CLIC

Circular models Leveraging Investments in Cultural heritage adaptive reuse

D2.7

CLIC Framework of Circular Human-centred Adaptive Reuse of Cultural Heritage

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Abstract

The Horizon 2020 call SC5-22-2017 required "*innovative financing, business and governance models for adaptive re-use of cultural heritage* ". Four kinds of cultural heritage assets were considered in the call presentation: dismissed churches, abandoned industrial buildings, farm buildings no longer used for agriculture and cultural landscape.

This general framework is proposed for indicating the approach and the general perspectives of the CLIC research in reacting to the above issues.

The CLIC objectives are well known (see CLIC-Part B, par.1.1). The ambition of CLIC is to propose operational tools for contributing to the implementation of Agenda 2030 goals, of New Urban Agenda goals, of the European Amsterdam Pact and of UNESCO goals and, more in general, for improving urban regeneration strategies, assuming the cultural heritage as the entry point of the circular economy model.

This deliverable offers first of all a theoretical framework about relationships between adaptive reuse of cultural heritage and local development in the perspective of the circular economy and the circular city.

Partners involved in the document

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1.1 The Horizon 2020 Call

The Horizon 2020 call SC5-22-2017 required *"innovative financing, business and governance models for adaptive re-use of cultural heritage*". Four kinds of cultural heritage assets were considered in the call presentation: dismissed churches, abandoned industrial buildings, farm buildings no longer used for agriculture and cultural landscape.

This general framework is proposed for indicating the approach and the general perspectives of the CLIC research in reacting to the above issues.

The CLIC objective 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. Eleven specific objectives are identified[1]. The ambition of CLIC is to propose operational tools for contributing to the implementation of Agenda 2030 goals, of New Urban Agenda goals, of the European Amsterdam Pact and of UNESCO goals and, more in general, for improving urban regeneration strategies, assuming the cultural heritage as the entry point of the circular economy model.

The general characteristic of CLIC were already identified in the presentation to the European Parliament in 2018 (Annex A).

A draft framework was proposed since the start of the project in November 2017 and was discussed with project partners and stakeholders during the four years of research. In December 2020, a draft text was formulated and integrated by project partners (*"The CLIC Horizon 2020 project: the general framework*"). This process has been an occasion to orient the specific work packages towards the CLIC general goals (Annex B).

The scientific article published on the journal "Human System Management" about innovative city governance proposed Policy Guidelines about adaptive reuse through innovative/creative cultural activities (Annex C).

The choice of new uses / functions in CLIC are less linked to the traditional tourism sector or to the residential reuse of heritage assets and are much more linked to contribute to implement the circular city, **through place-making**, with new functions, more linked to creative/cultural activities and cultural industries.

Thus, CLIC researches are oriented to suggest conclusions about innovative financing, business, governance models for the adaptive reuse of cultural heritage coherent with the European Green Deal [1], and also with the New European Bauhaus, implementing virtuous loops between sustainability, inclusion, quality/beauty of landscape, thus contributing to implement the circular city (starting from cultural heritage as the entry point).

[1] https://www.clicproject.eu/objectives/

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1.2 Toward “re-placing” the city/territory system

Through our iper-connections, we are dis-connecting our cities, our life, from the networks of Mother Nature. We are changing the evolutionary dynamic of the nature ecosystems. In CLIC research the attention is to re-connect as soon as possible our city systems with the Earth patterns. And also, to re-connect people in the fragmented society, reducing growing inequalities and poverty in its multidimensional forms.

This deliverable offers first of all a theoretical framework about relationships between adaptive reuse of cultural heritage and local development in the perspective of the circular economy and the circular city.

Some arguments toward **“replacing”** our city/territory starting from the adaptive reuse of cultural heritage are here proposed.

First, the adaptive reuse is read through the **lens of bio-ecology**. The “intrinsic” characteristic of the bio-ecological systems is their **circular organization.**

Second, the adaptive reuse is interpreted in relation to **the humanization challenge (see UN, New Urban Agenda, 2016)** towards a reduction of poverty in its multidimensional forms, linking **people, community and places** through lived relations of people and the emotional and affective attachment that connects a community to a space: a space of permanence in a constantly evolutionary changing environment.

Third, the **integration of the bio-ecological and humanistic approach** is proposed **through the circular economy model** (from which new governance, business and financial models can be identified).

Fourth, the adaptive reuse is a key element for a **creative place-making**, for implementing the circular and human-centred paradigm.

Fifth, the adaptive reuse is interpreted in an evolutionary context, requiring strong innovations to become effective and to allow the needed complex management. Ancient signs of human creativity should be combined humanizing urban spaces with innovative tools.

Sixth, the awareness that data and information together with digital innovative technologies are essential for implementing and managing the circular organization model in the space/territory. But information and data are not the key of sustainability***. Culture is the critical resource for implementing sustainable development***, and thus the circular model. Culture and community are interconnected. They drive development strategies. Cultural heritage is a robust connective infrastructure if integrated with digital/ICT infrastructure.

1.3 The general characteristics and the approach of CLIC: some common elements

According to the above, the ambition of CLIC is to offer first of all a **cultural framework** about the promotion of a “circular” inclusion in time and in space, evoking the contribution of H. Daly [2], K. Boulding [3], F. Capra [4], E. Schumacher [5], R. Costanza [6] and also of A. Sen [7] and I. Serageldin [8] (who have stressed the goal of humanizing the economic development: not the profit but the well-being of people is the core of the economic development).

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The characteristics and the approach of CLIC research in interpreting the adaptive reuse of cultural heritage between the bio-ecology and the human-centred approach (Figure 1) are:

- The assumption of the **bio-ecological** paradigm to reconnect our built environment with nature life networks;

- The assumption of the **human-centred paradigm** to reconnect the human beings with each other and also with future generations, reducing distances/inequalities;

- The assumption of a key role recognized to **culture** and **cultural conditions for implementing sustainable development.** The role of culture is fundamental. As in nature a resource degenerates and is lost if it is not regenerated, in our society a cultural value (as trust, respect of rules, inclusion, etc.) is going to be lost if it is not regenerated [9]. Thus, it emerges the need of a culture local strategic plan (see §6) to avoid the risk of an entropy crisis (coming from inside of our society due to the loss of sense/meanings/shared directions).

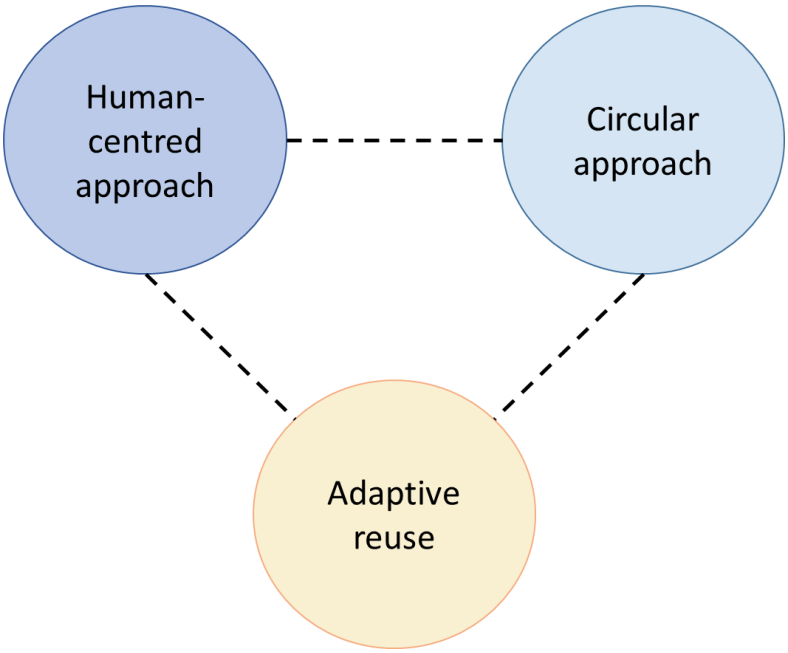

Figure 1 - Adaptive reuse of cultural heritage between bio-ecological and humanistic approach

From the above, a cultural framework (or rather a cultural model), is offered from which to deduce new models of business, financing, and governance. In the context of the European New Green Deal (aimed at addressing climate change and triggering ecological modernization in the European reality for its sustainable development), it is introduced a third "pole" between economy and ecology: the ***cultural*** pole.

Interpreting the **adaptive reuse in the circular and human-centred** perspectives means to reconnect cultural heritage in the space and also in the time dimensions with the territory and its community. But it means also to assume an **evolutionary perspective/approach** (characterized by notions of complexity, metabolism, entropy).

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From the integration of the ecological paradigm with the human-centred paradigm through the circular model, it derives that the outcomes of CLIC regard specific tools not only in technical terms. The outcomes of CLIC are also in the immaterial/cultural dimension, considering the heritage asset also as the immaterial city infrastructure for regenerating new loops.

Thus, more in particular, some specific **common elements** connecting the research contributions/ deliverables beyond many differences of each work package are:

1. The **adaptive reuse** in a **bio-ecological perspective.** This means the assumption of the ecological paradigm in interpreting the adaptive capacity (as the creative power of nature that evolves in its dynamics through exploratory tentative). They are remembered by the ecosystem memory. As nature adapts and remembers, also circular adaptive reuse should be characterized by adaptive, evolving capacity to a changing context and attention to its memory. The image of the tree/forest and its circular metabolism is the reference model: as a tree/forest is «generous» of spill overs, also adaptive reuse should do the same. As the tree/forest is characterized by a circular set of processes, also the adaptive reuse should be characterized by a circular logic in its functioning.

2. **The assumption of** the **human-centred paradigm**. Culture is the production “for excellence” of human beings. CLIC introduces the cultural condition for sustainable development that integrates the economic/ecological conditions (see §3). This means not only to stress the key role of **creativity and innovation capacity** as engine of a new spatial shape and new architecture. But they are key elements in planning and designing the adaptive reuse and also in management. Innovations improve metabolism, reducing entropy and multiplying benefits. On the other side, the attention is to avoid material and immaterial forms of waste, including the human/social capital waste.

3. The assumption of the **evolutionary perspective/paradigm** coming from the notion of adaptation. This paradigm is due to R. Ayres (1994) but, many years before, also to J. Schumpeter (1943). The evolutionary paradigm characterizes the whole CLIC research. This evolutionary perspective can be proposed in the planning and design of adaptive reuse; in business models; in financial tools; in governance models; in evaluation tools, knowledge and culture. The evolutionary paradigm (in the Evolutionary Economics) shifts the attention from market price and values and market cost to quantitative/qualitative impacts and quantitative/qualitative metabolism and also in their circular mutual causation.

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Evolutionary Economics[2], starting from the dynamics of complex systems, recognizes that all economic systems are dissipative in the sense that they "import" energy internally and "export" entropy externally [10].

Evolutionary Economics (and in particular Ecological Economics) links the evolution of the economic system to technological innovations, thus stressing the attention to the node of **energy** and of **metabolism** that are underestimated in current economics.

Adaptive reuse in the perspective of Ecological Economics can be referred, on the one hand, to the approach of one of the greatest exponents of modern urbanism, **Patrik Geddes** [11], who interpreted the **bio-ecological dimension** of the dynamics of the urban system, and, on the other hand, to the approach of **Nicholas Georgescu-Roegen** [10], founder of **bio-economics and critic of mainstream economics**, as this ignored the relationship between economics and ecology. This relationship is a key characteristic of circular economy.

