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Workshop 04 Resource Networks in Existing Buildings
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“Don't waste” architecture.

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Architecture, called as an art of space creation and arrangement takes responsibility for that basic resource which is “space”. Arranged spaces are kinds of products with different influences such as fashion, attitudes, customs, demands, human factors and environmental impacts. Considering architecture, associated with space resources as a kind of consumers' market product and making a comparison to every-day used goods, which will be in the end any kind of garbage, we can introduce waste management rules to architectural design. We can use the “**3xR formula**” promoted as a sustainable waste management method. The “**3xR formula**” implies: reduce, reuse, and recycle.

Reduce: We should reduce the demand for new, urban spaces consuming existing natural one, energy and materials flows should be limited in the building sector. Designers should express things clearly and simply, therefore appropriate technologies use and stress on better maintenance practices could be the easiest tools to achieve waste minimisation primary level. Users active involvement is another method of conscious approach to sustainable resources management. Searching for more efficient system of materials, building and urban structures use, we should think about architecture dematerialization, where existed material products could be replaced with high quality, competitive services.

Reuse: Our wastes can be treated as valuable resources, we can reuse them as we can recuperate wasted energy or purify polluted water. Our natural resources as natural capital can be saved due existed building stock resources efficient use and management. Instead of constructing new buildings and structures, try to find existing ones to adopt for new functions. Multifunctional objects should be designed for easy repairs, dismantling or deconstruction. Architecture design should be a dynamic process-oriented rather than static, monumental objects projection. Designers should incorporate flexibility and open structures for often changing demands and wishes. Eco-labelling for building materials should be promoted to build up environmental awareness and responsible handling of existed resources.

Recycle: Appropriate waste management system can stimulate a second hand building materials market development with equivalent certification measures. Inventories of existing large urban structures and areas with a map of their resources recovery abilities should be an initial data to start recycling centres of building materials running. Integrated data distribution systems of offers from recycling centres and networking methods could improve mentioned market and open a new creative potential for environment friendly design.

The above mentioned "3xR formula" does not seem to be enough to achieve factor 4 or factor 10 assumptions in the economy of developed countries, mostly due to the style of consumption, deeply materialised culture and short perspective policy reflected in short perspective design. A revision of the formula should be considered thus necessitating new approaches to resources depletion and wastes minimisation. One proposal could be a new "**4xR formula**" implying "**RETH INK, REDUCE, REUSE, RECYCLE**". To execute the "3xR formula" successfully we have to add a first step to the gradation - **RETH INK** in waste management sector and in sustainable architecture as well as in urban design. Our attitude towards resources and especially towards wastes, as a part of resources should be changed. Following McDonough sentence "WASTE = FOOD" we can discover new, creative possibilities for "**free waste architecture**", based on renewable energy, natural, biodegradable building materials, recycled building structures, and the active participation of future users. We should create a new paradigm; think about existing building structures and on going cycles. Expanded Producers Responsibility (EPR) or product stewardship requires designers as marketing experts to build up a new aesthetic of re-circulation economy using existing resources (as much as possible) efficiently. Architecture is a part of that conservative culture. Generally, beside of designers group we should call for conservative society. Therefore contemporary design should focus on the creation of a dynamic process of living structures with the involvement of local society, harnessing their positive human energy in right direction, to show and renovate large existing urban spaces to good quality areas, with good living condition for our next generations.

Table 1. Don't litter your country, DON`T WASTE ARCHITECTURE

0	RETH INK	<ul style="list-style-type: none"> ▪ life style, ▪ demands, ▪ attitude, ▪ consumption level, 	<ul style="list-style-type: none"> ▪ circular system thinking against linear one, ▪ long term perspective design, ▪ spiritual background of design, ▪ eco – auditing,
		WHAT?subject	METHODS how to achieve
1	REDUCE	<ul style="list-style-type: none"> ▪ wastes and pollution, ▪ materials and products 	<ul style="list-style-type: none"> ▪ better maintenance practices (design for maintenance), ▪ dematerialization of products or architect-

		<ul style="list-style-type: none"> flow , energy, water consumption, demands for urban space , 	<ul style="list-style-type: none"> ture , simplicity, appropriate technologies , users involvement (participation design),
2	REUSE	<ul style="list-style-type: none"> wastes as resource , existed urban and building structures and spaces , water, energy (renewables), 	<ul style="list-style-type: none"> flexibility and open structures for changing demands , multi – functionality, mix – use , design for easy repairs, dismantling or deconstruction, building materials and objects eco – labeling, detailed inventory data of urban structures ,
3	RECYCLE	<ul style="list-style-type: none"> wastes as resource , existed urban and building structures and spaces , water, energy (renewables), 	<ul style="list-style-type: none"> recycling system planning, obligatory waste management plan, recycling centers introduction and second hand building materials development, networking – information exchange system , recyclable and biodegradable materials use , design for recycling,

The gap between architecture design and waste engineering should be filled up. Integrated system of resources management, including wastes management should be executed as a part of re-circulative economy. Architecture design should be an important part of that sustainable system, with designing for reuse, recycle, better maintenance or dematerialization ideas. We should based on a new paradigm and consider wastes as a part of our resources.

