	UOP	
7	UNIVERZA V NOVI GORICI	ETCAEH- UNG	Х
8	WIRTSCHAFTSUNIVERSITAT WIEN	WU	Х
9	UNIWERSYTET WARSZAWSKI	UNIWARSA W	Х
10	ICLEI EUROPEAN SECRETARIAT GMBH	ICLEI	Х
11	FACILITYLIVE OPCO SRL	FacilityLive	
12	VASTRA GOTALANDS LANS LANDSTING	VGR	
13	GRAD RIJEKA-GRADSKO VIJECE	RIJ	
14	COMUNE DI SALERNO	SA	X
15	STICHTING PAKHUIS DE ZWIJGER	PAK	
16	INIZIATIVA CUBE	INI	
17	TECHNOLOGICAL UNIVERSITY DUBLIN	TU Dublin	Х





Table of Contents

1	Description of the Project	1
	1.1 CLIC Specific objectives	2
2	Introduction	4
3	Third Series Scientific Publications: from M25 to M45	5
4	Forthcoming publications	53



1 Description of the Project

The overarching goal of CLIC trans-disciplinary research project is to identify evaluation tools to test, implement, validate and share innovative "circular" financing, business and governance models for systemic adaptive reuse of cultural heritage and landscape, demonstrating the economic, social, environmental convenience, in terms of long lasting economic, cultural and environmental wealth.

The characteristics of cultural heritage and landscape pose significant challenges for its governance. Cultural heritage is a "common good", which enjoyment cannot be denied to citizens, although many buildings and landscape structures are privately owned. Furthermore, the large economic resources needed for recovery and maintenance of heritage goods are rarely available to the private owner, often charged of the additional cost of non-use due to limited degree of transformation allowed. The existing governance arrangements currently involve limited stakeholders concerning for the historic, aesthetic or religious sociocultural values, severely restricting the use of the heritage properties, and charge the central government of conservation costs. The approach of regulatory and planning tools throughout European countries has been to preserve cultural heritage by preventing transformation of buildings or areas having historic-cultural significance.

"The current monument-based, full protection, and government-financed approach that restricts the use of protected properties and relies almost entirely on public funds is incapable of tackling the vast urban heritage of most communities and of sustaining conservation efforts in the long term" (Rojas, 2016). To turn cultural heritage and landscape into a resource, instead of a cost for the community, the structures of authority, institutions and financial arrangements should be adjusted to ensure larger stakeholders' involvement in decision-making, attract private investments and facilitate cooperation between community actors, public institutions, property owners, informal users and producers (Rojas, 2016). The risk is that without financing channels the decay of European heritage and landscape will increase, until its irreversible loss.

Flexible, transparent and inclusive tools to manage change are required to leverage the potential of cultural heritage for Europe, fostering adaptive reuse of cultural heritage / landscape. Tools for management of change should consider costs and benefits at the local level and for all stakeholders, including future generations, and should take into account the cultural, social, environmental and economic costs of disrepair through neglect, compared to the benefits obtained through diverse scenarios of transformation / integrated conservation.

Costs and values of cultural heritage adaptive reuse have to be compared in a multidimensional space: the relationship between costs and "complex values" influences the willingness to invest in the functional recovery of cultural heritage and landscape. Therefore, it is necessary to clarify what is intended for the value of cultural heritage. The higher the perceived value for potential actors, the higher the willingness to take the risk of investment. This "complex value" of cultural heritage depends on the intrinsic characteristics, but also from extrinsic (context) characters.

Investment costs are related to the materials, technologies and techniques to be used to preserve the cultural value of the heritage / landscape, and to maintenance / management / operating costs. The willingness to invest, the same value done, increases with the reduction of costs. Then, the social cost of abandonment – and eventual irreversible loss of heritage – must be included in the investment choice.

The investment gap in cultural heritage and landscape regeneration can be addressed through careful evaluation of costs, complex values and impacts of adaptive reuse, providing critical evidence



of the wealth of jobs, social, cultural, environmental and economic returns on the investment in cultural heritage.

1.1 CLIC Specific objectives

The scopes of CLIC project will be achieved through a set of specific, measurable, achievable, realistic and time-constrained (SMART) specific objectives:

Objective 1 - To synthesize existing knowledge on best practices of cultural heritage adaptive reuse making it accessible to researchers, policy makers, entrepreneurs and civil society organizations, also with direct dialogue with their promoters;

Objective 2 - To provide a holistic ex-post evaluation of the economic, social, cultural and environmental impacts of cultural heritage adaptive reuse, stressing on the importance of appropriate conservation and maintenance approaches able to highlight the integrity and authenticity of heritage;

Objective 3 - To provide EU-wide participated policy guidelines to overcome existing cultural, social, economic, institutional, legal, regulatory and administrative barriers and bottlenecks for cultural heritage systemic adaptive reuse;

Objective 4 - To develop and test innovative governance models and a set of evidence-based, participative, usable, scalable and replicable decision support evaluation tools to improve policy and management options/choices on cultural heritage systemic adaptive reuse, in the perspective of the circular economy;

Objective 5 - To analyse hybrid financing and business models that promote circularity through shared value creation, and assess their feasibility, bankability and robustness for cultural heritage adaptive reuse;

Objective 6 - To validate the CLIC circular financing, business and governance practical tools in 4 European cities / territories representative of different geographic, historic, cultural and political contexts:

Objective 7 - To contribute to operationalise the management change of the cultural landscape also in implementing the UNESCO Recommendation on Historic Urban Landscape;

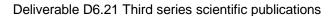
Objective 8 - To re-connect fragmented landscapes, through functions, infrastructures, visual relations at macro and micro scale;

Objective 9 - To design and implement a stakeholders-oriented Knowledge and Information Hub to make tools and information accessible, useful and usable and test them with policy-makers, entrepreneurs, investment funds and civil society organizations;

Objective 10 - To contribute to the creation of new jobs and skills in the circular economy through cultural heritage adaptive reuse, boosting startups and sustainable hybrid businesses and empowering local communities and stakeholders through public-private-social cooperation models.

Objective 11 - To contribute to the monitoring and implementation of SDGs (especially Target 11.4) and the New Urban Agenda, creating operational synergies with global initiatives of UN-Habitat, UNESCO/ICOMOS and the World Urban Campaign.

All partners have wide experience in developing and testing CLIC proposed tools, ensuring the effective and time-constrained achievement of all the above-mentioned specific goals. The integration of sectorial knowledge, tools and methods will be achieved through a trans-disciplinary





approach promoting partners and stakeholders' cooperation, co-creation of knowledge and co-delivery of outcomes.

The expected impacts of the project are the following:

- Validation of integrated approaches and strategies for cultural heritage adaptive re-use, comprising innovative finance with high leverage capacity, business models and institutional and governance arrangements that foster multi-stakeholder involvement, citizens' and communities' engagement and empowerment;
- New investments and market opportunities in adaptive re-use of cultural heritage, also stimulating the creation of start-ups;
- An enabling context for the development and wide deployment of new technologies, techniques and expertise enhancing industrial competitiveness and contributing to economic growth, new skills and jobs;
- Innovative adaptive re-use models that are culturally, socially and economically inclusive;
- Contribution to implementing the Sustainable Development Goals (SDGs) (Goals 1, 15, 11 particularly) and the United Nations New Urban Agenda.



2 Introduction

The Deliverable 6.21, Third Series Scientific Publications, falls within the project work package focused on Dissemination, exploitation and communication (WP6) and, precisely, within the Task 6.3 Implementation of communication and dissemination activities envisaged (M1-M45).

Section 3 of this document provides metadata and abstracts of the third series of scientific publications produced by CLIC Consortium during the last years of project activities from M25 (December 2019) to M45 (August 2021).

In addition, **Section 4 contains a list of forthcoming publications**, including the CLIC final book published by Springer, which will be discussed in deliverable 6.20 "CLIC Edited Book". Other scientific articles will be published after the submission of this deliverable by project partners. In particular, it is already foreseen the publication of an article by UU titled "The Dynamic Participatory Evolution of Regional Cultural Heritage Circularity Strategy for Västra Götaland Region and case study of Fengersfors", while UOP partner submitted an article titled "A multiple criteria methodology for priority-based portfolio selection" that is currently under review in the European Journal of Operational Research. Additional 2 articles will be published by UoP, regarding Decision Support Systems (DSS) Research for addressing the current environmental and social challenges of cities. Forthcoming articles are foreseen also by UNIWARSAW on Environmental Innovations and Societal Transitions and Social Indicators Research, focused on wellbeing indexes. Further articles will be published most probably after the end of the project.

The CLIC research generated more than 50 scientific publications since its start in 2017, including those reported in the dedicated Deliverables: D6.6 (First series scientific publications), D6.16 (Second series scientific publications), and the current D6.21 (Third series scientific publications).



3 Third Series Scientific Publications: from M25 to M45

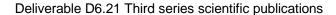
METADATA	
DOI	https://doi.org/10.13128/aestim-9788
Type of publication	Scientific Article
Repository Link	https://oaj.fupress.net/index.php/ceset/article/view/9788
Title of publication	The circular economy in transforming a died heritage site into a living ecosystem, to be managed as a complex adaptive organism
Authors	Luigi Fusco Girard
Title of the	Aestimum 77 (2020)
Journal/Proceedings/Book	ORIGINAL ARTICLES - URBAN, LAND, ENVIRONMENTAL APPRAISAL AND ECONOMICS
Number, date or frequency of the Journal/Proceedings/Book	Semiannual, published in June and December
Relevant Pages	145 - 180
Keywords	Adaptive Reuse; Complex adaptive system; Circular economy
ISSN	1592-6117
e-ISSN	
Publisher	Firenze University Press
Place of publication	Firenze, Italy
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

ABSTRACT

Climate change is a consequence of our difficulty to manage the currently conflicts and contradictions. It is configured as a process that makes human life on Earth increasingly uninhabitable, making the relationship between the Earth's ecosystem and humanity increasingly difficult. A fundamental cause of the climate change is the way in which economic wealth is produced and distributed. The current economy produces also ecological and social poverty. The adaptive reuse of cultural assets is proposed in the general framework of the Green New Deal of European Union, assuming the circular economy model for reintegrating economy into ecology. The aim of the paper is to identify how to transform a died heritage site into a living system, to be managed as a complex adaptive system, discussing the ways in which adaptive reuse can be implemented as the entry point for implementing the circular city.



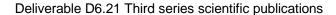
METADATA		
DOI	https://doi.org/10.3390/su13063231	
Type of publication	Scientific Article	
Repository Link	https://www.mdpi.com/2071-1050/13/6/3231/htm	
Title of publication	The "Intrinsic Value" of Cultural Heritage as Driver for Circular Human- Centered Adaptive Reuse	
Authors	Luigi Fusco Girard, Marilena Vecco	
Title of the	Sustainability	
Journal/Proceedings/Book	Special Issue: <u>The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy</u>	
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(6), 3231	
Relevant Pages	3231	
Keywords	Cultural heritage; circular economy; intrinsic value; circular business model; business model; ecosystem; European Green Deal	
ISSN	N/A	
e-ISSN	2071-1050	
Publisher	MDPI	
Place of publication	Basel, Switzerland	
Year of publication	2021	
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)	
Is this a peer-reviewed publication?	YES	





By referring to the European Green Deal, this paper analyzes the "intrinsic value" of cultural heritage by investigating the human-centered adaptive reuse of this heritage. This implies questions such as how to improve the effectiveness of reuse, restoration, and valorization interventions on cultural heritage/landscapes and how to transform a cultural asset into a place, interpreted as a living ecosystem, to be managed as a living organism. The autopoietic characteristic of the eco-bio-systems, specifically focusing on the intrinsic versus instrumental values of cultural heritage ecosystem is discussed in detail. Specifically, the notion of complex social value is introduced to express the above integration. In ecology, the notion of intrinsic value (or "primary value") relates to the recognition of a value that "pre-exists" any exploitation by human beings. The effectiveness of transforming a heritage asset into a living ecosystem is seen to follow from an integration of these two values. In this context, the paper provides an overview of the different applications of the business model concept in the circular economy, for a better investment decision-making and management in heritage adaptive reuse. Matera case is presented as an example of a cultural heritage ecosystem. To conclude, recommendations toward an integrated approach in managing the adaptive reuse of heritage ecosystem as a living organism are proposed.

METADATA	
DOI	https://doi.org/10.3390/su13094759
Type of publication	Scientific Article
Repository Link	https://www.mdpi.com/2071-1050/13/9/4759
Title of publication	Indicators for Ex-Post Evaluation of Cultural Heritage Adaptive Reuse Impacts in the Perspective of the Circular Economy
Authors	Martina Bosone, Pasquale De Toro, Luigi Fusco Girard, Antonia Gravagnuolo, Silvia Iodice
Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(9), 4759
Relevant Pages	4759
Keywords	Multidimensional indicators; evaluation tools; cultural heritage; adaptive reuse; circular economy; circular city; impact assessment; built environment; sustainable development
ISSN	
e-ISSN	2071-1050
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021





Is this publication available in Open Access or will it be made available?	YES - Available in Gold Open Access (Euro 856,63)
Is this a peer-reviewed publication?	YES

Cultural heritage (CH) is considered a key element of cities and regions' identity and uniqueness, contributing to people's wellbeing and health, as well as jobs creation, environmental regeneration and place attractiveness. The adaptive reuse of abandoned and underused CH can be a sustainable strategy for heritage conservation, stimulating local development processes. However, heritage conservation needs large investments, while the resources available are scarce, and investment projects are subject to high uncertainties. Therefore, a careful assessment of impacts is needed to orient and direct CH adaptive reuse projects towards sustainability. Recent studies approach the adaptive reuse of abandoned buildings and sites as an effective circular economy strategy, potentially contributing to climate objectives through environmental regeneration and the reduction of natural resources consumption. However, evaluation tools to assess the impacts and orient adaptive reuse interventions in the perspective of circularity are lacking. Through the analysis of 76 literature sources on CH impacts, this article explores how indicators are currently used in CH research and practice as impact assessment tools. More than 3500 indicators were retrieved and classified. Finally, this article proposes a comprehensive evaluation framework to assess the impacts of cultural heritage adaptive reuse in the perspective of the circular economy. The results show that, while some indicators are available, many circularity aspects are not considered in the current studies on CH impacts.