[2] The evolutionary perspective should be chosen:

- when faced with the choice between what to keep and what to replace, it is necessary to move in a dynamic perspective;
- when it is needed to introduce innovations into a certain heritage site/context in order to make it not only more vital but also more long-lasting;
- when the energy issue is fundamental to economic production;
- when it is preferable to use multicriteria, social evaluations integrated with public debate, because the mere willingness to pay does not allow to assess the value of cultural resources;
- when there are no maximising solutions but only "satisfying" solutions;
- when there are circular processes of cause and effect between economic, ecological and social factors;
- when the entropic nature of all economic processes is recognised;
- when the importance of community values is recognised (promotion of communities in development strategies);
- when the importance of fundamental values such as transparency, accountability, cooperation and trust is recognised in the production of development prosperity;
- when it is recognised that the preferences of the subjects for whom transformation is envisaged are not already given, but need to be oriented/constructed (the climate change crisis being the most glaring demonstration of the failure of the orthodox economics);
- when it is recognised that the object of analysis is the evolutionary dynamics of complex and adaptive systems;
- when it is recognised that there is a general interest (common good) to be pursued and not only particular interests;
- when concepts such as self-organisation, learning capacity and regenerative capacity are introduced.

The above makes it essential to abandon the typical approach of mainstream economics (orthodox economics) and move in the direction of evolutionary economics, of which ecological economics is one of the most significant interpretation.

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2 Culture and cultural values

2.1 The role of culture for proposing meanings to face the human challenge

Culture and cultural values represent the most important non-material needs. In fact, they are the foundation of any transformation/development project.

The reason of this emphasis on culture is due to the fact that the real challenge is ***within*** people. This is an inner challenge, in the way of thinking that should be modified and "enriched" in a systemic and critical perspective. This is first and foremost a **cultural challenge to be required**.

The current culture, through an exaggerated confidence in technology, has become the engine of alteration of the evolutionary dynamics of nature: the degradation of the environment, the loss of biodiversity, etc. But it has also produced social fragmentation and isolation, growth of inequality and marginalization.

This ***cultural foundation*** refers to the common roots of the European cultural tradition, which can be interpreted, in synthesis, as the search and ***proposal of meaning for a more human life***, being linked to a specific vision of man and life: man as the end of the economy, and not as a mean; the dignity of every human person, regardless of any belonging, as the source of his rights.

In designing a sustainable future, the roots of the European culture should be firmly taken into account. The common European values are fundamental to face the technological challenge in the perspective of humanization, of the "new humanism" in the digital era. We must not lose these values now that the extraordinary technological development provides powerful innovations, from artificial intelligence to the internet of things to robotization etc. that can be used for human promotion but also for the exact opposite of "human": that is, for any form of manipulation and control/submission by the various forms of economic and political power.

It is necessary not to lose these values in the era of economic globalization, in which the relationship between population and territory should be strengthened.

The CLIC project interprets the preservation and enhancement of cultural heritage as a source generating new values and new creativity: a matrix of creative mediation open to the future on the basis of memory/past. That is, considering cultural heritage as the entry point for the proposal of the neo-humanistic perspective in the time of the digital revolution.

The heritage of cultural assets represents the signs of the creative activity of past generations: it expresses a way of feeling the life. It can help to transform the *status quo* with new meanings. It represents not only an economic entry point, but also and above all a cultural entry point. In short, its transformative force/capacity is not only a consequence of economic, social, and environmental benefits, but first and foremost of cultural benefits (often neglected because they are "intangible").

2.2 The circular economy model for integrating the neo-humanistic and ecological paradigms

The ecological transition, which is configured as the greatest transformation ever achieved in the history of human civilization, is absolutely essential. But it will produce a series of human and social costs that must be anticipated and foreseen for their mitigation. Some new activities will be imposed, while others will become obsolete with respect to the new paradigm of sustainability. Therefore, they are destined to disappear, with all the consequent negative impacts on employment: with significant human and social costs.

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Considering all the risks in terms of work etc. that it will entail, the ecological transition should be carried out from the perspective of the ***human scale of development***, thus combining and integrating the ecological and humanistic dimensions through culture: through the culture of circularity.

To achieve an effective ecological transition, it should be necessary to promote a "community spirit", generating responsibility in people's behaviour.

The circular economic model integrates the two paradigms. It not only proposes a new urban metabolism, reusing and recycling materials, etc. This is of great importance today. But above all, it is based on and promotes a culture of cooperation/collaboration/symbiosis with other subjects, with nature and with future generations: in the spatial and temporal dimension. It is in coherence with the interpretation of human rights in a relational/cooperative dimension.

The model of **circular economy**, as it has been realized in the experiences of Industrial Ecology, has proved to be capable of ensuring a profit to the company, but also a profit to society (new jobs) and to the environment (less climate-altering and polluting impacts). This model is configured as more suitable to meet the economic and ecological conditions of sustainability. But it is also able to satisfy the cultural conditions of sustainable development: the ability to re-generate cultural values at a rate at least equivalent to that of their consumption by current economy.

The culture of the circular model opens to create links in space (between different subjects and between people and nature) and in time (between today and yesterday; between today and tomorrow generations).

The integration of the neo-humanistic paradigm with the ecological paradigm is fundamental in shaping the transformation of our society. They require not only green tools but also cultural processes. They are related to the cultural challenge, and thus to culture as a specific product of excellence of human beings, through which they shape their interpersonal relationships and also their relationships with nature. Culture shapes (and reshapes) the worldview, the interpretation of reality and behaviours in relation to nature and in relation to others. Human and cultural dimensions are closely linked.

It must be recognized that cultural values such as cooperative, collaborative values are becoming increasingly important in our fragmented society. **Transformation of mindset** is at the core of everything for growth and success, as well as the creation of positive social /environmental impacts.

The neo-humanistic paradigm is linked to the ability to re-produce and re-share cultural values such as cooperation, collaboration, coordination, which can reduce social fragmentation, towards a long-term future. They should be able to reshape business, market choices, investment decisions.

Certainly, the **ecological transition**, characterized by an "integrated system of renewable energy", offers a strong contribution to the conservation and regeneration of natural resources, with a drastic reduction of waste, which are recycled/regenerated as much as possible, and transformed into resources (thus reducing the amount of extraction from the natural ecosystem) and making sure that the outputs can return to the natural ecosystem as much as possible. Certainly, the use of renewable energy sources is essential to the de-carbonisation of current economy, as is the planting of new green areas etc. The ecological transition is required to be able to help implement the "city of symbiosis between humans and nature", nature being recognized as the most important city infrastructure.

But this is not enough. It is necessary to introduce a **new rationality** in choices: a rationality different from that of the homo-oeconomicus. A relational and multidimensional rationality that

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refuses optimization (maximization and minimization) but is interested in the search of balanced solutions, able to creatively combine also conflicting needs/objectives.

We propose in CLIC the "**human-centered and ecological/circular approach**" inspired by the circular model, because it reshapes the development project of the city **towards a project that unites, generating and multiplying relationships and links between subjects**, in space and time: between human beings, between people of this and future generations, but also between people and nature (Mother Earth) and between people and the past, history. The memory of the past shapes the notion of "we", thus reshaping the notion of "I" [12].

2.3 The regenerative re-use of cultural heritage/landscape

A re-generation/re-use of cultural/landscape assets (in which Europe is particularly rich), because of its multiple transversal dimensions, can be proposed as an entry point for the implementation of the **circular city**. The circular city is the spatial/territorial aspect of the circular economy.

The valorisation of cultural heritage - at certain conditions - strengthens and promotes, in turn, the culture of collective memory in a circular process in the temporal dimension. Thus, it stimulates the regeneration of the values of inclusion, solidarity, integration. These values are not "given," but must be regenerated as quickly as they are consumed. In nature, if a resource in the ecosystem is unable to regenerate, it decays, de-generates and eventually disappears. The same phenomenon characterizes intangible/immaterial components, such as values: if they do not regenerate, they de-generate and are lost.

In conclusion, the circular economy model is proposed here not only as a model able to reuse materials, row materials and energy, but also as the bearer of a **new culture**: an inclusive/relational culture that is strengthened by reusing cultural heritage (which emphasizes inclusive values in the temporal dimension and not only in the spatial one).

The "adaptive reuse" becomes, therefore, part of a more general **"cultural strategy"**. It is necessary to regenerate the physical assets but, at the same time, also to the link between man and man, between man and nature/ecosystems: to rethink behaviours, lifestyles and choices. Through adaptive reuse of cultural heritage new "circular heritage ecosystems" should be implemented, able to produce positive integrated impacts.

The regeneration of cultural values is essential to reshape the value of freedom in the perspective of responsibility.

No effective adaptive reuse, and more in general, no ecological transition or no new symbiotic circular ecosystem will be characterized by effectiveness if one is not able to re-generate values such as inclusion, solidarity, responsibility, and the ability to care for others and for nature. No Next Generation Plan to improve resilience and ensure recovery will be implemented effectively if the pre-conditions for all of the above are not re-generated: namely, interpersonal and institutional ***trust***. If a real project of regeneration of the ***culture of trust*** is not promoted.

Adaptive reuse should be integrated also in the above perspective.

It is necessary to build and spread a new "culture", characterized above all by a **long-term horizon**, by the recognition of **intrinsic and not merely instrumental values**, by **critical knowledge and the ability to evaluate** as the foundation of the culture of responsibility. The "horizon of the city" and in particular of the "circular city" promotes the overcoming of forms of radical hyper individualism, which transforms legitimate rights into particularistic selfishness. Circular city should promote trust, *i.e.*, social capital, as the necessary glue of society for its development.

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The foundation of the **circular economic model** is represented by cooperation. Cooperation is grounded on ***trust***. From the trust, that finds its origin in the search of the truth, of the transparency, of the respect of the rules and of the civil virtues, it springs the ability of collaboration, cooperation, synergy/symbiosis. Therefore, not only social benefits but also economic ones arise. Lock (Lock,1663) already underlined how trust represents the bond of society. Antonio Genovesi [13] and the Neapolitan School of the 18th century considered trust as the foundation of resilience, of economic development and of the humanization of society itself.

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3 The key role of culture for inclusive, safe, resilient and sustainable city: the cultural conditions of sustainable development

From the above it is possible to deduce more clearly the cultural condition for implementing the sustainable development.

The existing economy has been described as “devouring natural resources, socially divisive, and environmentally hostile”. But, in reality, the economic organization of the capitalist model is also a devourer of cultural values.

It should be noted that Schumpeter (1943) already pointed out that the economy, with its rationality of ends/means, has become the matrix of logic, in the sense that economic rationality and rationality in general tend to coincide: the economy has offered the current logic, that is, the "rational" way of reasoning and behaving/choosing. But Schumpeter also stressed that the capitalist process erodes its own institutional scaffolding and its founding culture.

Max Weber [14], some time later, in analysing "the spirit of capitalism", had focused on the relationship between cultural values and economic phenomena (for example, the economic rationalism), emphasizing the role of ethical values (starting with trust) in economic dynamics.

More recently, Hollis [15] substantially confirmed how economic development erodes the cultural values it needs, making the "value" of trust increasingly fragile, as Fukuyama also pointed out [16].

The economic and ecological conditions of sustainability are well known. It is necessary that the speed of extraction of resources from nature does not exceed the speed of their re-generation and that the speed of production of waste discharged into the ecosystem does not exceed the speed of absorption of waste [17].

The identification of the *cultural condition of sustainable development* integrates the above two ecological conditions. The teaching of nature shows that a resource that is not capable of regeneration ends up dissolving and disappearing. This statement is transferred and re-proposed from the field of tangible resources to the field of intangible resources, such as the cultural values of trust, respect, cooperation, co-responsibility, etc.

Thus, in analogy, values of solidarity, integration, and inclusion are not already “done”, but they have to be re-generated with the same speed of their consumption by the market capitalistic economy, in analogy with the functioning of natural ecosystems. If they are not re-generated, they de-generate and are lost. Circular economy and heritage valorization/reuse contribute to re-generate values and not only tangible/material components.