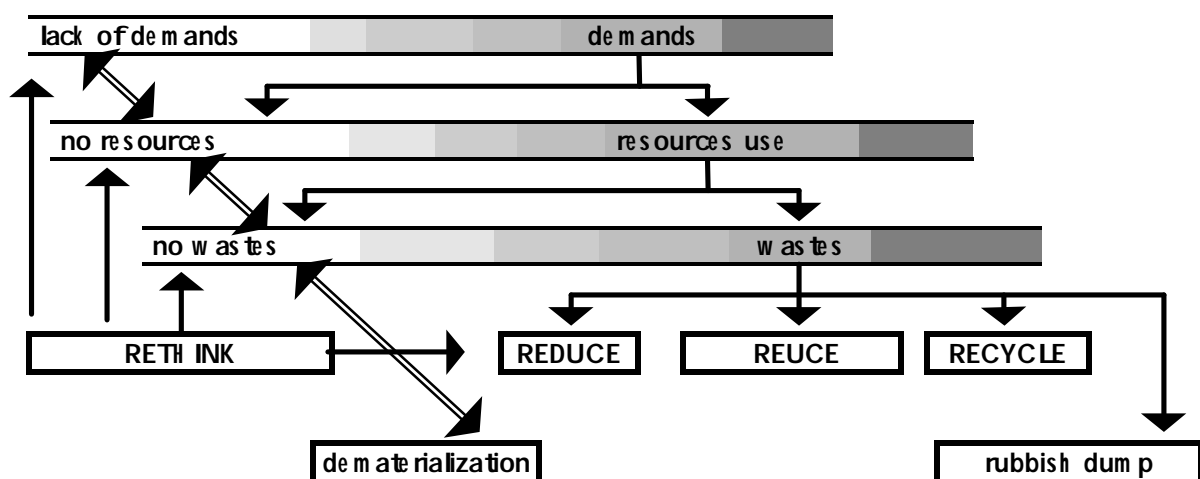


Figure 1. Demands imperative for waste generation.

Architects with their conscious design will change nowadays garbage main streams, choosing correct, environment friendly paths and solutions, based

on re-circulative economy and processes creation. To achieve these goals, first of all we should change our attitude to unwanted wastes and pollution. Our daily list of demands, wishes or style of living should be revised to reduce our environmental impact.

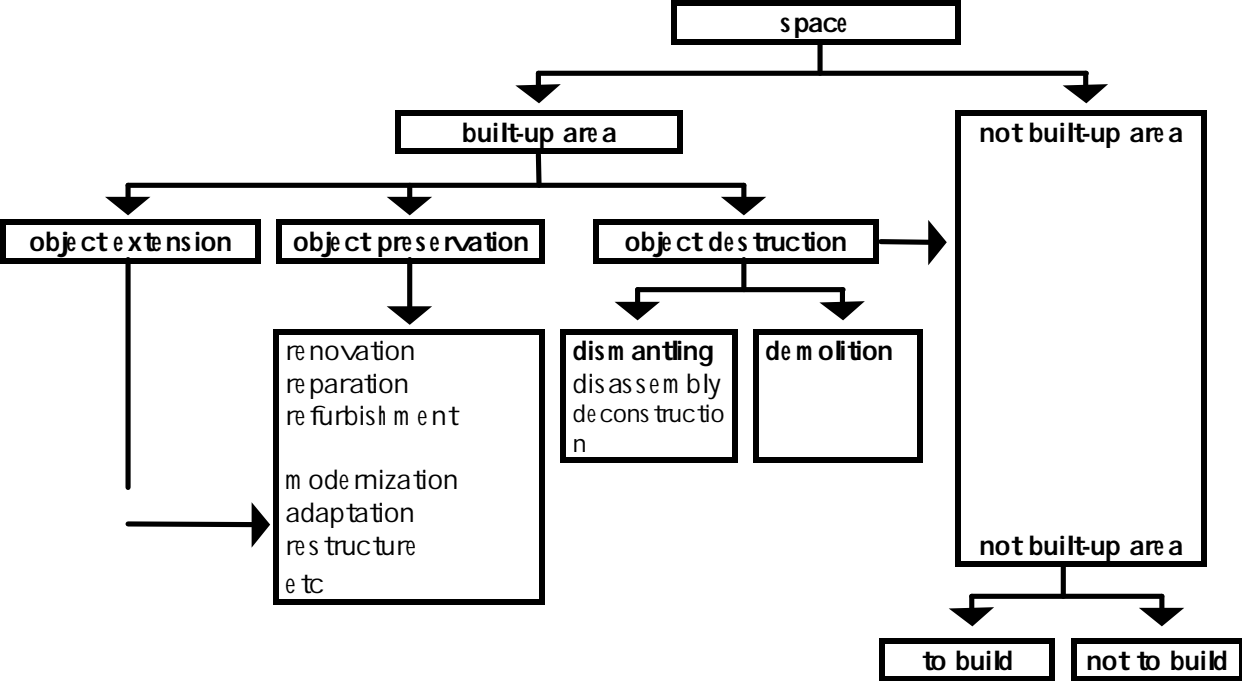


Figure 2. Space Use matrix in building waste generation context.

We should keep going towards “don’t waste” architecture cosmology taking care for our space resources. Building a sustainable future to achieve high quality of life, in fact we have to start with design.