METADATA	
DOI	https://doi.org/10.3390/su13094812
Type of publication	Scientific Article
Repository Link	https://www.mdpi.com/2071-1050/13/9/4812/htm
Title of publication	A participatory approach for circular adaptive reuse of cultural heritage. Building a Heritage Community in Salerno, Italy
Authors	Antonia Gravagnuolo, Serena Micheletti, Martina Bosone
Title of the Journal/Proceedings/Book	Sustainability Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(9), 4812
Relevant Pages	4812





Keywords	Cultural heritage; heritage community; adaptive reuse; circular economy; common goods; Faro Convention
ISBN	
e-ISSN	2071-1050
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES - Available in Gold Open Access (Euro 1199, 28)
Is this a peer-reviewed publication?	YES

Cultural heritage is recognized as a key element for local sustainable development, contributing to the identity of territories and cultural diversity of local communities. The concept of "heritage community", as expressed by the Faro Convention, can be enhanced in decision-making processes for the adaptive reuse and valorization of cultural heritage to build shared and sustainable development scenarios. Communities represent fundamental actors able to drive active reflection and implement the exercise of civic responsibility and (inter)cultural policies. This paper explores how local communities can have an active and effective role in the adaptive reuse and valorization of cultural heritage, through a field experimentation conducted within the Horizon 2020 project "CLIC - Circular models Leveraging Investments in Cultural heritage adaptive reuse" in the area of Rufoli, Salerno (Italy), in the perspective of the circular economy/circular city model. Starting from heritage mapping and key stakeholder's engagement, a local working group was built, and processes of knowledge building, envisioning, and community engagement were activated. The results showed that building a heritage community can be an effective starting point for "circular" adaptive reuse of cultural heritage, stimulating not only its recovery but also community bonds, civic responsibility, and potential entrepreneurial activities for longer-term sustainable development.

METADATA	
DOI	https://doi.org/10.3390/su13084347
Type of publication	Scientific Article
Repository Link	https://www.mdpi.com/2071-1050/13/8/4347
Title of publication	Terraced Landscapes Regeneration in the Perspective of the Circular Economy
Authors	Antonia Gravagnuolo, Mauro Varotto





Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(8), 4347
Relevant Pages	4347
Keywords	Terraced landscapes; circular economy; middle landscapes; cultural heritage; cultural landscapes; adaptive reuse
ISSN	
e-ISSN	2071-1050
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Eur 1199.28)
Is this a peer-reviewed publication?	YES

Terraced landscapes were for centuries forms of sustainable and multifunctional land management, results of a long and intimate relationship between peoples and their environment. They demonstrated a rich cultural diversity and agrobiodiversity through sustainable land-use systems. These productive cultural landscapes in many cases were expressions of a pre-industrial circular model of rural development, where no resource was wasted. However, not all terraced landscapes have to be considered sustainable in themselves: in recent times, the terraces have undergone changes that have threatened their sustainability with abandonment and degradation as well as exclusively productive exploitation. This paper explores whether and how terraced landscape can recover an active role in modern society, analyzing emerging terraces recovery practices from the perspective of the circular economy. Innovative circular and productive uses of abandoned terraced landscapes aim at reducing the waste of natural and cultural resources, enlarging the lifetime (use value) of landscapes and preserving cultural and natural values for present and future generations. Results show that new functional uses of terraced landscapes are able to enhance in different ways their role as "middle landscapes" or places of mediation among economic, ecologic, ethical and aesthetic needs through circular adaptive reuse practices, becoming key drivers of new "circular" economies and a new pact between rural and urban regions.



METADATA		
DOI	https://doi.org/10.13128/aestim-8476	
Type of publication	Scientific Article	
Repository Link	https://oaj.fupress.net/index.php/ceset/article/view/8476	
Title of publication	Circular Economy and adaptive reuse of historical buildings: an analysis of the dynamics between real estate and accommodation facilities in the city of Naples (Italy)	
Authors	Silvia Iodice, Pasquale De Toro, Martina Bosone	
Title of the	Aestimum	
Journal/Proceedings/Book	2020: Special Issue "Sustainable development and circular economy"	
Number, date or frequency of the Journal/Proceedings/Book	Semiannual, published in June and December	
Relevant Pages	103-124	
Keywords	Adaptive reuse; real estate market; Geographic Information Systems	
ISSN	1592-6117	
e-ISSN		
Publisher	Firenze University Press	
Place of publication	Firenze, Italy	
Year of publication	2021	
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)	
Is this a peer-reviewed publication?	YES	

The urban regeneration of historic centres is an extremely topical issue in the contemporary debate and is an essential prerequisite for the pursuit of Sustainable Development Goals. Adaptive reuse of the abandoned heritage represents an effective strategy to give new life to abandoned or underused portions of territory, hosting functions more suited to the needs of the contemporary city and its characterizing phenomena. This work is the result of an experimentation that has as object of investigation the historic centre of Naples where, according to some recent data, there has been a significant increase in Bed and Breakfasts, some often as result of cultural heritage reuse processes. After having spatially represented the market values of residential buildings through the elaboration of a Geographic Information System, it was possible to verify the existence of a relation between the dynamics of the real estate and the rise of new accommodation facilities, often located in historic buildings subjected to adaptive reuse processes.



METADATA	
DOI	https://doi.org/10.13128/aestim-10004
Type of publication	Scientific Article
Repository Link	https://oaj.fupress.net/index.php/ceset/article/view/10004
Title of publication	Evaluation of environmental impacts of historic buildings conservation through Life Cycle Assessment in a circular economy perspective
Authors	Antonia Gravagnuolo; Maria Rosaria Angrisano; Matteo Nativo
Title of the Journal/Proceedings/Book	Aestimum 2020: Special Issue "Sustainable development and circular economy"
Number, date or frequency of the Journal/Proceedings/Book	Semiannual, published in June and December
Relevant Pages	241-272
Keywords	Embodied Carbon; historic buildings; Life Cycle Assessment; LCA; circular economy; cultural heritage
ISSN	1592-6117
e-ISSN	
Publisher	Firenze University Press
Place of publication	Firenze, Italy
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

Decarbonizing the economy is one of the main ambitions for the European Union. The construction sector contributes to global warming, during all buildings life cycle phases. Greenhouse gas emissions are present in the whole process of construction, use/operation and dismissing/demolishing. The Life-Cycle Assessment (LCA) is an evaluation approach to assess CO2and other greenhouse gases emissions during the whole life cycle of a building or product. The aim of this paper is to test the LCA methodology for the evaluation of environmental impacts of historic buildings, towards a circular economy approach in the adaptive reuse of cultural heritage. The case study is an abandoned monastery in Salerno, Italy. Results show that LCA can





effectively inform the design phase of cultural heritage adaptive reuse, comparing different conservation and design alternatives.

METADATA	
DOI	https://doi.org/10.1007/978-981-33-4098-5
Type of publication	Book Section
Repository Link	https://link.springer.com/book/10.1007%2F978-981-33-4098-5
Title of publication	Towards the Implementation of the Circular Economic Model in Metropolitan Cities: The Case of Naples
Authors	Luigi Fusco Girard
Title of the Journal/Proceedings/Book	A Broad View of Regional Science. Essays in Honor of Peter Nijkamp Editors: Soushi Suzuki; Roberto Patuelli
Number, date or frequency of the Journal/Proceedings/Book	Series Title: New Frontiers in Regional Science: Asian Perspectives Edition Number 1
Relevant Pages	303 - 328
Keywords	Circular economy; Circular port city; Metropolitan cities; Multicriteria evaluation; Historic landscape; Cultural heritage
ISSN	2199-5974
e-ISSN	2199-5982
Publisher	Springer
Place of publication	Singapore
Year of publication	2021
Is this publication available in Open Access or will it be made available?	NO
Is this a peer-reviewed publication?	YES

ABSTRACT





The general thesis of this contribution is that metropolitan cities - mostly port cities, also characterized most of the time by a relevant historical-architectural landscape - can reduce their agglomeration diseconomies if they adopt a 'circular' model of organization. The 'territorialized' model of circular economy is the 'circular city' model, which puts its centre with its suburbs, its historical centre with the port, and the consolidated city with the suburban territory in virtuous relationships. This Section focuses on the multidimensional benefits of the circular economy and circular city model from an evaluation perspective, identifying an analytical list of indicators emerging from operational practice and the scientific literature. A multidimensional and multicriteria assessment method is used in the metropolitan city of Naples, Italy, to support the planning process for development of the port area from the perspective of the circular economy and circular city model. The originality of this assessment consists, on the one hand, in assuming evaluation criteria emerging from the strategy of the European Green Deal and, on the other hand, in focusing on the integration of the indicators proposed by the World Health Organization related to the Health Impact Assessment in a perspective that integrates environmental, economic and social impacts assessments.

METADATA	
DOI	https://doi.org/10.4324/9780429469978
Type of publication	Book Section
Repository Link	https://www.taylorfrancis.com/books/edit/10.4324/9780429469978/urbanempires-edward-glaeser-karima-kourtit-peter-nijkamp
Title of publication	Metropolitan cities: Which development strategies? Which new perspectives for improving productivity? Which governance tools?
Authors	Luigi Fusco Girard
Title of the Journal/Proceedings/Book	Urban Empires. Cities as Global Rulers in the New Urban World
	Edited by: Edward Glaeser, Karima Kourtit, Peter Nijkamp
Number, date or frequency of the Journal/Proceedings/Book	1st Edition First Published 2020 - eBook Published 24 September 2020
Relevant Pages	395 - 420
Keywords	Metropolitan cities; development strategies; governance tools; circular economy
ISSN	
e-Book ISBN	9780429469978
Publisher	Routledge
Place of publication	New York, USA
Year of publication	2020





Is this publication available in Open Access or will it be made available?	NO
Is this a peer-reviewed publication?	YES

We live in the 'urban century'. Cities all over the world - in both developing and developed countries - display complex evolutionary patterns. Urban Empires charts the backgrounds, mechanisms, drivers, and consequences of these radical changes in our contemporary systems from a global perspective and analyses the dominant position of modern cities in the 'New Urban World'. This volume views the drastic change cities have undergone internationally through a broad perspective and considers their emerging roles in our global network society. Sections from renowned scholars provide advanced analytical contributions, scaling applied and theoretical perspectives on the competitive profile of urban agglomerations in a globalizing world. Together, the volume traces and investigates the economic and political drivers of network cities in a global context and explores the challenges over governance that are presented by mega-cities. It also identifies and maps out the new geography of the emergent 'urban century'. With contributions from well-known and influential scholars from around the world, Urban Empires serves as a touchstone for students and researchers keen to explore the scientific and policy needs of cities as they become our age's global power centers.

METADATA	
DOI	https://doi.org/10.6092/2284-4732/7268
Type of publication	Editorial
Repository Link	http://www.serena.unina.it/index.php/bdc/article/view/7268
Title of publication	Editorial - New Green Deal: Towards Ecological and Human-centered Urban Development Strategies
Authors	Luigi Fusco Girard
Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center
Number, date or frequency of the Journal/Proceedings/Book	Vol 19 No 2 (2019): New Green Deal: Towards Ecological and Human- centered Urban Development Strategies
Relevant Pages	233 - 243
Keywords	Circular economy; Green Deal; Human-centred development; Cultural heritage





ISSN	1121 - 2918
e-ISSN	2284 - 4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	NO

Reflections on our era defined as the Anthropocene (Crutzen and Brauch, 2016; Bonneuil and Fressoz, 2016; Steffen et al., 2007) are multiplying in light of the significant acceleration of many impacts resulting from various human actions on the environment, starting with the concentration of CO2 in the atmosphere. Indeed, the consequences of human activities are undermining the functioning of the Earth ecosystem, as is well evident from the various IPCC Reports (IPCC 2018; 2019). Climate change is shaping up to be the great issue of the 21st century. There is a need to increase investment in research: on the relationship between climate change and the various consequent impacts, ranging from environmental degradation to the consequences for the economy, the health of society, urban planning, etc. Universities must promote research into the relationship between climate change and the various impacts of climate change. Universities need to promote teaching and research on climate change and its impacts, starting with those on human health, the natural ecosystem and the economy. The future of our common home, our Earth, is at stake. We need a specific Strategic Research Plan on the above in order to clearly focus on the interdependencies between climate change and health/well-being, the economy, industry, agriculture, urban planning, energy, trying to identify new models of economic/territorial development, new models of production and distribution of wealth.