The above opens the analysis of industrial and urban metabolism, fundamental in the implementation of the circular model in a new perspective. Also the analysis of *intangible / cultural components* should be considered: trust as a fundamental value today increasingly scarce but for this reason increasingly important. From the re-generation and dissemination of this value follows the ability to improve the effectiveness of investments. The above appears particularly topical in the time of National Resilience and Recovery Plans, for the ecological modernization of our society.

The circular model satisfies the ecological and also the cultural conditions for sustainability. It not only proposes a new urban tangible metabolism. It also reflects, is grounded and promotes a new culture: a culture of cooperation/collaboration/symbiosis in the space and in the time dimensions with other subjects, with Mother nature, and with future generations. The linked valorization of cultural heritage reinforces and promotes on its turn the culture of collective memory in a circular process in the time dimension

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Thus, the *circular human-centred approach* recognizes a particular attention to the *cultural dimension*, as a key dimension for implementing sustainability. Cultural dimension is not only interpreted as the material cultural heritage valorisation, but also in terms of change the current worldview, mindset, way of life.

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4 Adaptive reuse between ecological paradigm (nature) and culture (human-centred) paradigm: the implications

4.1 Current definitions and the circular adaptive reuse notion

Figure 2 and Figure 3 reassume in graphical terms the above points assumed in CLIC research, in the perspective of previous paragraphs.

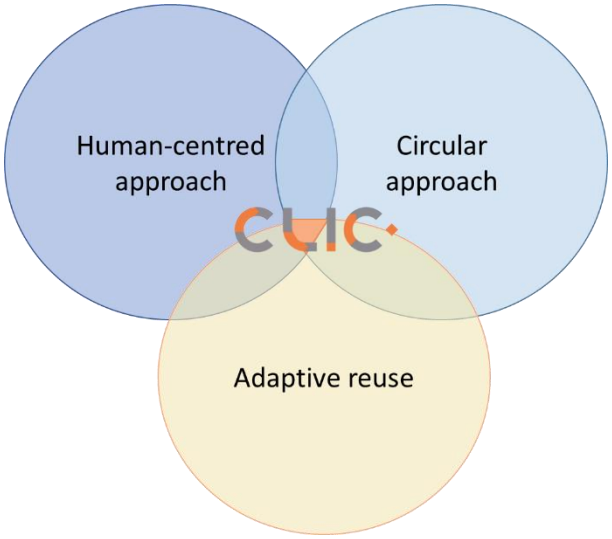

Figure 2 - The CLIC general approach

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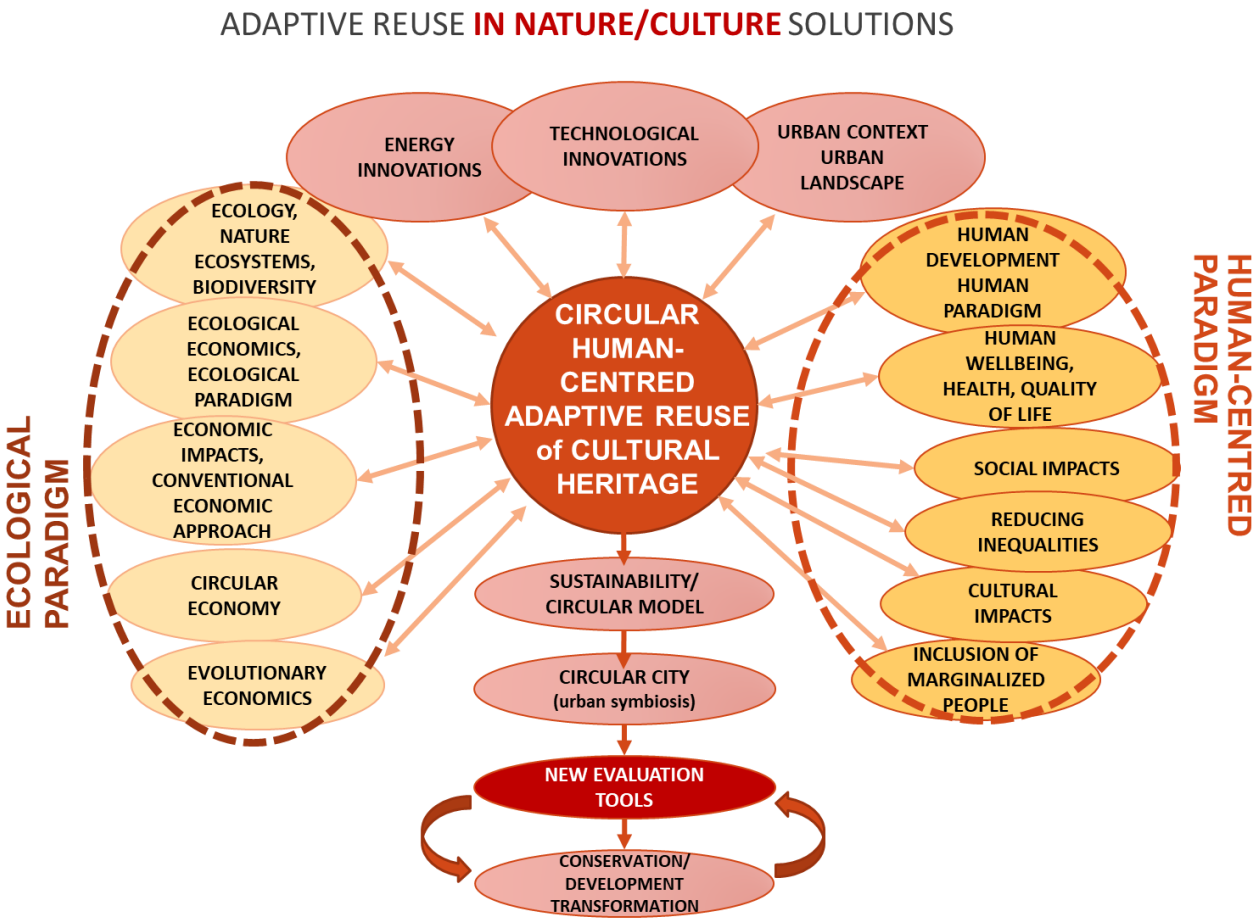

Figure 3 - Circular and human centered adaptive reuse

The circular logic is theoretically "intrinsic" into the notion of adaptive reuse, also if the conventional current definitions of adaptive reuse do not incorporate this **circular logic**.

For example, it is not included in Douglas's definition [18] "any building work and intervention aimed at changing its capacity, function or performance to adjust, reuse or upgrade a building to suit new conditions or requirements". The above is more and more strange if the adaptive reuse regards cultural heritage, considering that cultural heritage "is not just a monument: it is a **non-removable evolving resource**, supporting identity, memory and sense of place" [19]. Nor it is incorporated in the Paul Getty Research Institute (2017): "the conversion of outmoded or unused structures, such as buildings and objects of historic value, to new uses or application in new contexts".

One reason is that, in current interpretation, the emphasis is focused on the design step, and not also in the dynamic management process (see Figure 4: linear adaptive reuse). A second reason is not underlined the reciprocal relationship between the cultural site/asset and its dynamic environment.

A third reason is that adaptive reuse is not in general interpreted through the lens of bio-ecology.

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The consequence is that practically the adaptive reuse is interpreted and managed in a linear and not in a circular perspective (Figure 4).

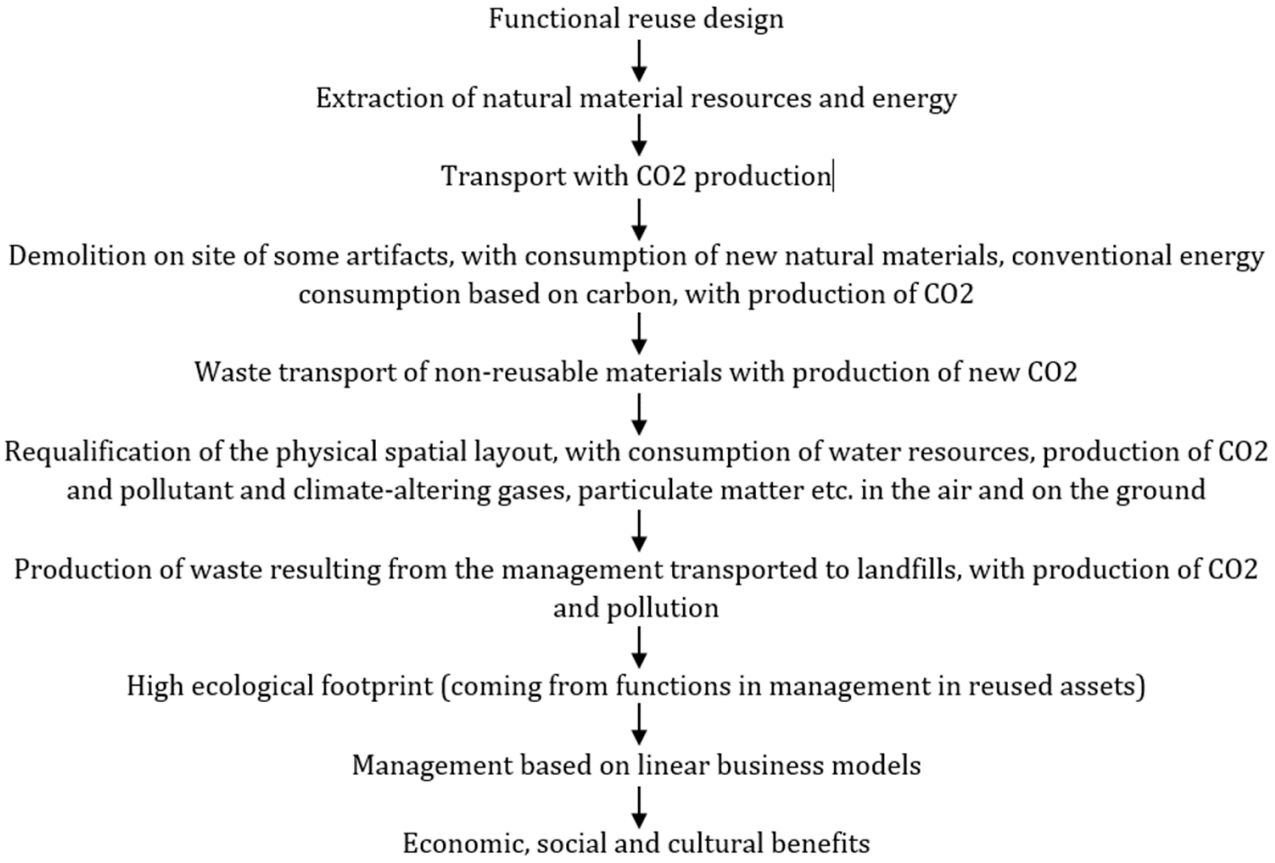

Figure 4 - The Linear Adaptive Reuse

Continuous adjustments and adaptation over time are required to allow an increase of the usefulness /useful life of the cultural assets: to guarantee a future as long as possible and, eventually its “eternity”. This is itself a circular process.

4.2 The adaptive capacity mimics the dynamic creative power of nature

If we interpret the adaptive reuse in the bio-ecological perspective as proposed in CLIC, through the assumption of the ecological paradigm, adaptive reuse becomes more and more structurally characterized by a circular process.

The adaptive capacity mimics the creative power of nature to evolve in its dynamics of life through exploratory attempts that are remembered by the ecosystem memory: as nature adapts and remembers, also ecological (circular) adaptive reuse should be characterized by evolving capacity to react to a changing context, on the base of its memory. In other words, in the interpretation of **adaptive reuse** in a **bio-ecological perspective** (that is in the assumption of the ecological paradigm) the adaptive capacity is similar to the creative power of nature to evolve in its dynamics

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of life. As nature adapts and remembers, also circular adaptive reuse should be characterized by adaptive, evolving capacity to a changing context on the basis of its memory (its intrinsic value). In this way, adaptive reuse can become able to transform a dead site into a living system.

The analogy with trees (or with the forest) allows to imagine an adaptive reuse that contributes as much as possible to nature regeneration through the renewable energy from the sun to lower pollutant and climate-changing concentrations, purifying the air even with the appropriate planting, generating oxygen, sequestering/reducing carbon dioxide, dust, combustion residues, mitigating heat islands, thus helping to improve the local microclimate. Water, as precious resource, should be managed with great care. Reuse should contribute to the required transition toward a de-carbonized (local) economy.

This circular economy adaptive reuse underlines the attention to the circular metabolism (the entry and the exit of energy and materials) and to reduce the comprehensive entropy through the co-evolution between the man- made and the natural capitals. Also intangible forms of capital, as the human capital and the social capital, should be considered through the re generation of cultural assets. At the same time, attention is due to promote complementarities, and thus synergies and symbioses.

4.3 Adaptive reuse and the notion of "change"

Adaptive reuse incorporates the notion of **"change"**. This is linked to the circular model in terms of reciprocal interdependences with the context and in terms of evaluation of change actions. The change should be as much as possible coherent with the existing economic, social, environmental, institutional context, so that existing performances can be enhanced. The change due to a set of **actions** reflects a dynamic and circular relationship between an asset/site and its comprehensive environment. On the other side, the change due to a set of actions, is the outcome of a specific **decision process grounded on evaluations** in an uncertain environment. Alternative solutions are identified, able to meet multiple / multidimensional objectives coming from many involved subjects, and are compared.

Balanced satisfying solution that better fits into the context is thus designed and implemented, knowing that the reciprocal relation with the context will suggest new adjustments over time. Figure 5 explains better this circular process in the different steps:

1 identification of alternatives
2 estimation of impacts coming from each alternative in relation to objectives (ex-ante evaluation)
3 identification of the balanced and satisfying solution
4 implementation of the chosen solution
5 monitoring of impacts (net benefits)
6 learning from impacts, for deducing performances (ex-post evaluation)
7 using this new knowledge to adapt/adjust the chosen solution for improving productivity
8 adoption of a management plan, and making new *ex-ante*, on-going, ex-post assessments
9 New adjustments implemented

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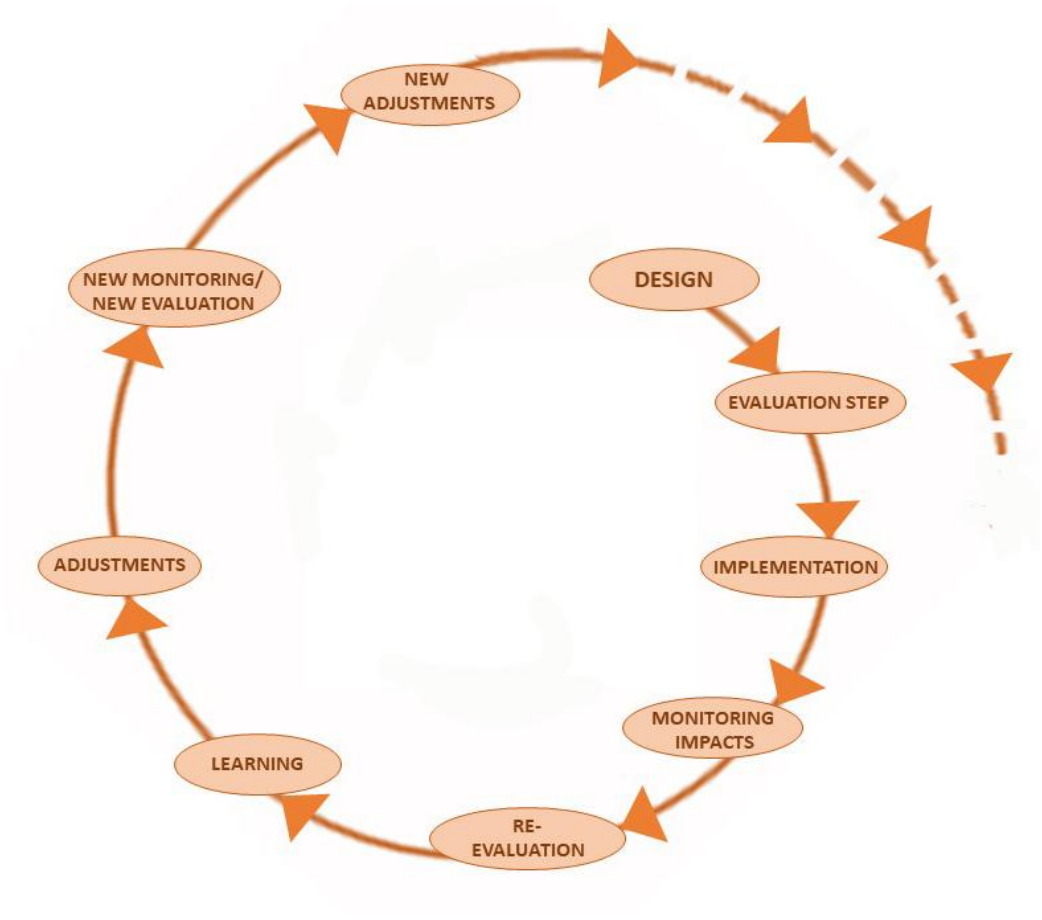

Figure 5 - The circular process in adaptive reuse

More in details, the circular process is showed in Figure 6.

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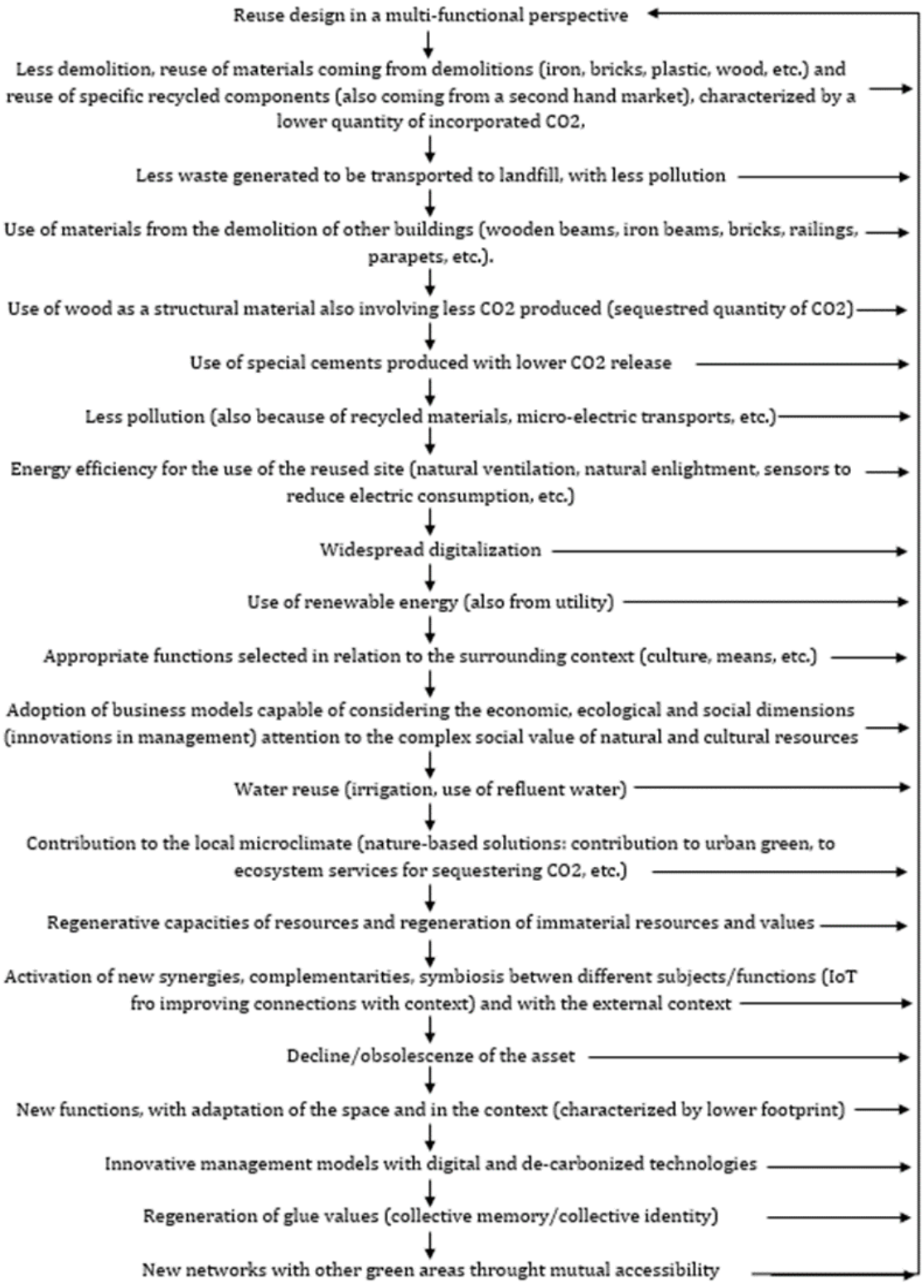

Figure 6 - Actions required in the circular human-centred adaptive reuse

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The logic of the circular reuse is strongly stressed in the circular economy model, as in CLIC assumed.

In the adaptive reuse interpreted in the circular economy, as in the CLIC perspective, this loop is strongly stressed, starting from the reuse of natural materials and water and waste and **including also the immaterial/intangible resources and values re-generation and the management strategy.**

4.4 Adaptive reuse and creativity in place-making

Creativity is the fundamental ingredient of adaptive reuse to face continuous challenges and for managing its complexity: for managing/solving conflicts between needs, objectives, interests and values.

The assonance of this approach to adaptive reuse with Schumpeterian **Evolutionary Economics, characterized by the introduction of technological innovations,** becomes evident.

Digital technologies are key elements to be introduced toward the human-centered and circular paradigm: to enhance the attractiveness of a place, its vibrancy and human interactions. Creative activities prefer in general to be localized in heritage assets. Adoption of new technologies better allow to produce actions in a coordinated/collaborative way, thus implementing the circular model. The creativity of the adaptive reuse project is not only related to the reuse architectural project, but it is especially related to the management project. It is the creativity of the entrepreneur/manager. The entrepreneur decides to take on a certain investment and to run the relative risks by creating a new organisation, through new solutions that transform the cultural resource into a complex of complementary systemic relations. This takes place by adapting the cultural man-made capital, elaborating a new order, a new organisation, also through subsequent experimentation and thus "learning" from successes and possible failures, in the search for ever more performing solutions, through new combinations, involving nature capital and intangible forms of capital.

We are called to make choices always under conditions of increasing uncertainty, first of all because of the dynamics of demand market. This implies the need to make forecasts about the evolutionary dynamics of the demand for the various needs/goods/services in the territorial context where the cultural organisation is located.

On the other hand, the entrepreneur/manager is led to multiply the possible functional combinations in search of new synergies between different functions, activities and subjects that can mutually reinforce and consolidate over time, increasing the attractiveness of the "micro ecosystem" in which he operates. This means a continuous search for a new organisational architecture, which transforms the simple "collection" of component elements into a system of interdependencies through adaptive reuse.

In the adaptive reuse, continuous reorganisation/remodulation is needed to transform a simple "aggregate" into a new "structure", with an innovative organisation based on reciprocal and dynamic relations of complementarity, which in turn generate synergies and symbiosis.

4.5 Adaptative reuse and evaluation

Adaptation and evaluation are characterized by reciprocal relationships. Adaptive reuse requires to make choices regarding the conservation of some elements as permanence, allowing the change/transformation/substitution for others, thus combining the logic of change with the logic of conservation.