The 'Third Mission' is not only about technology transfer and entrepreneurship, but also about promoting a desirable model of economy and city. The challenge is not only technical/technological but also cultural/humanistic. In fact, there is no culture appropriate to the great challenges of our time. Choices large and small must be changed, in an increasingly complex and contradictory historical context, with ever less time to choose and ever higher stakes.



METADATA	
DOI	https://doi.org/10.6092/2284-4732/7269
Type of publication	Scientific Article
Repository Link	http://www.serena.unina.it/index.php/bdc/issue/view/524
Title of publication	Implementing the circular economy: the role of cultural heritage as the entry point. Which evaluation approaches?
Authors	Luigi Fusco Girard
Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center
Number, date or frequency of the Journal/Proceedings/Book	Vol 19 No 2 (2019): New Green Deal: Towards Ecological and Human- centered Urban Development Strategies
Relevant Pages	245 - 277
Keywords	Adaptive reuse; integrated evaluation; circular economy
ISSN	1121 - 2918
e-ISSN	2284 - 4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

The adaptive re-use of cultural assets is proposed as the entry point for implementing the circular city, that is the specific spatial/territorial aspect of the circular economy. The circular re-use contributes to implement the "city of the human being and of nature", in which the nature is considered the most important infrastructure. The paper discuss the ways in which adaptive reuse can be implemented, starting from some fundamental problems and the approach taken, and that determines the differences with other approaches about heritage assets reuse, in which the key attention is about the attractiveness and its multidimensional impacts and in which the economic, environmental, social, cultural dimensions are interpreted as having the same weight. The perspective is to search in the adaptive reuse new solutions able to re-integrate economy into ecology and into the human paradigm using new tools: from new management models to new evaluation decision support systems.



METADATA	
DOI	https://doi.org/10.6092/2284-4732/7278
Type of publication	Scientific Article
Repository Link	http://www.serena.unina.it/index.php/bdc/article/view/7278
Title of publication	Genius loci: the evaluation of places between instrumental and intrinsic values
Authors	Luigi Fusco Girard, Marilena Vecco
Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center
Number, date or frequency of the Journal/Proceedings/Book	Vol 19 No 2 (2019): New Green Deal: Towards Ecological and Human- centered Urban Development Strategies
Relevant Pages	473 - 495
Keywords	Genius loci; instrumental values; intrinsic values
ISSN	1121 - 2918
e-ISSN	2284 - 4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

This paper aims to provide an analysis of cultural heritage, in both its tangible and intangible dimension, as an ecosystem. It discusses the theories of value underlining the need to overcome the traditional assessment approach based on instrumental values and to propose a new avenue to talk and assess cultural heritage, specifically focusing on its genius loci. Clearly, there is the need to take into account intrinsic values as well. How to improve the effectiveness of recovery, restoration and valorization interventions on cultural heritage and landscapes? The lens of ecology is here introduced in planning conservation. A complex notion of value of cultural heritage is proposed, which will imply specific consequences on evaluation processes. We propose such reflection on methods for valuation of cultural heritage and landscapes in an ecosystemic perspective to inform policy making and physical and spatial planning for sustainable management of cultural heritage and landscapes.



METADATA	
DOI	https://doi.org/10.6092/2284-4732/7270
Type of publication	Scientific Article
Repository Link	http://www.serena.unina.it/index.php/bdc/article/view/7270
Title of publication	Towards a circular governance for the adaptive reuse of cultural heritage
Authors	Martina Bosone, Serena Micheletti, Antonia Gravagnuolo, Cristina Garzillo, Allison Wildman
Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center
Number, date or frequency of the Journal/Proceedings/Book	Vol 19 No 2 (2019): New Green Deal: Towards Ecological and Human- centered Urban Development Strategies
Relevant Pages	279 - 305
Keywords	Common goods; circular governance; Cultural heritage adaptive reuse
ISSN	1121 - 2918
e-ISSN	2284 - 4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

The adaptive reuse of abandoned cultural heritage assets can be seen as a regenerative process, which turns "wastescapes" into attractive places. Processes of urban transformation implemented by citizens represent cultural practices in which individuals are producers, and not only consumers, of cultural meanings. The renewed relationship between people and places through coordinated collective action becomes particularly relevant in the adaptive reuse of cultural heritage. This paper aims to investigate how "circular governance" can be interpreted and implemented in urban regeneration strategies aimed at "human-centred" circular development. Through case studies examples, the role of citizens-led initiatives in cultural heritage adaptive reuse is explored to identify common elements useful to draft a definition of circular governance and provide guidelines for policy makers.

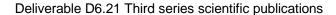


METADATA	
DOI	https://doi.org/10.6092/2284-4732/7273
Type of publication	Scientific Article
Repository Link	http://www.serena.unina.it/index.php/bdc/article/view/7273
Title of publication	Cultural heritage adaptive reuse: learning from success and failure stories in the city of Salerno, Italy
Authors	Antonia Gravagnuolo, Raffaele Lupacchini
Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center
Number, date or frequency of the Journal/Proceedings/Book	Vol 19 No 2 (2019): New Green Deal: Towards Ecological and Human- centered Urban Development Strategies
Relevant Pages	353 -377
Keywords	Cultural heritage; adaptive reuse; management models
ISSN	1121 - 2918
e-ISSN	2284 - 4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access (no fee)
Is this a peer-reviewed publication?	YES

Cultural heritage is considered as a resource for sustainable development in cities and regions. Local governments such as municipalities and provincial bodies are often owners of cultural heritage assets that are not listed as national or World Heritage properties but are recognized as relevant cultural heritage for the local communities. However, they lack the necessary financial and human resources to recover and maintain this "minor" cultural heritage. Thus, decisions on the financing and management of cultural heritage owned by local governments highly depend on the availability of the public owner to create partnerships with third parties. This paper analyses and compares success and failure cases in cultural heritage adaptive reuse in the city of Salerno, Italy, in order to identify decision-making criteria for public owners of "minor" cultural heritage assets based on the characteristics of different heritage properties and context conditions.



METADATA	
DOI	N/A
Type of publication	Book
Repository Link	https://www.gianninispa.it/?product=matera-citta-del-sistema-ecologico- uomo-societa-natura
Title of publication	Matera, città del sistema ecologico uomo/società/natura: il ruolo della cultura per la rigenerazione del sistema urbano/territoriale
Authors	Luigi Fusco Girard, Claudia Trillo and Martina Bosone
Title of the Journal/Proceedings/Book	Matera, città del sistema ecologico uomo/società/natura: il ruolo della cultura per la rigenerazione del sistema urbano/territoriale
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	
Keywords	Circular economy; cultural heritage; adaptive reuse; circular city; Matera; human-centred development
ISBN	978-88-7431-961-9
e-ISSN	
Publisher	Giannini Editore
Place of publication	Napoli, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	NO
Is this a peer-reviewed publication?	NO



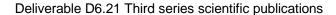


The book deals with the human-centred circular regeneration of Matera. Beauty is the general characteristic of the historical landscape of Matera, interpreted as a complex dynamic system that includes the old town, the new town and the territory. The various contributions in the book revolve around this (perhaps also "painful") beauty. How to preserve it? How can it be preserved and become an engine for new development? The general thesis is that this regeneration should be framed within the perspective of the "circular economy", which is an economy in which all economic values co-exist and co-evolve with ecological and social/human values.

In human-centred regeneration, people and culture are at the heart of the circular regeneration of the city, European Capital of Culture in 2019. Culture shapes the way people live, work, produce, consume, transform, relate to others and to nature, determining choices and behaviours. It is the lens through which to transform every even abandoned and degraded sites into a living system. The starting point for this regeneration strategy is the identification of the 'intrinsic value' of the urban system in Matera.

It should be understood as the essential meaning, the intangible value that represents the foundation of other values, which has shaped the organisational structure built over many centuries. Today, this 'intrinsic value' can offer a coherent and effective direction for the circular human-centred development of the Matera system, thus making Matera an exemplary case with reference to the circular economy paradigm.

METADATA	
DOI	<u>10.3217/978-3-85125-668-0-08</u>
Type of publication	Conference Proceedings
Repository Link	https://diglib.tugraz.at/download.php?id=5df338c7b72f4&location=browse
Title of publication	Circular Economy strategies in the Historic built environment: Cultural heritage Adaptive Reuse
Authors	Antonia Gravagnuolo, Roberta de Angelis, Silvia Iodice
Title of the Journal/Proceedings/Book	Conference Proceedings of the STS Conference Graz 2019, Critical Issues in Science, Technology and Society Studies, 6 - 7 May 2019
Number, date or frequency of the Journal/Proceedings/Book	Proceedings of the STS Conference Graz 2019 (Annual Conference)
Relevant Pages	121 - 144
Keywords	Circular economy; Historic built environment
ISSN	2663-9440
e-ISSN	
Publisher	Verlag der Technischen Universität Graz
Place of publication	Graz, Austria
Year of publication	2019



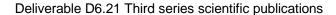


Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access
Is this a peer-reviewed publication?	YES

Circular Economy (CE) is currently promoted through policy, urban and regional strategies as well as emerging as a relevant research sector. Within this context, circularity in the built environment is attracting attention with applications in many design and urban projects. The general principles of CE are applied to existing and new buildings, focusing on the "end-of-life" stage and developing sustainable innovative solutions to optimize dismantling and reuse of materials and technological parts of buildings. However, in historic urban areas the principles of dismantling and reuse of materials remain barely applicable (end-of-life), as well as the application of standard renewable energy systems (usage), due to cultural heritage unique characteristics and heritage regulations oriented to its preservation, conservation and transmission to future generations. As a consequence, adaptive reuse of cultural heritage seems to be the one of the most viable solution to apply CE in the historic built environment.

In this article, we aim to identify CE solutions and to lay the foundation for the future development of a system of indicators able to support circular adaptive reuse choices in the historic built environment. The starting point is the Horizon 2020 "CLIC" project (Circular models Leveraging Investments in Cultural heritage adaptive reuse), which focuses on adaptive reuse as a key strategy for CE implementation in historic cities and regions. The concepts of Circular Economy, Circular Built Environment and Circular Urban Metabolism are explored. Under these perspectives, three representative case studies are described: the first is "De Ceuvel" project in Amsterdam, a second application at a different scale is referred to "Rehafutur Engineer's House project" (France), and finally, the circular adaptive reuse of a rural village in Spain, within the "ReDock project" in the Altiplano region in Spain, is explored. Conclusions highlight the need of suitable indicators synthesizing theory and practice of CE in historic built environment, starting from the recognition of multiple impacts of cultural heritage adaptive reuse practices.

METADATA	
DOI	https://doi.org/10.6092/2284-4732/6239
Type of publication	Scientifc Article
Repository Link	http://www.rth.unina.it/index.php/bdc/issue/view/482
Title of publication	Il riuso del patrimonio culturale religioso: criteri e strumenti di valutazione
Authors	Luigi Fusco Girard, Antonia Gravagnuolo
Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center





Number, date or frequency of the Journal/Proceedings/Book	Resilience, Productivity, Circularity.18(2), 2018
Relevant Pages	237 - 246
Keywords	Cultural and religious heritage; circular economy; evaluation; adaptive reuse
ISSN	1121 - 2918
e-ISSN	2284 - 4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2018
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

About 20% of the cultural heritage on the UNESCO World Heritage List is of a religious nature and represents the most critical cultural heritage with respect to protection, aimed at ensuring authenticity, integrity and spiritual value. The real estate value and the tourist function orientate towards certain uses due to the particular location of this heritage, often attractive because of its centrality in the territorial context. But are these new uses consistent with the "intrinsic value" that has characterised them in the course of their centuries-old history? Which new values of use do not conflict with their identity? And with the identity of thecommunities? This article aims to analyse the relationship between the "intrinsic value" of cultural heritage and new functional uses, identifying a set of criteria for the ex-post evaluation of religious cultural heritage reuse projects in the perspective of circular economy as a "regenerative" economy of economic, social, environmental and cultural values.

METADATA	
DOI	https://doi.org/10.6092/2284-4732/6040
Type of publication	Scientific Article
Repository Link	http://www.serena.unina.it/index.php/bdc/article/view/6040/7216
Title of publication	Evaluation criteria for a circular adaptive reuse of cultural heritage
Authors	Antonia Gravagnuolo, Luigi Fusco Girard, Christian Ost, Ruba Saleh

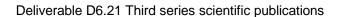




Title of the Journal/Proceedings/Book	Bulletin of the Calza Bini Center
Number, date or frequency of the Journal/Proceedings/Book	Vol. 17, 2/2017 Circular Models for Systemic Adaptive Reuse of Cultural Heritage and Landscape
Relevant Pages	185 - 216
Keywords	Adaptive reuse; cultural heritage; circular economy
ISSN	1121-2918
e-ISSN	2284-4732
Publisher	FedOAPress (Federico II Open Access Press)
Place of publication	Napoli, Italy
Year of publication	2017
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

This article aims to develop a structured reasoning and a first proposal of evaluation criteria to assess the impacts of cultural heritage adaptive reuse projects in the perspective of the circular economy model. Adaptive reuse of cultural heritage can be key in the implementation of circular economy and circular city/territory models. The article explores and clarifies why and how cultural heritage adaptive reuse is key to implement a circular economy in cities and regions, stressing the "multidimensional productivity" of heritage reuse and its contribution to the achievement of a "human sustainable development". The article addresses first the theoretical aspects comparing and discussing the literature on circular economy and its applications, while proposing a first set of evaluation criteria able to express what can be interpreted/chosen as relevant in this context.