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Adaptive reuse of cultural heritage is a complex process because it requires **the capacity to distinguish and select essential elements from other accessory elements.** It requires to make choices between intrinsic value (the essential meaning of the heritage) and the instrumental values. It requires to manage conflict between needs, demands, preferences, values, goals (that are multidimensional and also in conflict) coming from different involved subjects. The adaptive reuse should be, in any case, an exercise of critical thinking (in our time of "crisis of reflection",) [9] requiring continuous innovations and, consequently, continuous and adequate evaluation process.

The **evaluation process is** a key characteristic of Adaptive Reuse. **It is the core phase of any adaptive reuse process.**

The first evaluation exercise is about the general context interpretation, in its economic activities, and also ecological, social, cultural ones. It requires to identify better actions to fit in the context in order to increase the existing activities, generating an attractive force-field reducing the "distance" between a site/activity and its general context.

The evaluation process is iterative and interactive. This regards also the Adaptive management plan, in the search of the more satisfying solution of adaptive reuse, of testing this solution, verifying the impacts through new experiments, new monitoring etc, learning from impacts, reviewing the original solution through adjustments, etc.

The required evaluations for the implementation of the design and for the adaptive management plan are grounded on Ecological Economics approach. Ecological Economics recognizes that a single monetary assessment, based on WTP, is useful, but not sufficient for "measuring" all socio/cultural/environmental benefits. From values incommensurability it follows that only a democratic participated debate can integrate multicriteria technical evaluations.

The dynamic approach of adaptive reuse in the perspective of the circular economy should follow a coherent dynamic/evolutionary evaluation approach. In this dynamic approach criteria, weights and alternatives are going to change in an evolutionary spiral during the entire process. The impact matrix should be organized in dynamic terms.

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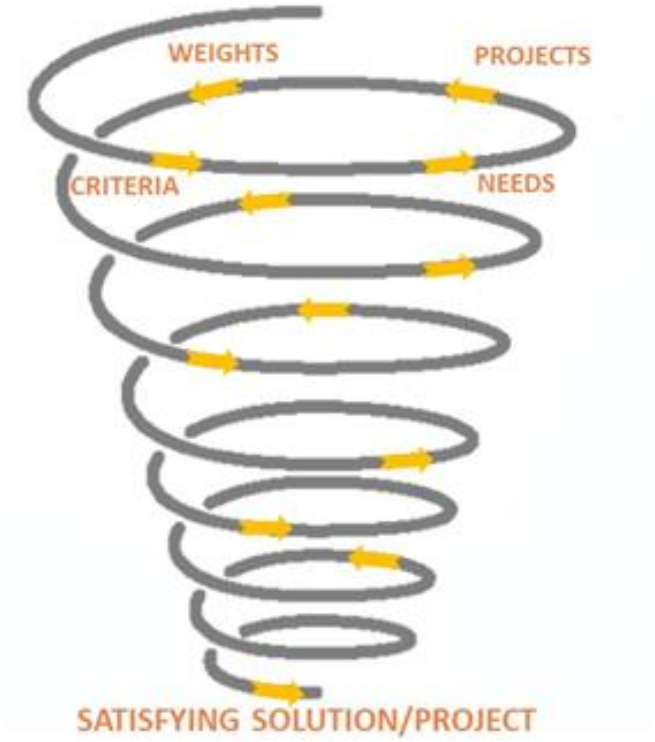

Figure 7 - The Evolutionary Evaluation (Zeleny, 1993) [20]

Approaches grounded on MAUT as: AHP, ELECTRE, Regime, EVAMIX, NAIADE, CIE [21–25] are useful because they help to compare alternatives, deducing a priority (through iterative/interactive steps).

Approaches grounded on LCA are also required, in particular at the micro scale.

4.6 A first conclusion: adaptive reuse as a complex process that requires complex tools

At the end it is clear that CLIC research recognizes adaptive reuse as a complex process having to face with the dynamic of change, considering not only the above characteristics, but also some other elements: the position in the territorial context (in the city centre, with high potential of use value or in marginal poor areas, with no potential without connective infrastructures); the state of conservation and the intensity of transformation or adapting to new functions (with high structural cost versus low adaptive costs); the involved subjects: public, private, social. They all contribute to the complexity of effective adaptive reuse together with multiple, multidimensional and in conflict objectives and criteria to be satisfied.

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5 The general conditions for success: the circular model for adaptive reuse

The general principles for an effective adaptive circular reuse can be summarized into: **the re-generative capacity**, **the symbiotic capacity**, **the generative capacity**.

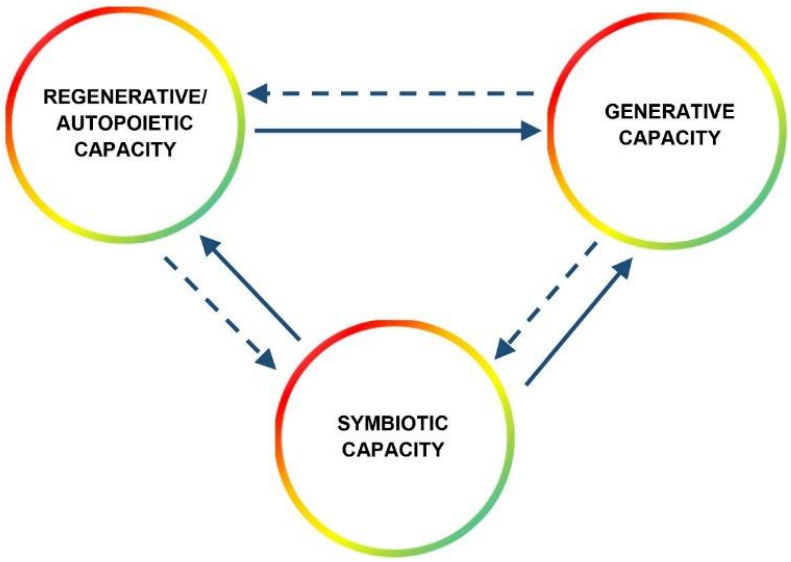

Figure 8 - The three principles of the CLIC circular model

Figure 8 proposes the CLIC circular model, that is analysed more in detail in Figure 9 [12].

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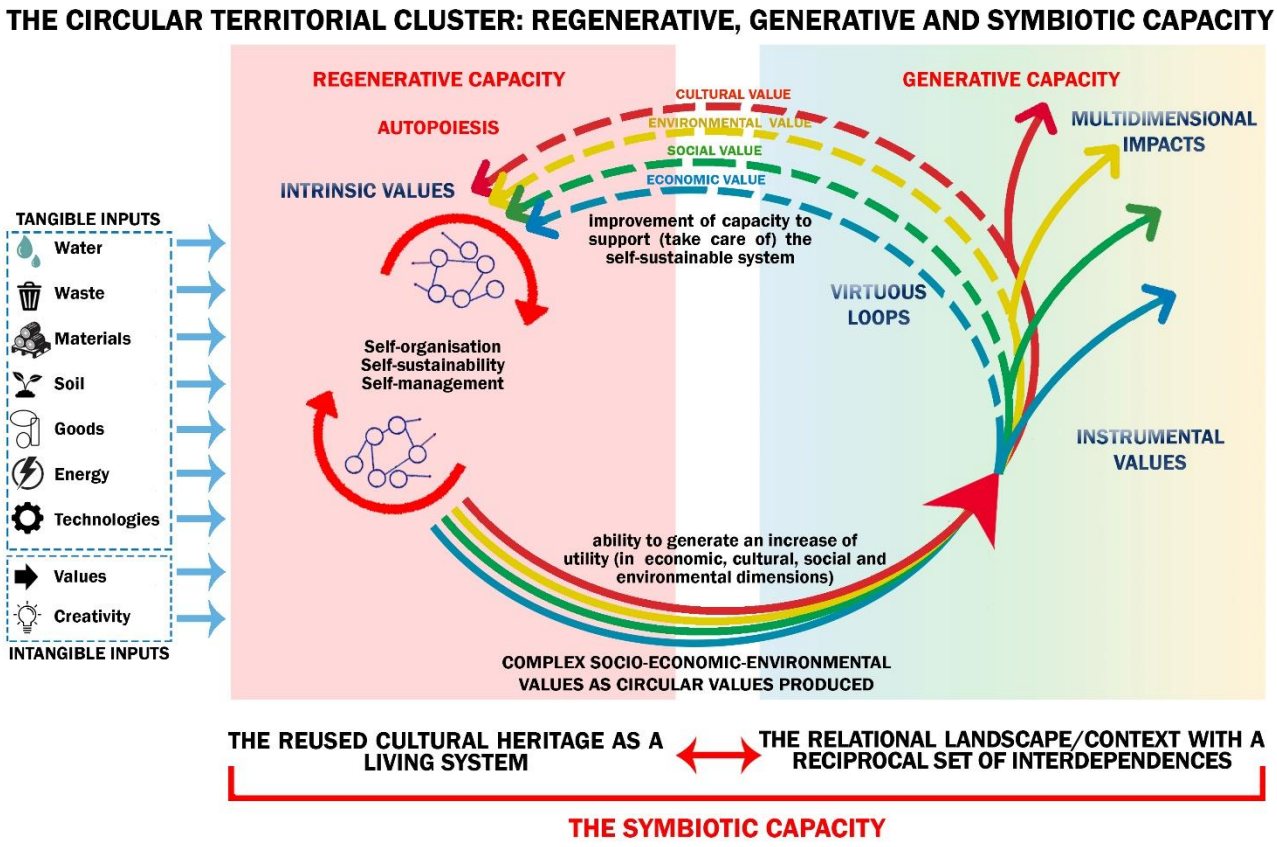

Figure 9 - The CLIC circular model: Tangible and intangible impacts from self-organization capacity, and loops

The above Figure 9 underlines the ecosystem organization of the symbiotic/circular ecosystem, with externalities and the relevance of symbiotic processes in the comprehensive context. It suggests that for the reuse of the heritage assets the functions should be chosen so that some of them can sustain themselves and also can support some other activities. For example, in the reuse of a dismissed industrial site, some residential and commercial functions are justified for supporting social, cultural, educational, research, civic ones (not able to self-sustain themselves) coherent with the intrinsic value of the asset.

The figure distinguishes between different multidimensional impacts, characterized by feedback loops, reciprocal integrations, systemic interdependences which can transform vicious processes into virtuous ones, starting from a specific threshold.

The **re-generative capacity** is interpreted as the auto-poietic capacity. It reflects the capacity to maintain the organizational structure of a living system over time: its identity and profile (characterized by a circular metabolism), with continuous activities of making adjustments because of degradation/decay and re-making processes.

This regenerative capacity allows to sustain also social and cultural functions that are not able to self-sustain.

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The available tangible and intangible energy is a key element and condition for this auto-poietic capacity.

The ideal tangible circular energy system is grounded on the use of renewable energies because the system could behaviour as a circular one. Other indicators are the capacity to re-generate water, other natural resources and the capacity to self-sustain in the financial/economic dimension.

The **symbiotic capacity** expresses the interdependence relationships with all elements of the dynamic external context, that require continuous evolutive adaptations. It guarantees integration and thus the durability of the re-use in the (long) time. It is linked to the material and immaterial relations between the physical asset and the context: it guarantees the dynamic flexible contextualization of a site to its surrounding spaces, as in the natural eco-systems, where relationships are source of life/survival. Thus, the re-use of these particular (heritage) assets in-forms, shapes, re-shapes its surrounding environment (which is in its turn re-shaped and deformed).

The re-generative and symbiotic capacity also generates the capacity to produce multiple tangible and intangible impacts: the **generative capacity**.

Generative capacity is the multidimensional usefulness which an eco-system “offers” to its context (as instrumental values), multiplying its relationships. Positive tangible externalities are, for example, removal of air pollution, amenity of cultural natural landscape, sense of place, inclusion, education services, reduction in emission of greenhouse gas, in coherence with the priority of these goals recognized by European Union. Also, the soil consumption is avoided, while the production of waste material is reduced.