METADATA	
DOI	https://doi.org/10.3390/su13073685
Type of publication	Scientific Article
Repository Link	https://www.mdpi.com/2071-1050/13/7/3685/htm
Title of publication	Smart Specialisation Strategies for Elevating Integration of Cultural Heritage into Circular Economy



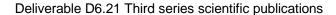


Authors	Jermina Stanojev, Christer Gustafsson
Title of the Journal/Proceedings/Book	Sustainability Special Issue: The Valorization of the Cultural Heritage and Landscape as
	the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(7), 3685
Relevant Pages	3685
Keywords	Circular economy; culture; cultural heritage; smart specialisations; regional development
ISBN	
e-ISSN	2071-1050
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access
Is this a peer-reviewed publication?	YES

The smart specialisation approach is becoming a strategic instrument for identifying regions' opportunities for growth and sustainable development. It is a place-based approach and plays an important role in benchmarking regional competitiveness. To have a smart specialisation strategy has been thought of as a key factor in making a choice for investment. Smart specialisation strategies represent a policy measure to overcome disorganised and weak parallel activities in developed EU countries and offer support to those areas that have research, technological and production capacity to carry out particular activities. Smart specialisation strategies, therefore, follow the socio-economic situation in countries and their integrated technological, institutional and business processes. The EU Member States and regions recognised that supporting a limited number of well-identified priorities for knowledge-based investments and/or clusters could advance, focusing on competitive assets and realistic growth capabilities reinforced by a critical mass of action and entrepreneurial resources. However, the role of culture and cultural heritage has not been significant in these processes. As the policy review revealed that circular economy should be considered as a broader sustainable development strategy, which should also "support Member States and regions to strengthen innovation for the circular economy through smart specialisations", the purpose of this paper is to lay a basis for a new, stronger complementarity between culture, cultural heritage and adaptive reuse practices, and circular economy concepts through smart specialisation strategies.



METADATA	
DOI	<u>10.3217/978-3-85125-668-0-23</u>
Type of publication	Conference Proceeding
Repository Link	https://diglib.tugraz.at/download.php?id=5e29b0b8c404a&location=browse
Title of publication	Circular Economy Concepts for Cultural Heritage Adaptive Reuse implemented through Smart Specialisations Strategies
Authors	Jermina Stanojev, Christer Gustafsson
Title of the Journal/Proceedings/Book	Critical Issues in Science, Technology and Society Studies, Conference Proceedings of the 18th STS Conference Graz 2019
Number, date or frequency of the Journal/Proceedings/Book	Proceedings of the STS Conference Graz 2019 (Annual Conference)
Relevant Pages	415-436
Keywords	cultural heritage, adaptive reuse, sustainable development, smart specialisations, circular economy
ISBN	978-3-85125-668-0
e-ISSN	2663-9440
Publisher	Verlag der Technischen Universität Graz
Place of publication	Graz, Austria
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access
Is this a peer-reviewed publication?	YES





Although concepts of circular economy are growing, circular economy design processes in the construction sector are as of yet neither advanced nor well-articulated, despite the fact that circular economy models could be applied very well in cultural heritage assets and in the construction sector in regions and cities. Policy and decision makers lack sufficient knowledge on the benefits of cultural heritage assets adaptive reuse, as well as tools for both implementing these actions and articulating them accordingly in policy instruments, such as smart specialisation and others. A recently developed study at Uppsala University, on mapping European regions (NUTS entities) which recognise cultural heritage and culture as an integral part in their development strategies, offers a comparison of approaches according to economic and scientific domains as well as policy objectives, and shows that only a small percentage of regions consider cultural heritage as an asset for their growth.

The purpose of this paper is to lay a basis for a new, stronger complementarity between cultural heritage adaptive reuse practices and circular economy concepts through smart specialisation strategies and, in particular, specific economic domains, reviewing also approaches of different European regions towards these links within their strategic documents. Preliminary results show that cultural heritage is not adequately recognised as a potential for economic development within the economic domain associated with adaptive reuse and circular economy (mainly construction industry). This research aims to overcome a gap in the qualitative and quantitative data regarding this topic and to clarify how many regions and cities (NUTS entities) are oriented towards including cultural heritage as a part of their circular economy processes.

METADATA	
DOI	https://doi.org/10.3390/su13052889
Type of publication	Scientific article
Repository Link	https://www.zenodo.org/record/4629214
Title of publication	The Adaptive Reuse of Cultural Heritage in European Circular
	City Plans: A Systematic Review
Authors	Gillian Foster and Ruba Saleh
Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as
	the Entrance Point for the Circular City Strategy
Number, date or frequency of the	Sustainability. 2021; 13(5):2889
Journal/Proceedings/Book	
Relevant Pages	2889
Keywords	Circular economy; circular city; cultural and creative cities; sustainability; urban policy;adaptive reuse; heritage economics; buildings; Europe
ISSN	
e-ISSN	2071-1050
Publisher	MDPI



Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 1210.63 paid by ICHEC upon approval of the Project Officer)
Is this a peer-reviewed publication?	YES

A new movement in urban environmental policy, the circular economy (CE), aims to change how Europeans consume and produce materials and energy. Cities are taking up the CE challenge. This research inquires whether the infant CE programs in European cities include cultural heritage and adaptive reuse of cultural heritage (ARCH) buildings. ARCH buildings exemplify the central principal of the CE, which is a temporally long service life with multiple uses for several generations of users. In addition, culture and cultural heritage buildings are established drivers of socioeconomic development, urban landscape, and identity. Hypothetically, cultural heritage and adaptive reuse of cultural heritage (ARCH) buildings should be prominently included in European cities' CE programs, particularly those cities that are highly ranked on the 2019 European Cultural and Creative Cities Monitor (Monitor). To test this hypothesis, this study creates a novel dataset that profiles the existing circular city plans of 190 European cities included in the Monitor's ranking. Contrary to the hypothesis, just seven percent of cities in the dataset include cultural heritage.

European cities are missing an opportunity to achieve their CE goals and preserve their unique identities as embodied in the built environment.

METADATA	
DOI	
Type of publication	Conference proceedings
Repository Link	https://books.bk.tudelft.nl/press/catalog/view/781/892/860-2
Title of publication	Revisiting Heritage Conservation in its Social and Economic Background
Authors	Christian Ost
Title of the Journal/Proceedings/Book	LDE Heritage Conference on Heritage and the Sustainable Development Goals: Proceedings. A. Pottgiesser, Uta; Fatoric, Sandra; Hein, Carola; de Maaker, Erik and Pereira Roders (Eds.)
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	282–289



Deliverable D6.21 Third series scientific publications

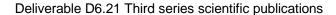
Keywords	Heritage economics, economic long waves, sustainable conservation
ISSN	
e-ISSN	ISBN 978-94-6366-356-4
Publisher	TU Delft Open
Place of publication	Delft, Netherlands
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access. The costs were covered by TU Delft
Is this a peer-reviewed publication?	YES

ABSTRACT

The paper aims to put heritage conservation in perspective of its social and economic background. Although conservation is today clearly integrated in a framework and agenda of sustainable development, there are implications of that on the operational side for conservation specialists and related stakeholders. The paper focuses on the complexity of the current long transition phase of the global economy that is accompanied by innovations and changes in production and consumption behaviours. This framework contributes to revisit the role of heritage conservation facing the current challenges of urbanisation, climate change, social

transformations, and sustainable economy. After a brief description of 75 years of successful conservation and economic structural changes, the paper tentatively identifies some trends which could improve integrated sustainable conservation, tools of heritage economics, and new governance models.

METADATA	
DOI	N/A
Type of publication	Conference proceedings
Repository Link	N/A
Title of publication	Spatializing Tangible and Intangible Cultural Heritage in Sustainable Perspective
Authors	Christian Ost
Title of the Journal/Proceedings/Book	Patrimonio culturale e festività dei carnevali: gli itinerari urbani dei rituali storici in Campania. Teresa Colletta, Pasquale De Toro, Luigi Fusco Girard (Eds.)





Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	87-90
Keywords	
ISSN	
e-ISSN	EAN: 9788895315683
	ISBN: 978-88-95315-68-3
Publisher	Le Penseur
Place of publication	Potenza, Italy
Year of publication	2020
Is this publication available in Open Access or will it be made available?	NO
Is this a peer-reviewed publication?	YES

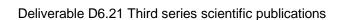
By definition, the cultural heritage of a place aims to characterize factors of uniqueness which are encountered in a place. It includes tangible but also intangible heritage, which brings together cultural and natural assets, architectural and human factors through a human-centered approach.

In most of European cities, the religious heritage has been part of the settling and history of the population of the evolution in time, and of the urban organization and physical structures of human activities.

Traditional and typical forms of urban development have mostly been organized around churches and religious buildings, not just for religious stakeholders but to a broader extent for religious-related so

religious buildings, not just for religious stakeholders but to a broader extent for religious-related social events. The paper gives an example of how the city of Salerno benefits from the extended number of religious tangible and intangible assets, through a complex urban spatialization.

METADATA	
DOI	https://doi.org/10.6092/2281-4574/6639
Type of publication	Scientific article
Repository Link	http://www.serena.unina.it/index.php/tria/article/view/6639
Title of publication	Introduction to perceptions mapping: the case of Salerno, Ital
Authors	Ruba Saleh and Christian Ost

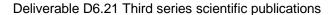




Title of the Journal/Proceedings/Book	TRIA Internation Journal of Urban Planning
Number, date or frequency of the Journal/Proceedings/Book	TRIA. 12(2)
Relevant Pages	137-160
Keywords	Perceptions mapping, cultural heritage, co-design, Historic Urban Landscape
ISSN	
e-ISSN	2281 - 4574
Publisher	Università degli Studi Federico II di Napoli Centro Interdipartimentale di Ricerca L.U.P.T. (Laboratorio di Urbanistica e Pianificazione Territoriale) "R. d'Ambrosio"
Place of publication	Naples, Italy
Year of publication	2020
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (No fee).
Is this a peer-reviewed publication?	YES

Perceptions mapping is a sense-making process during which people map their cultural, natural and human assets; express their opinions, ideas, needs and aspirations but also; raise concerns and highlight conflicts related to the management, conservation and preservation of the cultural capital for future generations. The mapping is carried out through the five senses and with the help of a physical map. Departing from the perceptions, the collective memory of what a place was to the community arises. Likewise, diverging and/or converging perspectives emerge in reference to what it is today and above all, how the community would like it to be in the future. Perceptions mapping demonstrated to be a very useful tool not only to map tangible heritage but also to resuscitate and reinstate on the map the intangible heritage assets. This paper retraces and presents the mapping process which was carried out in the city of Salerno in Italy.

METADATA	
DOI	https://doi.org/10.1016/j.scs.2021.102869
Type of publication	Scientific article
Repository Link	https://www.sciencedirect.com/science/article/pii/S2210670721001591?vi a%3Dihub





Title of publication	Subjective circularity performance analysis of adaptive heritage reuse practices in the Netherlands
Authors	Ikiz Kaya, D.; Dane, G.; Pintossi, N.; Koot, C.A.M.
Title of the Journal/Proceedings/Book	Sustainable Cities and Society
Number, date or frequency of the Journal/Proceedings/Book	Sustainable Cities and Society. 70 (2021), 102869
Relevant Pages	1-14
Keywords	Circular economy; Circularity performance; Adaptive reuse; Built heritage; Subjective performance analysis; Netherlands
ISSN	2210-6707
e-ISSN	
Publisher	Elsevier
Place of publication	Amsterdam, Netherlands
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access
Is this a peer-reviewed publication?	YES

Adaptive reuse of built heritage is a driver for the circular economy. This paper examines Dutch adaptive reuse practices regarding their functional, operational and financial models, and assesses their circularity performance by evaluating cultural values preservation, circularity of reuse intervention, and outcomes from use. Primary data was collected through an online survey of stakeholders representing 53 cases. We employed Multiple Correspondence Analysis (MCA) to summarize the relationships among variables and Partial Least Square-Structural Equation Model (PLS-SEM) analysis to assess the weights of the active variables and their causal relationships. We then conducted a factorial mapping and hierarchical cluster analysis to investigate further the correlations between certain characteristics, individual cases, and active circularity variables. The findings indicate that there has been a major trend towards more private sector involvement, stimulation for pro-active engagement of local actors, and better dialogue among stakeholders. In addition, stakeholders acknowledge that adaptive reuse strongly contributes to conserving cultural values. However, stakeholders only weakly recognize its correlation to the circularity framework in the limited context of the physical built environment. This study provides essential insights regarding emerging adaptive reuse trends and circularity performance, which can be further incorporated into circular economy strategies and roadmaps for the built environment. The framework established in this paper for analyzing circularity performance of adaptive reuse practices is transferable and can be replicated in empirical studies worldwide.



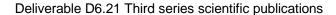
METADATA	
DOI	https://doi.org/10.3390/su13052479
Type of publication	Scientific article
Repository Link	https://www.mdpi.com/2071-1050/13/5/2479
Title of publication	An Empirical Analysis of Driving Factors and Policy Enablers of Heritage Adaptive Reuse within the Circular Economy Framework
Authors	Ikiz Kaya, D.; Pintossi, N.; Dane, G.
Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(5), 2479
Relevant Pages	2479
Keywords	adaptive reuse; cultural heritage; circular economy; drivers; policy enablers; policy analysis
ISSN	2071-1050
e-ISSN	
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 875.50)
Is this a peer-reviewed publication?	YES





The adaptive reuse of cultural heritage has been recognized as a driver of the circular economy. It stimulates economic growth, boosts its inherent values, and reduces material usage and energy consumption. It can be regarded unviable due to financial constraints, limitations in regulatory frameworks and lack of engagement in decision-making. To tackle these challenges, this study aims to examine the drivers and related policy instruments that support adaptive reuse practices, and to analyze the usefulness and feasibility of a set of multi-level policy enablers at varying local contexts. In this context, we first conducted a semi-systematic review of academic and gray literature and identified 19 driving factors and associated policy documents. These instruments were concentrated on administrative, regulatory and financial tools. This analysis led to the identification of policy enablers that can be adopted at three levels: European, national and local. An online survey was then conducted to investigate how a variety of local stakeholders in the selected case cities and region evaluate the adaptability of these enablers in their individual cases. The findings show that all the assessed enablers are deemed useful and feasible to a certain extent with higher score of usefulness, confirming the adaptability of these instruments into the circular economy framework. These evidence-based results can inform future policies at multiple-levels that will accelerate and scale up circular actions through heritage adaptive reuse.

METADATA	
DOI	https://doi.org/10.3390/su13073603
Type of publication	Scientific article
Repository Link	https://www.mdpi.com/2071-1050/13/7/3603
Title of publication	Assessing Cultural Heritage Adaptive Reuse Practices: Multi-Scale Challenges and Solutions in Rijeka
Authors	Pintossi, N.; Ikiz Kaya, D.; Pereira Roders, A.
Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(7), 3603
Relevant Pages	3603
Keywords	adaptive reuse; challenge assessment; city of Rijeka; circular city; circular economy; cultural heritage; historic urban landscape approach; solution identification; stakeholder engagement
ISSN	2071-1050
e-ISSN	
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021

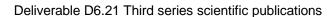




Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (875.5 EUR)
Is this a peer-reviewed publication?	YES

Cultural heritage is recognized as a driver and enabler for sustainable development, and its role within the circular economy and circular cities is gaining attention. Its adaptive reuse plays a significant role in this while prolonging the heritage lifespan, preserving the values associated with heritage assets, and creating shared values. The adoption and implementation of the adaptive reuse of cultural heritage practices present challenges at multiple levels. This research aims to identify these challenges and propose solutions to overcome them, considering the post-industrial port city of Rijeka, Croatia, as a case study. The adaptive reuse of cultural heritage practices was assessed through a stakeholder engagement workshop performing a multi-scale analysis using the Historic Urban Landscape approach as an assessment framework. Forty-nine themes were identified by content analysis of the challenges and solutions identified by stakeholders involved in adaptive reuse practices and decision-making in the city. The five most mentioned themes refer to aspects relating to participation, capacity, regulatory systems, economics-finance, and knowledge. These findings provide evidence of challenges for policy- and decision-makers to be addressed in policy-making. Solutions are also suggested to facilitate the adaptive reuse of cultural heritage in the city of Rijeka and similar contexts, such as introducing policies to support participatory decision-making whose absence is a barrier.

METADATA	
DOI	https://doi.org/10.3390/su13084497
Type of publication	Scientific Article
Repository Link	https://www.mdpi.com/2071-1050/13/8/4497
Title of publication	Regenerating the Historic Urban Landscape through Circular Bottom-Up Actions: The Urban Seeding Process in Rijeka
Authors	Acri Marco, Dobričić Saša, Debevec Maja
Title of the Journal/Proceedings/Book	Sustainability Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(8), 4497
Relevant Pages	4497





Keywords	Urban regeneration; historic urban landscape; circular economy and adaptive reuse; cultural corridor; urban seeding
ISSN	
e-ISSN	2071-1050
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 1713.25)
Is this a peer-reviewed publication?	YES

The increasing pressure on urban resilience and the parallel interest in the preservation of the Historic Urban Landscape (HUL) have opened new frontiers of research that find, in the principles of the circular economy, good responses. Cities need to remake themselves from pure consumption to more resilient and circular centers, finding inspiration in their cultural and natural heritage and the history that generated it. The City of Rijeka, Croatia, one of the partners in the CLIC project (an EU-funded Horizon 2020 research project entitled "Circular models Leveraging Investments in Cultural heritage adaptive reuse"), represents an exceptional example of how to manage the change from an industrial port city to a more sustainable and citizen-oriented living space, looking at the potentials of the cultural and historical layers as opportunities for the population. The City of Rijeka, aware of such potentials, applied successfully as a European Capital of Culture 2020 (ECoC 2020), while unlikely facing the negative impacts of the COVID-19 pandemic. In Rijeka, thanks to the CLIC Heritage Innovative Partnership (HIP) program, the efforts to associate the circular economy and historic urban landscape benefit from an exceptional local awareness of the urban cultural and natural heritage, permitting the elaboration of the cultural corridor concept. By using the historical river of the city, the Rječina, as a connecting line of several heritage assets leading toward the Sea waterfront, the cultural corridor represents a space of culture creation based on continuity and proximity, where all citizens can securely reappropriate dismissed parts of the city, similar to the commons' management practice. The cultural corridor has been imagined as a spatial implementation model that needs actions to be actuated. A set of actions was designed through the urban seeding process, tested in a workshop methodology, meant to address the HUL regeneration through an awareness-raising and cocreation approach by codesigning through situated learning, possible permanent or temporary actions, activities, assets to be replicated in the corridor and, per extension, in the entire city. This article will explain the way the cultural corridor concept and urban seeding were generated in the City of Rijeka, giving evidence of the motivations and the proposals made in parallel with the existing initiatives of the city and its cultural movements

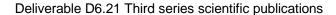


METADATA	
DOI	N/A
Type of publication	Conference Proceedings
Repository Link	N/A
Title of publication	The Restoration of Stucky Mill in Venice. Respecting the Authenticity in Adaptive Reuse
Authors	Acri Marco, Dobričić Saša
Title of the Journal/Proceedings/Book	Proceedings of the 8th International Conference on Industrial Heritage, Rijeka, 2018
Number, date or frequency of the Journal/Proceedings/Book	Biennial
Relevant Pages	97-111
Keywords	Industrial heritage Reuse, Authenticity, Integrity, Venice
ISSN	1848-4794
e-ISSN	
Publisher	Pro-Torpedo Rijeka
Place of publication	Rijeka, Croatia
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

The Molino Stucky is one of the most impressive buildings in the center of Venice. The mill, ordered by G. Stucky, had grown rapidly on a Neo-Gothic by the German architect Ernst Wullekopf. Since its abandonment in 1955 the city of Venice had been investigating solutions for the site regeneration. The main obstacles were, beyond the financial investment, the alignment of the new ideas to the conservation bonds on the industrial conceptual design and on the structures and materials. The solution came from the re-privatization of the complex (originally private) and the public private partnership between the new owner and the municipality that consisted of some facilitations by the public part in favor investments on public areas. The restoration project, thanks to the conservation approach by the architects and the support by the local and national authorities, gave value to the existing preservation bonds instead of considering them as restrictive, focusing on its authenticity.



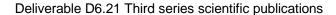
METADATA	
DOI	http://dx.doi.org/10.1088/1748-9326/ab751e
Type of publication	Scientific Article
Repository Link	https://www.zenodo.org/record/3753109
Title of publication	Peer Reviewed Scientific Journal
Authors	Gillian Foster and Halliki Kreinin
Title of the Journal/Proceedings/Book	A review of environmental impact indicators of cultural heritage buildings: A circular economy perspective
Number, date or frequency of the Journal/Proceedings/Book	Environ. Res. Lett. 15 043003 (2020)
Relevant Pages	043003
Keywords	Circular economy, environmental indicators, adaptive reuse cultural heritage buildings, urban renovation
ISSN	
e-ISSN	N/A
Publisher	IOP Science Publishing LTD
Place of publication	
Year of publication	2020
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 2160.00)
Is this a peer-reviewed publication?	YES





This paper is the first in-depth review of the state of the art of environmental impact indicators for adaptive reuse of cultural heritage (ARCH) buildings from a circular economy perspective. Buildings are a necessary component of sustainability planning because they are significant consumers of natural resources, producers of construction and demolition waste, and contributors to greenhouse gas emissions. In addition, buildings, particularly ARCH buildings, are long lasting; therefore, measuring and managing their environmental impacts is crucial to achieving the universal vision of a sustainable, low-carbon economy. The research answers the questions, "What are the environmental impact indicators used by individual ARCH building project analyses?" and "Are the most commonly used indicators reflecting Circular Economy concepts?" It synthesizes and defines current practice in the field whilst highlighting the gaps between practice and policy. Although the term "Circular Economy" is not explicitly and routinely used in the literature, related concepts such as life cycle analysis, energy consumption reduction, energy efficiency, and embodied carbon / energy are evident at the project level. Concrete and measured environmental indicators are not mainstream. However, narratives of environmental protection feature prominently in the literature, indicating an environmental motivation for repurposing cultural heritage buildings. Further, there is a gap between common indicators of circularity and the ARCH building project level indicators shown in the dataset.

METADATA	
DOI	https://doi.org/10.1186/s12302-020-00411-9
Type of publication	Scientific Article
Repository Link	https://epub.wu.ac.at/7829/
Title of publication	The future of circular environmental impact indicators for cultural heritage buildings in Europe
Authors	Foster, Gillian; Kreinin, Halliki; Stagl, Sigrid
Title of the Journal/Proceedings/Book	Environmental Sciences Europe
Number, date or frequency of the Journal/Proceedings/Book	Environ Sci Eur 32, 141 (2020)
Relevant Pages	1 - 17
Keywords	Circular economy, Environmental indicators, Adaptive reuse, Cultural, heritage, Buildings, Sustainability, Transition, Europe, Policy
ISSN	N/A
e-ISSN	N/A
Publisher	Springer Nature
Place of publication	
Year of publication	2020





Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Fee included in WU Agreement with Publisher)
Is this a peer-reviewed publication?	YES

The European building and construction sector is extremely resource-intensive. This makes the renovation of existing buildings, including the adaptive reuse of cultural heritage buildings (ARCH), important for reducing the materials and energy intensity of the sector. Currently, Europe is embarking on a Circular Economy (CE) strategy that directly affects the environmental indicators for buildings and landscapes, including ARCH. However, there is a misalignment between macro-level European CE policy goals and micro-level renovation and management of existing buildings and ARCH. The analysis shows that macro European Union-level indicators are too narrowly defined to effectively guide the implementation of CE at the micro-project level for ARCH. Results This policy study develops a comprehensive ARCH Circular Environmental Impact Indicator Framework to close this gap by: (1) defining the research question; (2) identifying the causal network; and (3) selecting the best indicators. The study compares Circular Environmental Indicators for ARCH projects to current and developing European management schemes. Best practices in environmental impact assessment at the project level are highlighted for the building and construction sector in Europe. Conclusions The proposed new framework is a comprehensive and suitable list of explicitly circular environmental indicators for ARCH. The framework has immediate practical applications for practitioners and policymakers interested in the CE regime for buildings in Europe.

METADATA	
DOI	https://doi.org/10.5281/zenodo.4075052
Type of publication	Research Report / Working Paper
Repository Link	https://www.zenodo.org/record/4075053
Title of publication	"Kultur-Token" Sustainable Business Model: Visualizing, Tokenizing, and Rewarding Mobility Behavior in Vienna, Austria
Authors	Foster, Gillian; Lamura, Maddalena; Hackel, Jakob
Title of the Journal/Proceedings/Book	Working Paper Series WU Interdisciplinary Institute for Crytopeconomics
Number, date or frequency of the Journal/Proceedings/Book	2/2020
Relevant Pages	N/A
Keywords	Kultur-Token, Sustainable Business Model, Low-carbon Mobility, Behavioral Change, Block Chain, Tokenization, App

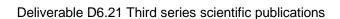




ISSN	
e-ISSN	N/A
Publisher	Vienna University of Economics and Business
Place of publication	Vienna, Austria
Year of publication	2020
Is this publication available in Open Access or will it be made available?	YES (Euro 0)
Is this a peer-reviewed publication?	NO

The report "Kultur-Token Sustainable Business Model: Visualizing, Tokenizing, and Rewarding Mobility Behavior in Vienna, Austria" is the result of an ongoing scientific collaboration between the Research Institute for Cryptoeconomics and the City of Vienna. This case study uses business modeling to understand the project Kultur-Token and serves as a strategic tool for both the management team as well as external stakeholders. The report documents the process of development of the Kultur-Token, describes its purpose and features, the goals and stakeholders involved until the suspension of the test phase at the end of march 2020, as the Covid-19 pandemic restricted both mobility and cultural activities.