This circular model of reused territorial heritage asset is able to produce external effects that partially impact on the context and partially are able, in turn (in a circular perspective), to “come back” (from the context) to the cultural heritage ecosystem. Some of them are economic impacts on the context that, in turn, become input again for cultural circular heritage place or ecosystem. These economic outcomes and values, in fact, can be “re-used” to support the activities included in the space/place.

The circular adaptive reuse model of the cultural heritage is interpreted and managed in ecological terms, in the perspective of the Green Deal of European Union and the climate challenge and of the New European Bauhaus. But also as a way to improve the immaterial social infrastructure of the city, generating micro-communities through the management itself of the old heritage as a common, characterized by a specific value (an “intrinsic value”, that reflects the value that has been connoting the site over centuries and millennia).

The production of city places as circular symbiotic ***ecosystems localized in the heritage assets in degraded areas*** should be the outcome of the regeneration/reuse of old industrial (cultural) assets, in which common spaces for sharing experiences, ideas, knowledge are multiplied, for testing new solutions, thus attracting new skills, researchers, entrepreneurs, investments.

In particular, the adaptive reuse/regeneration of degraded spaces in the city should be integrated more and more in the ecological perspective (that characterizes every living organism), to reconnect the built assets with the bio-ecological systems, in coherence with the evolutionary dynamics of nature. This means to become able to continuously re-shape circular city/territorial ecosystem in an integrated perspective through nature-led solutions, able to contribute to re-generate ecosystem services.

The ideal symbiotic/circular adaptive place ecosystem assumes nature and biodiversity as the main infrastructure for the economic development.

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At the same time, the nature-led solutions also regard the beauty of the built/natural landscape: beauty should be effectively stressed as a relevant contribution to the human centred strategy.

The implementation of circular city territorial ecosystems starts from the reuse of dismissed heritage assets for their transformation into “productive integrated environments”: creative places as “condensation nuclei of development” [26].

Figure 10 proposes six iterative/interactive steps for identifying a satisfying solution, balanced in economic, ecological, social dimensions. The final solution is identified combining and re-combining self-sustainable functions, sustained functions and new relationships with the context.

The process is characterized by the adoption of ***a place-based approach*** that means to connect single points/areas in the space into a network of built and natural heritage, connecting them through synergies and cooperative activities. Evaluation is a key step in the adaptive reuse, because it requires a sequence of choices in design and in the management process, for enhancing performances and productivity.

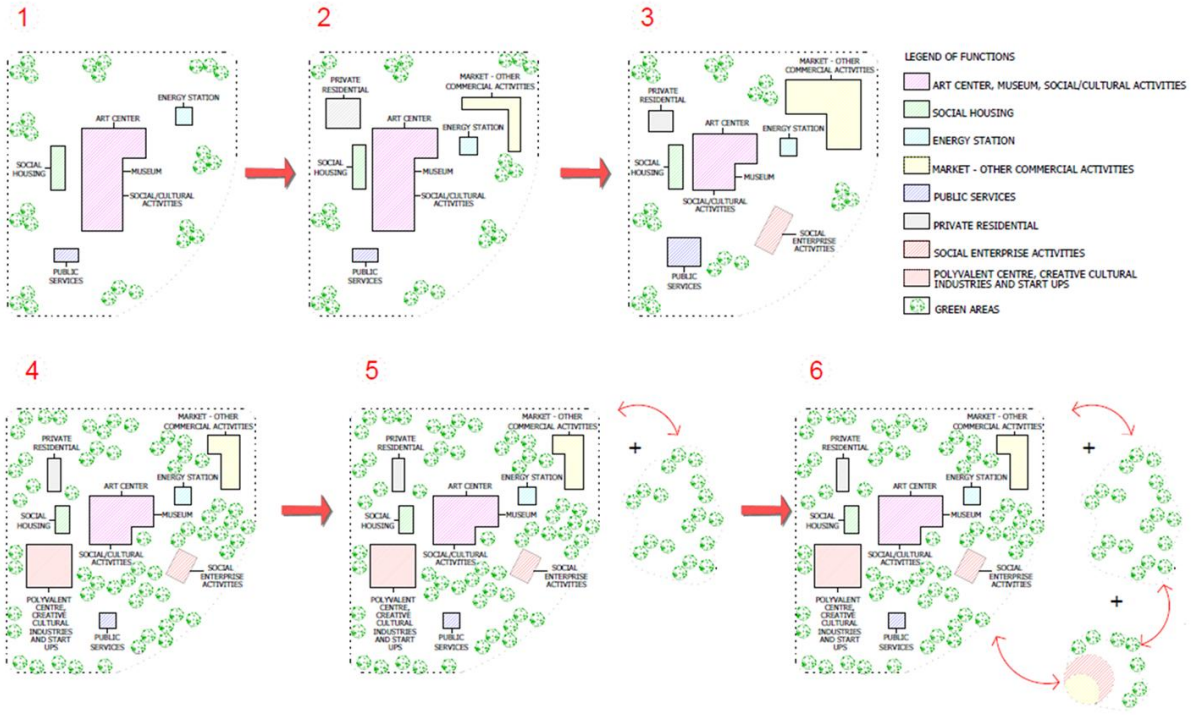

Figure 10 - The search of a balanced solution between self-regenerative, regenerative, symbiotic functions through iterative/interactive steps

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6 Toward circular governance, business and financial models

All the above represents the grounds of the profile of the CLIC outcomes/proposals in terms of governance, business, and financial models.

The aim of CLIC is to offer some guidelines to development actors, cities, public institutions, financial institutions, private bodies, social actors and cultural institutions in implementing local development through new models, grounded on the potential of heritage circular reuse.

CLIC research has assumed the model of circular economy. It requires the knowledge of all metabolic flows in adaptive reuse.

But CLIC introduces also the attention to all forms of metabolism and not only the material metabolism: to the immaterial “hidden” aspects of the adaptive reuse.

This is why CLIC suggestions are linked to an interpretation of the new circular governance model, new business and financial models starting with the effort of enlarging the current world-view (that is determining the growing dis-connection with natural system of life and among people). Thus, the new circular governance, business models and financial tools should reflect and promote also the regeneration of inclusion/ integration values. They are not done, but they have to be regenerated with the same speed of their consumption. The notion of *intrinsic value* is useful in this cultural perspective: it assumes the interpretation capacity of people/participants to recognize the **essential meanings** incorporated into the heritage assets.

Figure 10, Figure 11 and Figure 12 offer the perspective through which outcomes of CLIC research can be read in the evolutionary perspective.

6.1 Circular human-centred governance

Today governance is facing with the ecological modernization of society, which is the greatest transformation ever imagined in history. But there is a context of growing mistrust: for example, between young people and governments (regarding the fight against climate change), between citizens and public institutions, among citizens etc. Here it is proposed a local experimental governance that takes as its entry point the valorisation of public spaces, starting with those with cultural values, to promote collaborative processes between citizens and institutions based on self-organization.

Innovative governance model is related to the capacity to promote self-organization. Self-organization produces many values and in particular trust, cooperation, synergies and, thus, better functioning of public institutions and of society.

The adoption of the circular economy model, based on cooperation, contributes, especially if supported by the "culture of evaluation of results", to re-generate inclusion, cooperation, trust.

The Figure 10 shows innovative, regenerative, experimental governance that reflects the above characteristics of CLIC approach in the city/territory place-making: the ecological paradigm integrated with the human paradigm in a dynamic evolutionary context, in which innovative technologies are to be introduced.

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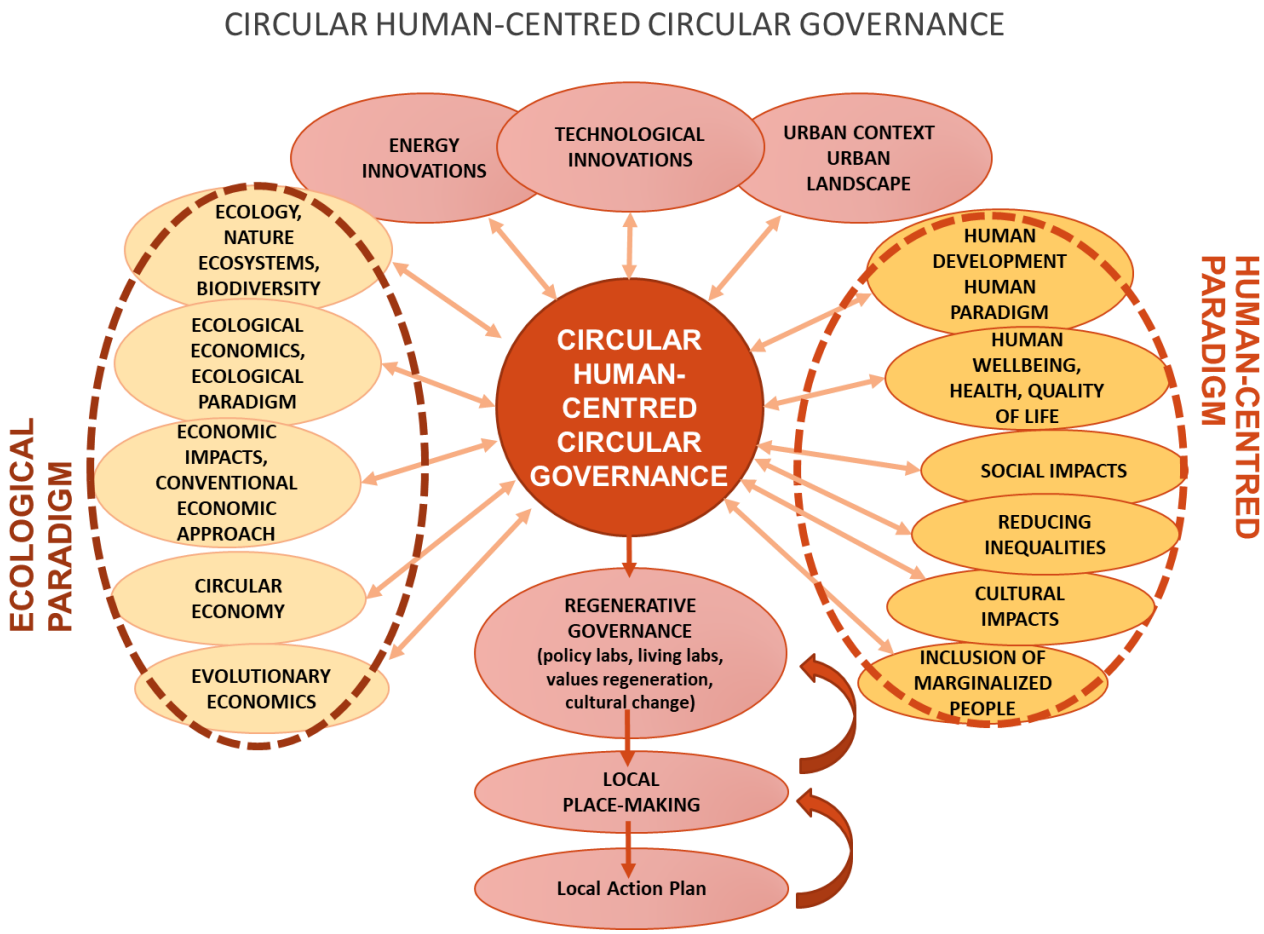

Figure 11 - The ground of the circular human-centred governance

6.2 Circular human-centred business model

Also innovative business models should be modified first of all recognizing the perspective to be "in transition": the business plan should be organized in a ***dynamic and evolutive*** way, to better fit in the existing changing environment, also for improving resilience.

In traditional business models, grounded on market prices and market costs, all natural resources (as forest, water, flora, etc.) are used. But the cost of this consumption is totally ignored because these resources are unpriced.