METADATA	
DOI	https://doi.org/10.6092/2284-4732/7063
Type of publication	Scientific Article
Repository Link	https://www.zenodo.org/record/3937363
Title of publication	Planning the Circular City: Focus on Buildings' Environmental Impact
Authors	Foster, Gillian
Title of the Journal/Proceedings/Book	BDC - Bollettino Del Centro Calza Bini
Number, date or frequency of the Journal/Proceedings/Book	BDC, 19(1), 117-123
Relevant Pages	117-123
Keywords	Circular City, buildings, historic buildings, environment, Europe
ISSN	N/A

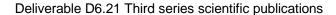




e-ISSN	N/A
Publisher	University of Naples
Place of publication	Naples, Italy
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES (Euros 0)
Is this a peer-reviewed publication?	YES

Circular City initiatives to implement circular economy goals are expanding in Europe. This article provides the nascent Circular City movement with a rationale and motivation to target existing buildings and cultural heritage buildings. The article argues that Circular City initiatives should aim to achieve low-carbon development; less construction and demolition wastes; improving energy efficiency; and improving resource efficiency in the buildings sector in line with European Union policy goals.

METADATA	
DOI	<u>10.3217/978-3-85125-668-0-08</u>
Type of publication	Conference Proceedings
Repository Link	https://diglib.tugraz.at/download.php?id=5df338c7b72f4&location=browse
Title of publication	The circular character of building tradition: Which challenges for the HUL approach?
Authors	Acri, M., Dobričić, S.
Title of the Journal/Proceedings/Book	Conference Proceedings of the STS Conference Graz 2019, Critical Issues in Science, Technology and Society Studies, 6 - 7 May 2019
Number, date or frequency of the Journal/Proceedings/Book	Proceedings of the STS Conference Graz 2019 (Annual Conference)
Relevant Pages	67 - 83
Keywords	HUL; built environment; cultural heritage
ISSN	2663-9440
e-ISSN	
Publisher	Verlag der Technischen Universität Graz



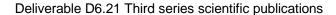


Place of publication	Graz, Austria
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access
Is this a peer-reviewed publication?	YES

The lifespan of buildings ČIĆand open spaces can be radically longer than of other goods. That is certainly one of the reasons why historic buildings have been traditionally associated with heritage value, and thus maintained and protected as part of the future of cities. However, particularly in the current world, buildings and cities are under constant challenge and pressure of changing needs, lifestyles, services of society. Hence, any consideration of circular economy within built environment requires approaches and models that refer to continuity, adaptability, resilience and quality, features that often characterize traditional historic built environments.

In the past, urban centers were normally built using sustainable techniques and resources. They were constantly maintained with the intention to make the best use of available materials, by reusing what was possible and thus reducing waste. Consequently, the use of local materials, techniques, crafts and competences has shaped the built environment for centuries, generating testimonies of local cultural identity and authenticity in different forms. Such local culture that characterizes each place has been evolving by being resilient and strictly connected to its environmental context. Indeed, considering the historic urban landscape as an approach to urban conservation and planning through development, we refer to the city in its capacity to represent its development in time, to put in common different urban "facts" in time, as well as the resulting genius loci that made it different from others, but breaking the concepts of identity.

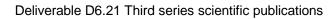
METADATA	
DOI	N/A
Type of publication	Conference paper
Repository Link	http://resolver.tudelft.nl/uuid:917a7ed1-de6b-4131-9c98-c53d9c4a99a7
Title of publication	Operationalising the HUL Tools at Building Level: Circular Models of Adaptive Reuse
Authors	Ikiz Kaya, Deniz; Lu, Lu; Pintossi, Nadia; Pereira Roders, A.
Title of the Journal/Proceedings/Book	LDE Heritage Conference on Heritage and the Sustainable Development Goals: Proceedings





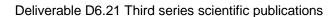
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	315-324
Keywords	Adaptive reuse; Amsterdam; Challenge and Solution Analysis; Cultural heritage; Historic Urban Landscape approach
ISBN	978-94-6366-356-4
e-ISSN	
Publisher	TU Delft Open
Place of publication	Delft, Netherlands
Year of publication	2021 (date of first publication 2020-12-01)
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (OA fee included in the conference fee of 250 €)
Is this a peer-reviewed publication?	YES

Adaptive reuse of historic buildings plays a significant role in the transition towards circular economy. The existing literature still regards heritage conservation, urban management, circular economy and sustainable development as different spheres of knowledge. The Recommendation on the Historic Urban Landscape (HUL) provides a holistic approach to integrate these spheres, along with a supplementary toolkit. However, its implementation is still sporadic, not fully aligned with the circular economy framework, and unframed in the adaptive reuse and regeneration policies and practices at local level. The aim of this paper is thus to provide a framework to investigate how the HUL approach and tools are operationalised at building level, bridging the gap between international policy documents, global aspirations circular economy, and local practices of adaptive reuse. For this, the circular models of adaptive reuse in terms of governance and decision-making structures, and environmental strategies are identified through a case study analysis of best practice: the Pakhuis de Zwijger (PdZ) case in Amsterdam. Focus group meetings have been conducted with internal and external local stakeholders of PdZ to formulate their governance model, and four levels of sustainable governance actors are identified. Then, their decision-making process is mapped, and the newly adopted sustainability measures are analysed. These circular models and strategies at building level are then aligned with the broader HUL toolkit. In this context, this paper contributes to the operationalization of HUL tools at building level, supporting the strengthening of efforts for the protection of world's cultural heritage (UN SDG 11.4) and reduction of waste generation through reuse (UN SDG 12.5) The identification and assessment of circular administrative and environmental models of adaptive reuse incorporates circular economy strategies and tools into the HUL framework.





METADATA	
DOI	N/A
Type of publication	Conference paper
Repository Link	http://resolver.tudelft.nl/uuid:43820685-c20d-4bbd-8127-aea825b27b95
Title of publication	Adaptive Reuse of Cultural Heritage in Amsterdam: Identifying Challenges and Solutions through the Historic Urban Landscape Approach
Authors	Pintossi, Nadia; Ikiz Kaya, Deniz; Pereira Roders, A.
Title of the Journal/Proceedings/Book	LDE Heritage Conference on Heritage and the Sustainable Development Goals: Proceedings
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	304-314
Keywords	Adaptive reuse; Amsterdam; Challenge and Solution Analysis; Cultural heritage; Historic Urban Landscape approach
ISBN	978-94-6366-356-4
e-ISSN	
Publisher	TU Delft Open
Place of publication	Delft, Netherlands
Year of publication	2021 (date of first publication 2020-12-01)
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (OA fee included in the conference fee that was waived because the first author was a member of the organizing committee)
Is this a peer-reviewed publication?	YES





The conservation of cultural heritage through its adaptive reuse contributes to the transition towards circular cities enhancing urban liveability and tackles challenges such as resource scarcity (UN SDG target 11.4) and waste prevention (UN SDG target 12.5). By regenerating heritage resources and maintaining their values over time, adaptive reuse comes out as a circular practice that can boost wellbeing and create new values, e.g., spillover effects. Currently, the knowledge on challenges affecting cultural heritage adaptive reuse is limited in scope, geographical area, and stakeholders' contribution. This study thus seeks to address such limitations by identifying what challenges cultural heritage adaptive reuse entails and how to overcome them. This identification uses the steps of the holistic and integrated approach set forward by the 2011 UNESCO Recommendation on the Historic Urban Landscape. This study is based on a case study analysis entailing a workshop in the City of Amsterdam. A wide range of [46] stakeholders from the public, private, and civic sectors participated. The qualitative dataset was analyzed through content analysis revealing that the identified challenges mainly concern the domains of knowledge, interest, and civic engagement. In sum, this study provides insights in cultural heritage adaptive reuse practices by enabling a better understanding of their challenges from multi-stakeholders' perspectives. This research also raises awareness on challenges and sets out the basis for further developing solutions and tools to overcome them facilitating the transition from a reactive towards a proactive attitude in adaptive reuse practices.

METADATA	
DOI	https://doi.org/10.3390/su13042410
Type of publication	Scientific article
Repository Link	https://www.mdpi.com/2071-1050/13/4/2410
Title of publication	Facebook Data as Part of Cultural Heritage Investments Toolbox: Pilot Analysis of Users Interests and Preferences Concerning Adaptive Reuse
Authors	Roszczyńska-Kurasińska, M., Domaradzka, A., Ślosarski, B., Żbikowska, A.
Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021, 13(4), 2410
Relevant Pages	2410
Keywords	cultural heritage; adaptive reuse; social media analysis; benefit transfer method; transfer of knowledge
ISSN	
e-ISSN	2071-1050
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021

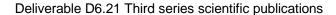




Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 1758.77)
Is this a peer-reviewed publication?	YES

The growing popularity of social media data brings questions about its accuracy and usefulness for a wide array of cultural heritage projects, often lacking data sources crucial for better planning and implementation. In this paper, we are studying the opportunities offered by the freely available Facebook Ads Manager data on target group sizes in different locations. We conducted a small experiment and a pilot survey to verify if Facebook data concerning its users' interests is accurate and could be used to facilitate the implementation of projects in the field of adaptive reuse. Despite all discovered limitations of this approach, we point out how Facebook data, along with other social media outlets, can be used to extract some strategic information and add to the socio-cultural assessment toolbox. As such, this type of data could be of use to local leaders planning activities and investments around cultural heritage sites. We also posit that such data can facilitate benefit transfer between cities through better understanding of local preferences and values-orientations.

METADATA	
DOI	https://doi.org/10.3390/su13095078
Type of publication	Scientific article
Repository Link	https://www.mdpi.com/2071-1050/13/9/5078
Title of publication	Intrinsic Value and Perceived Essentialism of Culture Heritage Sites as Tools for Planning Interventions
Authors	Roszczynska-Kurasinska, M., Domaradzka, A., Wnuk, A., Oleksy, T.
Title of the	Sustainability
Journal/Proceedings/Book	Special Issue: The Valorization of the Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	13(9)
Relevant Pages	5078
Keywords	cultural heritage; intrinsic value; essentialism; essentialist and anti- essentialist place; intervention in park; urban garden
ISSN	
e-ISSN	2071-1050

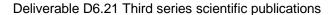




Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 1713.25)
Is this a peer-reviewed publication?	YES

In order to remain alive and relevant, cultural heritage sites have to react and adapt to changing context in a coherent manner, i.e., in a way that is in line with the memory and identity of the place. The incoherent changes, i.e., the transformations that according to the local community do not agree with a character of a place, can be destructive for the long-term vitality of urban cultural heritage. In this study, we test which factors influence social acceptance of different alternations within the context of urban historical gardens that might, in turn, ensure the resilience of the place. Our study focuses on the intangible qualities of the place measured by intrinsic value, perceived essentialism and anti-essentialism as important predictors shaping the response to change. The correlational study was conducted using an online questionnaire designed to empirically grasp intangible qualities of cultural heritage sites. Five hundred twenty-nine responses were included in the analysis. The study shows that perceived historic value, inherent value (uniqueness and importance of the place) and (anti-)essentialist character of a place capture the differences between parks well and enables the finding of interventions that are coherent with a site's genius loci. Measuring intangible qualities of urban gardens can help to design changes that find higher approval among local community members and users of the site. We discuss how the analysis of an intrinsic value and essentialism allows for planning better spatial interventions that align with the human-centered approach to urban development.

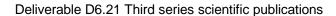
METADATA	
DOI	10.3217/978-3-85125-668-0-08
Type of publication	Conference Proceedings
Repository Link	https://diglib.tugraz.at/download.php?id=5df338c7b72f4&location=browse
Title of publication	Embracing circularity in adaptive Reuse - Grassroots perspective
Authors	Roszczynska-Kurasinska, M., Domaradzka, A., Ślosarski, B., Żbikowska, A.
Title of the Journal/Proceedings/Book	Conference Proceedings of the STS Conference Graz 2019, Critical Issues in Science, Technology and Society Studies, 6 - 7 May 2019





Number, date or frequency of the Journal/Proceedings/Book	Proceedings of the STS Conference Graz 2019 (Annual Conference)
Relevant Pages	363-383
Keywords	Cultural heritage; adaptive reuse; circularity
ISSN	2663-9440
e-ISSN	
Publisher	Verlag der Technischen Universität Graz
Place of publication	Graz, Austria
Year of publication	2019
Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access
Is this a peer-reviewed publication?	YES

Prolonging the utility of products is the main aim of a circular economy. So far, this concept has been implemented in a growing number of areas, one of which is built heritage. The circular economy argues that, instead of destroying a building to make way for a new one, the owners or managers of the property should care for it systematically by repair and refurbishment. The success of a circular economy depends on the ability of people and communities to change their behavior and way of thinking. Many initiatives that embody the goals of circularity - like local energy markets based on blockchain technology - stem from local activist groups. This research aims to contribute to a better understanding of the role and capacity of local communities in introducing new ideas of the circular economy in a bottom-up fashion. We define this local potential for the implementation of circular solutions as grassroots circularity. In our study we analysed three adaptive reuse projects in the area of built cultural heritage using a social sustainability framework. We discovered that, while all five factors contributing to the social sustainability model are highly relevant in describing and understanding the successful implementation of bottom-up adaptive reuse projects, they require minor modification in order to fit the circular economy model. As a result of our analysis, we can offer insight on how grassroots circularity can be diagnosed and understood. We believe that the concept of grassroots circularity widens the circular economy model to include the neglected bottom-up potential of local communities.





METADATA	
DOI	https://doi.org/10.6092/issn.2612-0496/11739
Type of publication	European Journal
Repository Link	https://cpcl.unibo.it/article/view/11739
	https://cpcl.unibo.it/about
Title of publication	Artistic and Curatorial Power in Cities' Historic Spaces
Authors	Cristina Garzillo
Title of the Journal/Proceedings/Book	European Journal of creative practices in cities and landscapes
Number, date or	Biannual journal. Vol. 3 No. 1 (2020).
frequency of the Journal/Proceedings/Book	Curating the City: Artistic Practices and Urban Transformations
Relevant Pages	139-148
Keywords	creativity, urban revival, curatorial light, performing arts, community knowledge
ISSN	ISSN 2612-0496
e-ISSN	
Publisher	University of Bologna; Technical University of Delft
Place of publication	e-Journal
Year of publication	2020
Is this publication	YES
available in Open Access or will it be made available?	The journal has neither article processing charges nor submission processing fees.
Is this a peer-reviewed publication?	YES

This article analyses and compares three neighbourhood/site projects in Athens, Salerno and Sunderland. Despite being on a small scale, they trigger vitality and revive spaces that invite creative uses. These examples have the aim to involve local residents and artists in creating public places and claim their right to oppose top-down impositions and globalization of cultural consumption returning decision-making power to the local communities. The ambition is that small artwork interventions can gradually propose meaningful transformations in a wider perspective.



METADATA	
DOI	https://doi.org/10.3390/su13095052
Type of publication	Scientific article
Repository Link	https://www.mdpi.com/1094310
Title of publication	Investment Leverage for Adaptive Reuse of Cultural heritage
Authors	Tracy Pickerill
Title of the Journal/Proceedings/Book	Sustainability Special Issue: The Valorization of Cultural Heritage and Landscape as the Entrance Point for the Circular City Strategy
Number, date or frequency of the Journal/Proceedings/Book	Sustainability 2021,13(9), 5052
Relevant Pages	5052
Keywords	Cultural heritage, Adaptive reuse, Investment leverage, Financial instruments, Circular finance, Social enterprise, Market risk, Market return, Impact return, Taxonomy
ISSN	N/A
e-ISSN	N/A
Publisher	MDPI
Place of publication	
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 1713.25)
Is this a peer-reviewed publication?	YES

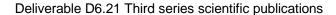
This article tracks the design of a panoptic toolkit of complementary financial (grant and endowment, tax, debt and equity) and non-financial (regulation, real estate, risk mitigation and performance, capacity building, impact metric and digital network) instruments, designed to leverage capital investment and engender collaborative partnerships, to encourage investment capital to flow to cultural heritage adaptive reuse activities. Cultural heritage activities encompass adaptive reuse and energy retrofit of built heritage structures, protecting natural eco-systems and enabling local community enterprise activities. These activities embody circular economy dimensions, that stimulate social, cultural, environmental and economic regeneration, within the global value chain. Many cultural heritage investments entail long-term time horizons, requiring patient investment strategies. Consideration of the financial landscape, with regard to capital investment leverage is as much about understanding the motivations of participants to engage in the capital markets, as about innovations in financial instruments to safeguard cultural heritage values.



Individual financial instruments, within the toolkit, such as debt and equity tools, are not new and some have a long association within traditional capital markets. What is new, is a framework for the engagement of blended complementary instruments, pooled within diverse multidisciplinary collaborative social enterprise fund structures, to achieve intentional and measurable impact investment returns. Risk adjusted investment return metrics include the analysis of socio-cultural and environmental impact returns in unison with market based financial returns, including below market returns in some instances. A case study of a revolving social impact fund is provided to give a practical example of combined complementary hybrid financial instruments within a collaborative funding structure. The ultimate choice and design of blended and pooled hybrid tool combinations and hybrid fund structures will change from building to building, and community to community, but must always prioritize the need to protect people and ecosystems in parallel with saving vulnerable cultural heritage resources. The selection of tailored hybrid financial instruments, to enhance circular economy transitionary ambitions, must remain flexible within a long-term collaborative investment strategy. The key change in mindset, central to cultural heritage financial toolkit development, is the enablement of capital leverage investment strategies that prioritize people and the ecosystem over pure profit motivation.

4 Forthcoming publications

METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific book
Repository Link	N/A - Forthcoming
Title of publication	
Authors	Luigi Fusco Girard, Antonia Gravagnuolo (editors)
	Specific Sections authored by project partners, see Deliverable D6.20
Title of the Journal/Proceedings/Book	CLIC - Circular Models for Cultural Heritage Adaptive Reuse
Number, date or frequency of the Journal/Proceedings/Book	Stand alone title
Relevant Pages	Estimated number of pages: 300
Keywords	Circular economy; Adaptive reuse; Cultural heritage; Evaluation; Sustainability; Historic urban landscape; Circular city; Circular governance; Circular business model; Heritage conservation; Urban regeneration; Civic engagement
ISSN	N/A - Forthcoming
e-ISSN	N/A - Forthcoming
Publisher	Springer
Place of publication	
Year of publication	2022 - Forthcoming





Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 12,000)
Is this a peer-reviewed publication?	YES

Cultural heritage is a driver for sustainable development in cities. As an economic and cultural asset, it boosts economic growth, enhances urban livability, and contributes to environmental adaptability. In addition, the reuse of abandoned and underused cultural heritage and landscapes is a practical substitute to demolition, bypassing the wasteful processes of demolition and new construction prolonging the cultural heritage lifespan. Adaptive reuse of cultural heritage can thus be instrumental to circularize the flows of energy, raw-materials, human and cultural capital, and hence, it plays a significant role in the transition towards circular economy. Complementary to its environmental benefit, adaptive reuse brings forth substantial economic, social and cultural advantages by reusing historic buildings, sites and landscapes attached meaning and values by a wide range of citizens and actors.

The existing governance structures and operational systems concerning reuse of cultural heritage and landscapes are still highly limited in the involvement of relevant stakeholders to the decision-making process. Regulatory and planning tools are not flexible enough to allow sustainable and circular transformation processes and are restricted in the financial resources and funding arrangements that mostly rely on public funds. Therefore, to turn cultural heritage and landscapes into a resource, instead of a cost for the collectivity, the structures of authority, institutions and financial arrangements should be adjusted. This adjustment needs to ensure larger stakeholders' involvement in decision-making, to attract private investments, and to facilitate cooperation between community actors, public institutions, property owners, informal users and producers. In addition, to manage change, flexible, transparent and inclusive tools are required, thus leveraging the potential of cultural heritage to foster adaptive reuse practices.

This timely book thus aims to address this gap in existing knowledge from a circular economy and sustainable development perspective, and to introduce innovative economic, environmental and governance models and evaluation tools tested and validated for adaptive reuse within the "CLIC - Circular models Leveraging Investments in Cultural Heritage Adaptive Reuse" project funded by the European Horizon 2020 Research & Innovation Action Program. The CLIC project is a trans-disciplinary research project bringing together expertise from disciplines such as heritage studies, regeneration and urban development, business management, economics, ecology and social sciences. This research responds to the European Societal Challenge 5 'Climate action, environment, resource efficiency and raw materials', aimed at achieving resource efficient and climate change resilient economy and society through systemic innovation. The CLIC project also aims to unlock public and private investments in solutions for a more resource efficient, greener and more competitive economy as a key part of smart, inclusive and sustainable growth strategy for Europe and worldwide.

In this context, this book comes to fore as a fundamental key reading for scholars, professionals and policy makers, demonstrating how the adaptive reuse of cultural heritage, in a systemic perspective, has the potential to stimulate growth, sustainable development, social regeneration, welfare, jobs, income, and livability of urban / territorial settings: to implement the circular economy model. It also provides innovative models and a circular toolkit for financing, reusing and managing cultural heritage based on research outcomes and implementation of experimental models in four pilot European territories covered as case studies.



METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific article
Repository Link	N/A - Forthcoming
Title of publication	Adaptive re-use of urban cultural resources: Contours of circular city planning
Authors	Antonia Gravagnuolo, Luigi Fusco Girard, Karima Kourtit, Peter Nijkamp
Title of the Journal/Proceedings/Book	City, Culture and Society
Number, date or	Special Issue "Urban heritage values"
frequency of the Journal/Proceedings/Book	Edited by Patrizia Riganti and David Throsby
Relevant Pages	N/A - Forthcoming
Keywords	Cultural Heritage; Adaptive re-use; circular economy; Circular city; Multicriteria evaluation
ISSN	N/A - Forthcoming
e-ISSN	
Publisher	Elsevier
Place of publication	Amsterdam, Netherlands
Year of publication	2021 - Forthcoming
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

Modern cities are not only magnets of economic growth and prosperity, but also suppliers of cultural resources, both in a tangible or physical sense and also in a spiritual, political or historical sense. In the context of the UN Sustainable Development Goals (SDG) strategies for cities, a sustainable and inclusive development of cities necessitates a balanced development of the urban fabric, from both a socio-economic and ecological-cultural perspective (e.g., in a circular city context). The economic and environmental conditions for achieving the SDG achievement levels have been extensively discussed in the past years, but the supporting and intervening role of urban cultural resources still needs a more thorough scientific reflection. The present paper aims to offer a systematic approach so as to clarify the critical drivers of a sound urban development, including the implications for sustainable urban development (e.g., in the form of urban dashboards).



METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific article
Repository Link	N/A - Forthcoming
Title of publication	Towards Cultural Heritage-based Innovation Strategies by Evolution of the Knowledge Triangle of Research, Education and Business Innovation
Authors	Jermina Stanojev, Christer Gustafsson
Title of the	Built Heritage Journal
Journal/Proceedings/Book	Innovative Heritage-based Post-Crisis Urban Recovery Strategies
Number, date or frequency of the Journal/Proceedings/Book	Built Heritage 2021, 2
Relevant Pages	
Keywords	Cultural heritage, urban strategies, innovation, research, education, business
ISBN	
e-ISSN	2662-6802
Publisher	SpringerOpen
Place of publication	Online
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Green Open Access
Is this a peer-reviewed publication?	YES





The global COVID-19 pandemic and health crises have deeply impacted societies, economies and political systems worldwide. Culture and cultural heritage as a sector and as a resource have not been exempted either, as many studies and surveys have demonstrated. Indeed, the social, political and economic characteristics of the pandemic have deep implications for culture and cultural heritage as well as their role in innovation processes and vice versa. A problem in developing and elaborating on innovative cultural heritage-based post-crisis strategies is that there are no substantial explorations on how the innovation has been nurtured in urban cultural heritage environments before the crisis and in recent cultural heritage urban practices. A global crisis, beside affecting cultural heritage, exposed the reality of cultural heritage sector and innovative strategies. Several approaches, such as, Heritage Innovation Partnership (HIP), the Halland Model (HM), the Historic Urban Landscape (HUL) etc. are holistic and known as innovative approaches, or, at least, involving and embracing innovative tools, when it comes to cultural heritage-based urban and regional strategies. On the other hand, innovation and, in particular, entrepreneurial culture, is incredibly lacking in many sectors, including cultural heritage and its higher education. Simultaneously, different innovation strategies and concepts, such as knowledge triangle, innovation paradox, third mission, entrepreneurial university, the triple helix etc., are becoming a key instrument in prioritising and fostering entrepreneurship and innovation. However, a major problem with cultural heritage strategies is that they do not necessarily consider these innovation concepts as their basis or integral element of their practices. As these concepts have gained importance as a framework shaping innovation policies, especially in Europe, this paper discusses knowledge triangle in relation to the key features of cultural heritage-based urban strategies.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific Article
Repository Link	N/A - Forthcoming
Title of publication	The contribution of economics to the value chain of urban conservation
Authors	Christian Ost and Ruba Saleh
Title of the Journal/Proceedings/Book	City Culture and Society
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	
Keywords	Cultural heritage, urban conservation, intangible heritage, value chain, business model
ISSN	
e-ISSN	N/A - Forthcoming
Publisher	Elsevier
Place of publication	Amsterdam, Netherlands
Year of publication	N/A - Forthcoming





Is this publication available in Open Access or will it be made available?	YES
Is this a peer-reviewed publication?	YES

This paper aims to provide a comprehensive perspective to heritage economics, and the contribution of that field to urban conservation. Cultural economics, and in particular heritage economics, is often envisioned as a margin discipline to help conservation specialists in assessing additional outcomes and benefits to the expected cultural values from preserving heritage. This paper is built on the conservation paradigm (consistent with the urban agenda in a sustainable context) which considers economics as primary goal of conservation, on the basis that sustainable conservation projects are better legitimized when they match economic, social, and environmental objectives. The scope of this paper is tangible (cultural built) and intangible heritage. The approach is the value chain of all activities directly and indirectly related to the conservation of cultural heritage. The conclusion of the paper is that the value chain of tangible and intangible heritage encompasses multiple stakeholders, and a wide range of consumer-oriented activities. However, the value chain described in this paper is open to further reflection and discussion, since conservation activities are embedded in a particularly complex systems of private and public goods, commodity and service markets, real estate and cultural tourism sectors, plus a variety of economic actors.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific Article
Repository Link	N/A - Forthcoming
Title of publication	Cultural and creative sectors at a crossroad: from a mainstream process towards an active engagement
Authors	Christian Ost and Ruba Saleh
Title of the Journal/Proceedings/Book	Built Heritage
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	
Keywords	Cultural and Creative Sectors (CCS), cultural heritage, cultural entrepreneurship, long wave theory, sustainable and circular business model, COVID-19, cultural resilience.