New adaptive circular business models, first of all, have to recognize this key mistake. Profit achieved damaging the commons (represented by natural ecosystem that supports human activities) is not still included. Emissions to air, water and soil are considered together with waste. Another attention is to "*life cycle assessment*" and to "*metabolic flows evaluation"*. Another key aspect is the specific capacity of the business to improve the trust of consumers and of stakeholders.

The above means to make changes in the existing *status quo* and also to taking care of the territory: incorporating the physical space into the economic business models. Innovative business

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models have to be implemented not in a spatial dimension, but in a concrete city/territory, taking care, at the same time, also of the social environment, that is of the social space (and thus considering possible collaboration). The above elements introduce the responsibility toward society.

The attention moves towards the local/regional scale and territory (which provides wood, food, fresh air, energy, with many regulating services, habitat services and cultural services). Innovations and innovative technologies become the necessary integration for successful impacts in the environmental, social and economic perspective.

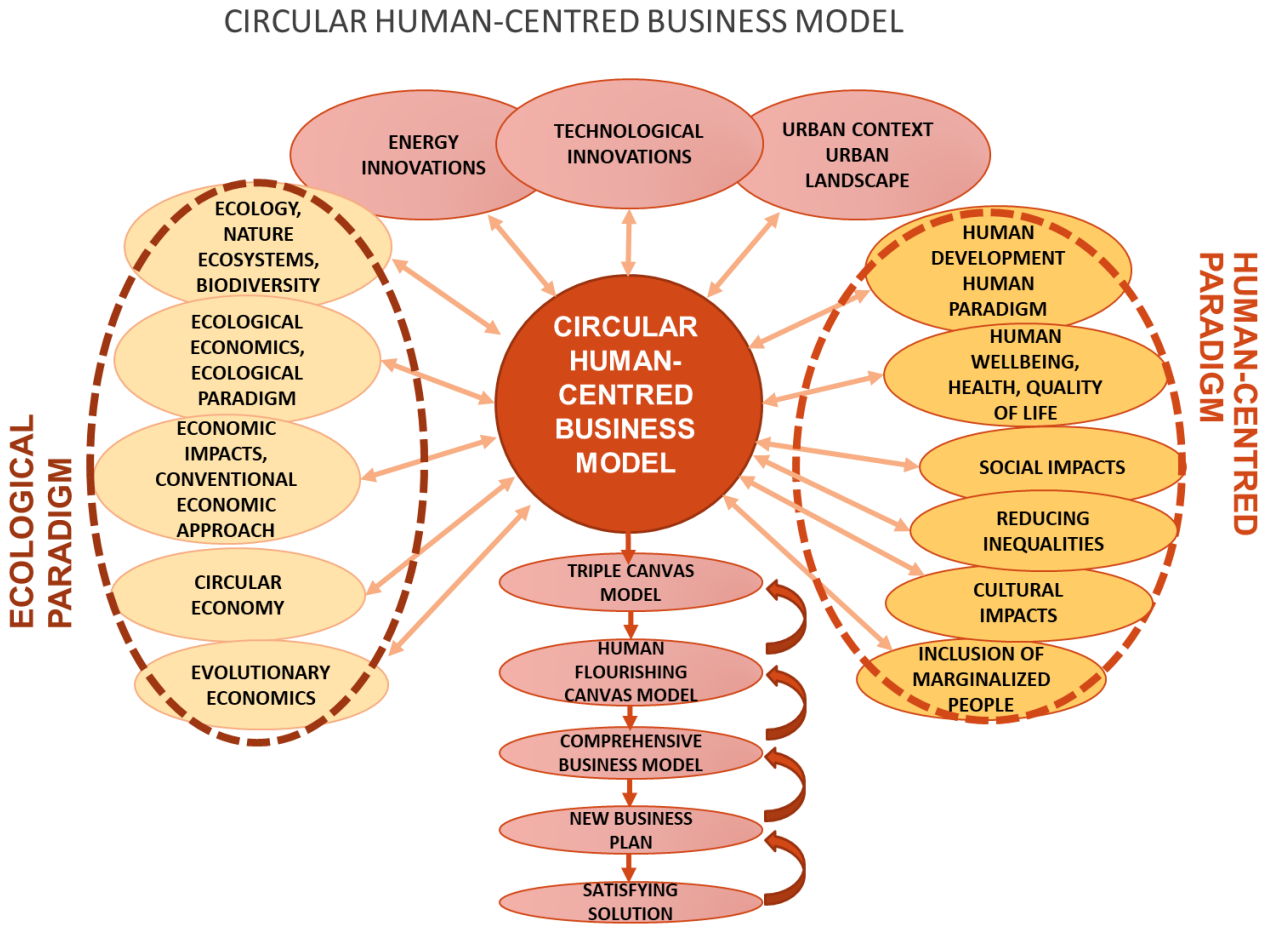

Figure 12 - The ground of the innovative circular business models

6.3 Circular human-centred financial models

The list of existing financial tools is rich.

To stimulate investments in adaptive reuse, **new financial hybrid circular instruments** have to be proposed combining market driven impacts with crowdfunding platforms with other specific tools. The Triple Bottom Line proposal is well-known.

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Some general criteria for financing an adaptive circular reuse project could be synthetized here:

1 the effective integration into the natural environment

2 the effective integration into the built/historic environment

3 the conservation of the permeability of the soil

4 the contribution to the biomass

5 the reuse of rainwater

6 the use of renewable energy

7 the use of natural light

8 the use of local materials

9 the use of recycled materials

For each criteria a specific set of indicators is necessary.

But these general criteria should also be linked to the introduction of innovative technologies for improving the self-sustainability, thus minimizing the external financial supports; to the capacity to organize systemic complementarities; to the re-generation by the project not only of new employment, but also of social capital production (trust etc).

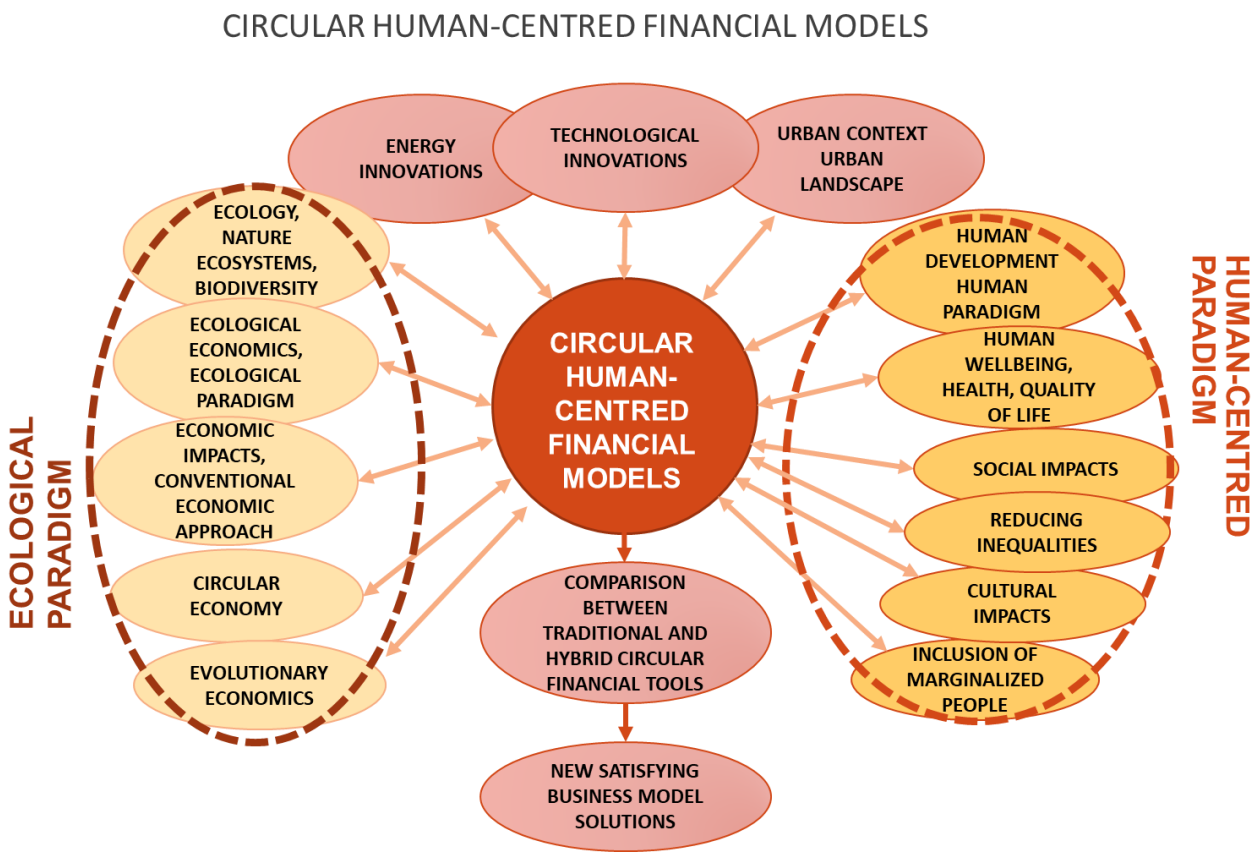

Figure 13 - Circular human-centred financial models

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In any case, it is important that a general environment is created to reduce speculative processes, to improve the quality of heritage conservation rules. Forms of **"revolving funds",** as preferably public "revolving circular funds", are effective for adaptive circular reuse, for financing PPP (or PPPP), for financing debt.

About the financial innovative circular models, the premise is that a current capital market and asset pricing system have to be redesigned within a circular perspective. The place-led financial tools can vary from "impact investing" to blended finance, to PPP (or PPPP), to urban value capture tools to crowdfunding, to grants.

6.4 CLIC proposals for a circular "human-centred" adaptive reuse of cultural heritage

The circular human-centred adaptive reuse of cultural heritage should take into account the following aspects:

1. The **adaptive reuse of cultural heritage** should be framed in the perspective of the **circular economy** and **circular city**. The adaptive reuse of cultural heritage represents the entry point for the circular city.
2. This means to include, more precisely, the adaptive reuse of cultural heritage in the **ecological transition** linked to the European Green Deal. It means to interpret the adaptive reuse in the perspective of the ecology/biology. It means to consider the adaptive reuse linked to the return of "nature" in the city: nature interpreted as the most important infrastructure of the city, able to sustain all human activities through ecosystem services. This means connecting adaptive reuse to the CO_2 capture, water recycling, use of renewable energy, circular management of wastes… as in the "Urban Sequoia" project that will be presented at COP26 Glasgow 2021, green spaces, green surfaces and other nature-based solutions are fundamental in the circular adaptive reuse.
3. The adaptive reuse of cultural heritage should be also integrated in the **"human development"** strategy of the city/territory. It means to frame the adaptive reuse in the strategies to reduce poverty in all its different dimensions (tangible, but also immaterial), for the reduction of social inequalities, for inclusion – also with reference to future generations. Community building linked to heritage sites should be strongly promoted, according to the subsidiarity principle.
4. Technological innovations become of fundamental importance, especially di**gital technologies** and **energy technologies**.
   Digital technologies, through sensors, cameras, IoT, automation, AI, etc. allow to constantly monitor flows in entrance and exit, and thus the metabolism. They allow also to generate data and information on environmental conditions, on health, accessibility, etc. so to help all subjects to enhance their decisions on mobility, logistics, production of goods and services. They allow to monitor and enhance the capacity to adapt to the context. Furthermore, they allow to localize specific uses/functions in marginal areas enabling remote working, reducing in this way the marginality of many remote areas.
   Energy technologies allow to use renewable sources of energy (also in the perspective of using green hydrogen) and should be combined with energy efficiency measures and natural ventilation systems. Innovative materials such as photovoltaic ceramics, photovoltaic roof tiles should be employed to integrate renewable energy in heritage buildings reused.
   Here, it should be recognized also the **ambivalent role of digital technologies that can promote socialisation, but also de-socialisation**, reducing often the capacity to distinguish the real information from fake news, reducing the exercise to hierarchize and the use of

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memory. On one side, they allow to build relationships and to work from remote areas remaining connected to knowledge communities, but on the other side they can generate extreme isolation and "dehumanization". Cultural heritage can represent an important booster for the creation of "real life" communities in which the multidimensional nature of human relationships can be expressed. These communities are linked to the specific heritage site, to the spirit of the place, and can highly contribute to **"human-centred" circular cities**.

5. The adaptive reuse should be interpreted as the fundamental element in the **generation of "places"**, thus in the transformation of public spaces into areas characterized by a particular attractiveness (visual, economic, social, civil, environmental, etc.). The generation of "places" should be characterized by a network perspective, linking one place to many others.
   The adaptive reuse of cultural heritage should regenerate the **"spirit of the place"**, its **"intrinsic value"**, deduced (at least) from the perception place attachment, pride, co-ownership of the place.
6. The benefits of the adaptive reuse are economic, financial, environmental, social. However, **the real added value is intangible**. For example, it is represented by the generation of **relational goods**, by **the capacity to generate a community**. It is represented by the promotion of a **culture of cooperation, collaboration, complementarity**: of a culture of "us", of long-time horizon, etc. In this sense, the circular economy model proposed by CLIC is not only based on wastes an materials management, but it is much larger, including the cultural dimension. For example, the circular economy model that inspired CLIC is related to **industrial symbioses**, which is based on a complex relational system, and not only the recycling of materials, which is one important but limited technical aspect.
7. In the relational/reconnecting perspective in which to interpret the adaptive reuse, a fundamental importance is the **choice of new uses/functions** to be introduced. From the choice of functions, from their intensity and reciprocal combination, depends the new vitality of the heritage site and its capacity to generate virtuous circles, thus to **transform a site lacking vitality into an attractive/centripetal forces field**: a site characterized by the capacity to become an attractive "pole".
8. From the complexity of the adaptive reuse, it comes the necessity to develop specific **regulatory innovations to foster relationships and community building**. The Pacts of Collaboration (based on Italian Constitution art. 118) are the regulatory instrument to generate a "management community" of the heritage good, turning them from a public good (or private good) into a "common good". These "Pacts" are characterized by a culture of trust between the subjects involved (private, public, and "people"). The **circular governance of cultural heritage should foster trust**, which is based on transparency, truth, and responsibility. In this sense, the capacity of **critical analysis, discussion and evaluation** (opposed to the acceptance of the status quo) represents another element of **humanization of cities**, expressing the creative capacity of people and communities able to develop **dynamic, evolutionary co-evaluation**.
9. Finally, the adaptive reuse of cultural heritage should aim to generate **"beauty"**, also in line with the New European Bauhaus approach, as a great contribution to the humanization of cities. The quality of the physical and natural environment fosters a sense of interpersonal openness, reducing each person's potential for conflict with others, and thus promoting behaviours not of domination but of respect. Beauty is a useful entry point for other dimensions, including the ethical dimension.
10. In the dynamic-evolutionary perspective, the **circular business model** is characterized by its capacity to be in relationship with the context/society. Profit should be reinterpreted as **economic profit along with social profit, ecological profit, and also civil profit**. The enterprise is in relationship with the city (as in the experiences of Olivetti in Italy and Bat'a in

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Czech Republic) and shapes the environment. These spatial and multidimensional impacts should be recognized in the business model, opening to a multidimensional “profit and loss” balance of the economic activity, and also opening up a larger perspective of interrelation also with the third sector / social enterprise.

11. The **circular financial model** for cultural heritage adaptive reuse should be also grounded on the recognition of the impacts generated by the funded/financed project. Social and impact investors, as well as the public sector, already try to identify specific measures to assess the impacts of supported projects, “blending” social and financial return on the investment. However, in view of the EU Taxonomy and sustainable finance initiative at European level, all businesses and financial initiatives should ensure that social goals are reached through finance, and follow the principle of not only doing good, but also “do not harm”. Thus, the CLIC circular financing models focus on this perspective, highlighting the necessity of **assessing impacts** in the ex-ante, ongoing and ex-post phase of the investment. Finally, circular financing models are aimed to **re-generate financial resources** in the territory, avoiding places “consumption” from a financial point of view – by including diverse local stakeholders and co-investors, even enlarged to the entire community through hybrid models of community enterprise, community foundations, and community finance / crowdfunding.

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Annex A - CLIC Presentation to European Parliament (Luigi Fusco Girard, 2018)

Prof. Luigi Fusco Girard, CLIC Scientific Coordinator, was invited to talk at the High-level European Parliament Conference the 26th of June 2018 "Cultural heritage in Europe: linking past and future", on the future of European cultural heritage.

For which goals/objectives should we link past and future?

- For increasing tourism activities (with all interdependences)?
- For increasing the localization of new creative industries in cultural districts?
- For improving the wellbeing/well-living of inhabitants?

Which are the development processes that we are interested in?

Those related to sustainable tourism and cultural tourism, those related to creative activities and innovation. We are interested in the processes related to local development that enhance wellbeing, quality of life, well-living of communities.

But we are interested first of all to contribute to the HUMANIZATION of our cities/territories. This is foreseen in §26 of the New Urban Agenda of United Nations. This is the real challenge of our times in which the de-humanization is growing in our cities and territories.

With the CLIC project we aim to contribute to the "paradigm-shift" proposed in the United Nations Agenda 2030 for Sustainable Development (through Sustainable Development Goals) and in New Urban Agenda, towards the "humanization" of our cities (see paragraph 26). This is the real challenge of our time. In my opinion, this means in particular to contribute to:

- Regenerate the "connective infrastructure" of our city/society, going beyond the hyper-individualism and embracing interdependencies
- Regenerate community bonds, through regenerating the collective memory
- To help subject to move from I to US: to cooperate each other

The 2020 CLIC project is focused on the relationship between the adaptive reuse of cultural heritage and the processes of local sustainable development. This project has been funded by the European Commission under the Horizon 2020 Framework for Research and Innovation.

How do we think to realize this contribution? Enhancing and regenerating the "connective infrastructure" of our society through the strengthening, the celebration of our cultural memory. Thus, going beyond the production of economic wealth and trying to produce value also in the symbolic, cultural, spiritual dimension.

The CLIC project identifies three main fundamental reference points:

- Circular Economy
- Circular Cities and Regions
- Adaptive Reuse of Cultural Heritage

The Circular Economy is the co-evolutive economy, the economy of synergies, cooperation, collaboration, which is put in relationship with the circular city model and with cultural heritage, that have not been put in relationship before.

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The CLIC research project I coordinate in Naples, at the Institute for Research on Innovation and Services for Development of the National Research Council, puts together three different elements:

- The circular economy approach
- The circular city model
- The adaptive reuse of cultural heritage

in a triangle of reciprocal interdependence for linking past and future through the functional reuse of cultural heritage.

- **Circular economy**: is the economy of natural bio eco/system that reduces entropy, increases resilience and stimulates cooperation between components (it starts from the search of efficiency, but it is based and it stimulates cooperation / synergies). It is the economy of co-evolution, co-operation, co-ordination of actions for a common interest
- **Circular city**: it is the concept of city as a living complex dynamic circular system, cities able to self-organize, self-manage, self-govern themselves
- **Cultural Heritage**: it is the memory itself of the urban living system; it is the heart of the city, its identity conserved over the centuries

In which way we intend to create these relationships? Through the elaboration of innovative business, financing and governance models able to put together, in a reciprocal and circular flow of benefit, the three main players:

- The private sector, both the entrepreneurs and the owners
- The public sector
- The local community

So, the CLIC project is focused on the interdependence of these three components for the identification of:

- New business models
- New financing models
- New governance tools

for implementing the adaptive reuse of cultural heritage.

Solutions will be characterized by the search of “positive sum strategies” in which each of the players:

1. Private owners
2. Private entrepreneurs
3. Public bodies
4. Local communities

can gain reciprocal benefits, through win-win-win partnerships, agreements, pacts in which the tangible impacts are integrated with intangible ones (symbolic, cultural, spiritual).

But there is a problem.
We have often evoked here the local community. However, the truth is that local communities are more and more fragmented, atomized under the pressure of growing selfishnesses.

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We can see it in the associations, in politic parties, and in labor unions. We try to reduce this weakness, but too often the particular interests succeed over the common good of the city and society, over the general interest.
There is a growing risk of "entropy" crisis, very dangerous because it comes from inside and it is linked to the loss of sense and meaning, and direction that a society shall have.

In the same time, we recognize the growing role/importance of the local community. But we experiment each day the increasing weakness of the "connective infrastructure" of our society and cities, because of the growing fragmentation/atomisation of our society under the pressure of a growing individualistic culture, for example:

- In political parties
- In Associations
- In Labor Unions

More and more we see that particular interests are winning over the general city/society interest.

There is a serious risk also for sustaining by bottom up all new methods of governance, business, financing.

This opens an issue. That is not only a technical one (regarding participation processes, public arenas processes…) but it is a cultural issue that involves schools, mass media institutions, communication bodies, and not only Academia/Research institutions.
The new European Agenda for Culture (2018) invites us to new coordination efforts towards this "integrated cultural project".
The conservation of cultural heritage is a high formative exercise of critical knowledge because it obliges to distinguish, to put in relationships, to compare and then to prioritize. It can contribute to promote this cultural project.

The CLIC ambition is to be useful also in this socio-cultural perspective, regenerating not only economic tourism, wealth, values, a creating innovative activities – wellbeing conditions, helping the city mayors in their development strategies, but also the immaterial civic infrastructure of our cities for regenerating communities (the Heritage Community of the FARO Convention) through social memory celebration, cooperative values, responsibility, civic consciousness, public mindset.

New uses able to promote in the best way the "connective infrastructure" of our cities should be identified, taking into account the coherence of new use values with the "intrinsic" value of cultural heritage. These new uses are extremely important to regenerate the general conditions of economic development, as the economist Antonio Genovesi already suggested in his "Lessons of Civil Economy" (1765).

We think to link the research to what is useful and necessary for regional and local governments to contribute through cultural heritage to these processes of regeneration and development.

We find fundamental to regenerate the civil knowledge and wisdom, the "civic responsibility". "Civic Responsibility" is another principle evoked in the New Urban Agenda.

CLIC, together with some other H2020 researches, aims to demonstrate, through empirical evidence, the potential value of cultural heritage/landscape in the circular city model in terms of connections between:

- Memory and future
- Conservation and economic development

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- Short time and long time horizon for decision making processes
- Instrumental values and “independent of use” values (“intrinsic values”)
- Traditional and new technologies
- Needs of this generation and needs of future generations
- Inhabitants and places
- Public and private interest
- Scientific specialized knowledge and humanistic knowledge
- Creativity and responsibility
- The historic center and the city territory
- Cultural capital and natural capital

and how this potential can be concretely implemented towards closing the gap within the desirable (“humanistic”) vision and the status quo conditions – thus becoming useful for different decision makers.

The objective is to contribute to the regeneration of the European “connective infrastructure” that is more and more fragmented, through the creation of “heritage communities”.

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Annex B - The CLIC Horizon 2020 project: the general framework – internal working document (Luigi Fusco Girard, 2020)

The CLIC general framework was developed in draft form (working document) and shared with CLIC partners on 21 December 2020.

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Annex C - The evolutionary circular and human-centred city: Towards an ecological and humanistic “re-generation” of the current city governance (Luigi Fusco Girard, 2021, Human System Management journal)

The article is available at this link: https://content.iospress.com/articles/human-systems-management/hsm211218

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