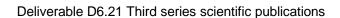




ISSN	N/A - Forthcoming
e-ISSN	
Publisher	SpringerOpen
Place of publication	
Year of publication	N/A - Forthcoming
Is this publication available in Open Access or will it be made available?	YES
Is this a peer-reviewed publication?	YES

This paper aims to provide a comprehensive perspective to heritage economics, and the contribution of that field to urban conservation. Cultural economics, and in particular heritage economics, is often envisioned as a margin discipline to help conservation specialists in assessing additional outcomes and benefits to the expected cultural values from preserving heritage. This paper is built on the conservation paradigm (consistent with the urban agenda in a sustainable context) which considers economics as primary goal of conservation, on the basis that sustainable conservation projects are better legitimized when they match economic, social, and environmental objectives. The scope of this paper is tangible (cultural built) and intangible heritage. The approach is the value chain of all activities directly and indirectly related to the conservation of cultural heritage. The conclusion of the paper is that the value chain of tangible and intangible heritage encompasses multiple stakeholders, and a wide range of consumer-oriented activities. However, the value chain described in this paper is open to further reflection and discussion, since conservation activities are embedded in a particularly complex systems of private and public goods, commodity and service markets, real estate and cultural tourism sectors, plus a variety of economic actors.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific Article
Repository Link	N/A - Forthcoming
Title of publication	Innovative Business Model for Adaptive Reuse of Cultural Heritage in a Circular Economy Perspective
Authors	Christian Ost and Ruba Saleh
Title of the Journal/Proceedings/Book	International Journal of Entrepreneurship and Small Business. Special Issue Sustainable Entrepreneurship in the Cultural and Creative Sector: Contextualisation, Challenges and Prospects.





Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	
Keywords	Urban conservation, adaptive reuse, circular economy, strongly sustainable business model
ISSN	
e-ISSN	
Publisher	INDERSCIENCE Publisher
Place of publication	
Year of publication	N/A - Forthcoming
Is this publication available in Open Access or will it be made available?	YES
Is this a peer-reviewed publication?	YES

This article aims to develop an innovative business model for adaptive reuse of cultural heritage in a circular economy perspective, and in line with the guidelines of the Historic Urban Landscape approach. Adaptive reuse of cultural heritage is considered today as key in urban conservation and sustainable development. This article addresses the relevance of adaptive reuse of cultural heritage to the circular economy objectives. It then suggests an innovative business model which can cope with specific issues of governance and financing processes of adaptive reuse. It is based on the Strongly Sustainable Business Ontology and its related to the Flourishing Business Model, which takes into consideration the multi-dimensional and multi-actors context of sustainability. By building on this model, the paper analyzes the different sections (How, What, For Whom, Why) under the framework of the circular economy.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific Article
Repository Link	N/A - Forthcoming
Title of publication	Uncomfortable Heritage
Authors	Acri Marco, Dobričić Saša
Title of the	Officina, Paranoia



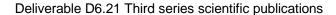
Deliverable D6.21 Third series scientific publications

Journal/Proceedings/Book	http://protorpedo-rijeka.hr/wp/en/
Number, date or frequency of the Journal/Proceedings/Book	35
Relevant Pages	
Keywords	
ISSN	N/A - Forthcoming
e-ISSN	
Publisher	Officina
Place of publication	
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (no fee)
Is this a peer-reviewed publication?	YES

ABSTRACT

Circularity and reuse have been a practice in the past, generating territorial diversity and specificities that we recognize today in the cultural heritage and landscape. Globalization has flattened these specificities by offering low-cost materials and technologies that have often proved unsustainable. Reintroducing circularity to movable and immovable cultural heritage today requires attitudes to accumulation, either voluntary or not, which can generate 'states' of paranoia if not accompanied by innovative reuse models of planning, design, organization of work and construction sites.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Conference Proceedings
Repository Link	N/A - Forthcoming
Title of publication	Reflections on reuse of the abandoned Gorizia sanatorium (1933)
Authors	Acri Marco, Biasi Alessandra
Title of the Journal/Proceedings/Book	DOCOMOMO International Conference Proceedings, Tokyo, 2021
Number, date or frequency of the	





Journal/Proceedings/Book	
Relevant Pages	
Keywords	
ISSN	N/A - Forthcoming
e-ISSN	
Publisher	
Place of publication	Tokyo, Japan
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES
Is this a peer-reviewed publication?	YES

The Italian sanatorium network, focal point of the social and health policy during the fascist regime, saw its birth in 1927 thanks to the decree no. 2055, which establishes compulsory anti-tuberculosis insurance. A new building typology was introduced by revising Italian and European experiences from the mid-nineteenth century: it consisted in a central service body and two symmetrical lateral wings (for hospitalisation), with continuous balconies facing south, splitting into smaller loggias serving the rooms. Parks were an integral part of this building typology, created to ensure walks in a healthy, green and protected environment in peri urban contexts. The new type of sanatorium spread fast throughout the country: Gorizia hosted the first prototype in northern Italy. It soon lost its original function thanks to the advent of antibiotic therapies in the 1950s. It was sold to the National Health Service in the 70's, and gradually became obsolete. Underused and deprived of its original function, it entered a state of abandonment and decay, both in its architectural features and in its landscape and park components. The exceptional character of the Gorizia sanatorium requires new visions for the revaluation of the building and for the city itself, not only to respond to emergencies like the recent pandemics, but also to offer new solutions to a changing local multicultural society, which is becoming more and more health-conscious, culture and sustainability enthusiast. The endowment of greenery and the proximity to the historical center donates to this complex a contemporary character, that opens up to numerous uses in line with the most recent trends of circular economy and urban resilience.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Book
Repository Link	N/A - Forthcoming
Title of publication	Unlocking the Circular Potential of Historic Urban Landscape



Deliverable D6.21 Third series scientific publications

	Designing Urban Seeding Actions for Cultural Corridor activation in Rijeka.
Authors	Debevec, Acri, Dobričić (editors)
Title of the Journal/Proceedings/Book	
Number, date or frequency of the Journal/Proceedings/Book	N/A - Forthcoming
Relevant Pages	
Keywords	
ISSN	N/A - Forthcoming
e-ISSN	
Publisher	UNG Publishing
Place of publication	Nova Gorica, Slovenia
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES
Is this a peer-reviewed publication?	YES

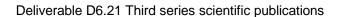
ABSTRACT

Urban resilience has become one of the main targets of humanity during the last decade, putting a significant accent on the relationship between sustainability and the (historic) city. The opportunities offered by the circular economy can also be seen in the historic urban landscape preservation, opening the regeneration processes to the local population. Within the HORIZON 2020, CLIC - Circular models Leveraging Investments in Cultural heritage adaptive reuse project, such an effort was made in the Croatian coastal City of Rijeka, a European Capital of Culture 2020. Within the CLIC project and the HIP - Heritage Innovation Partnerships initiative, the city, together with the University of Nova Gorica, tested a local participative co-designed regeneration process focused on the inner city and, in particular, on a restricted and well defined deprived area along the Rječina river and its delta, renamed in the process "the cultural corridor", voted to become a space for testing circular solutions for cultural heritage and historic urban landscape adaptive reuse. The codesign regeneration process was organised in interdisciplinary situated workshops meant to propose low cost, repeatable circular cultural actions and solutions, named "urban seeds" for their potential impact to re-fertilise urban areas. The tested actors of the regeneration situated workshops have been students in their latest academic stage and young professionals guided by academicians and urban leaders. The groups suggested numerous innovative nature-and-culture-inspired solutions for the City for Rijeka's consideration in future small-scale regeneration actions.



METADATA	
DOI	N/A - Forthcoming
Type of publication	Conference Proceedings
Repository Link	
Title of publication	Urban Corridors as common pool resources: the case of Nova Gorica and Rijeka
Authors	Acri Marco, Saša Dobričić, Maja Debevec
Title of the Journal/Proceedings/Book	Proceedings of the International conference, Making healthy cities for people HURBE 2021 – Healthy Urban Environment
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	
Keywords	Cultural and Healthy Corridor, Common Pool Resources, Historic Urban Landscape, Co-Creation, situated learning
ISSN	N/A - Forthcoming
elSSN	
Publisher	
Place of publication	Sarajevo, Bosnia and Herzegovina
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES
Is this a peer-reviewed publication?	YES

The concerns for climate change and the increase of urban population made cities fundamental in finding solutions for a more sustainable dwelling to increase resilience and quality of life. Cities have to turn from infinite consumption and waste spaces to incubators of innovative narratives able to re-balance the coexistence between human beings and nature. Relying on growing awareness of theories and practices of urban metabolism and circular economy, interesting ideas are spreading worldwide. Based on researches on common goods management and cultural urban landscapes preservation, a recent approach is offered by the urban conceptualisation of corridor. Urban corridors are well-bounded planned areas meant as shortcuts but mainly simulate co-creation and co-monitoring in a comfortable and healthy environment. Wellbeing is given by integrated services based on nature, cultural and social economy and characterised by openness, accessibility, and recreation. From these theoretical frameworks, the paper will present two casestudies of co-planning of urban corridors, one in the border urban area of Nova Gorica (Slovenia) and Gorizia





(Italy) promoted under the URBINAT project and the second in Rijeka, Croatia, proposed during the CLIC project. In Nova Gorica, an urban corridor is under investigation through a co-assessing, co-designing, and co-implementing methodology using NBS, Nature-Based Solutions, to valorise the Koren stream as a connector of the two border cities. In Rijeka, an actual cultural corridor has been designed through the original approaches called "Heritage Innovative Partnerships" and "urban seeding" to revitalise the city's historic core characterised by the Rječina river towards the waterfront. Both corridors, thanks to the co-creation processes that have been initiated, are expected to become new social common places for the well-being and represent a paradigm for the sustainable regeneration of both cities with potential emulation in other contexts, especially in South-Eastern Europe.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Scientific Article
Repository Link	N/A - Forthcoming
Title of publication	Circular City and Adaptive Reuse of Cultural Heritage Index: Measuring the Investment Opportunity in Europe
Authors	Gillian Foster and Ruba Saleh
Title of the Journal/Proceedings/Book	Resources, Conservation & Recycling
Number, date or frequency of the Journal/Proceedings/Book	
Relevant Pages	
Keywords	Circular economy; circular city; cultural and creative cities; urban policy, adaptive reuse; heritage economics; heritage buildings; Europe; Green Deal
ISSN	
e-ISSN	N/A - Forthcoming
Publisher	Elsevier
Place of publication	Amsterdam, Netherlands
Year of publication	N/A - Forthcoming
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (the total amount charged by the Publisher is Euros 0 due to WU agreement with the Publisher)
Is this a peer-reviewed publication?	YES



The long-lived, culturally relevant, unique buildings of Europe's urban landscapes embody the values of the Circular Economy (CE) and sustainability. They are central to urban identities, generation after generation. Furthermore, Adaptive Reuse of Cultural Heritage building s (ARCH) contributes to slowing the extraction of natural resources and energy for new buildings and reduces construction and demolition waste and greenhouse gas emissions. ARCH's inherent characteristics distinctly express the 2019 European Green Deal's CE objectives and the 2020 building Renovation Wave Strategy. In this context, European city managers, heritage conservationists, and other stakeholders need a systematic way of characterizing the investment opportunity set for ARCH under the framework of circularity. To address this methodological gap, this study introduces a new composite indicator called the Circular City Adaptive Reuse of Cultural Heritage Index.

METADATA	
DOI	N/A - Forthcoming
Type of publication	Peer reviewed scientific article
Repository Link	
Title of publication	
Authors	Pintossi, N.; Ikiz Kaya, D.; Pereira Roders, A.
Title of the Journal/Proceedings/Book	Sustainability
Number, date or frequency of the Journal/Proceedings/Book	N/A - Forthcoming
Relevant Pages	
Keywords	Adaptive reuse; Amsterdam; Challenge-solution identification; Cultural Heritage; Historic Urban Landscape; Stakeholder engagement.
ISSN	2071-1050
e-ISSN	
Publisher	MDPI
Place of publication	Basel, Switzerland
Year of publication	2021
Is this publication available in Open Access or will it be made available?	YES – Available in Gold Open Access (Euro 1755)
Is this a peer-reviewed publication?	YES





Cultural heritage drives and enables sustainable urban development. The adaptive reuse of cultural heritage creates values, while prolonging the lifespan of heritage.; In parallel, as circular economy creates values, while extending the useful life of materials and elements through their reuse. Analyses of existing studies on adaptive reuse challenges seldom do not necessarily directly focus on the cultural heritage, and they are often identified through the engagement of a limited variety of stakeholders as compared to the actors involved in adaptive reuse. Filling this gap, this paper provides a preliminary baseline of challenges for the city of Amsterdam from the perspective of involved stakeholders and suggesting solutions to address them. The participants represented the public, private, knowledge, and third sectors. The methods used were: for data collection, a multidisciplinary workshop, using the steps of the Historic Urban Landscape approach as an assessment framework, applied to multiple-scales on adaptive reuse; and for data analysis, manifest content analysis findings result from the manifest content analysis of the data collected from a multi-scale assessment of adaptive reuse performed during a stakeholder engagement, multidisciplinary workshop, using the steps of the Historic Urban Landscape approach as an assessment framework. The participants represented the public, private, knowledge, and third sectors. This research results expanded the range of challenges and solutions identified in literature for the adaptive reuse of cultural heritage in content and scale, by identifying 61 themes, such as knowledge and civic engagement, tools, and stakeholders. These findings provide also a reference for future practice, policy-making, and decision-making, facilitating the adaptive reuse of cultural heritage to capitalize on its potential for sustainable development and circular economy.