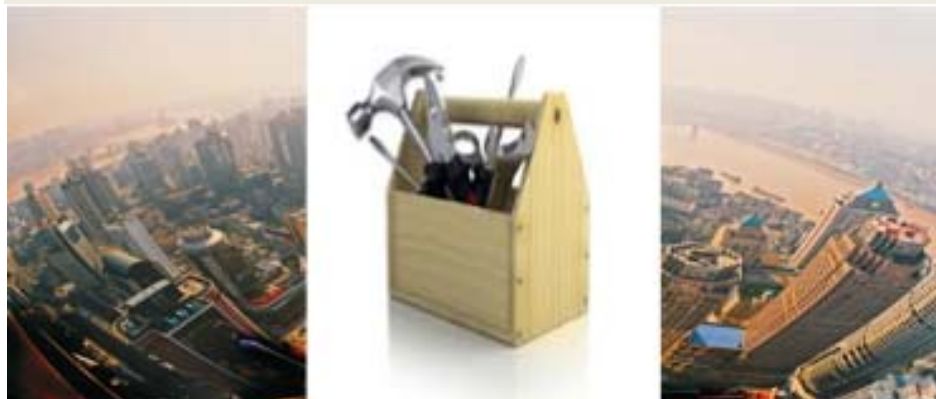
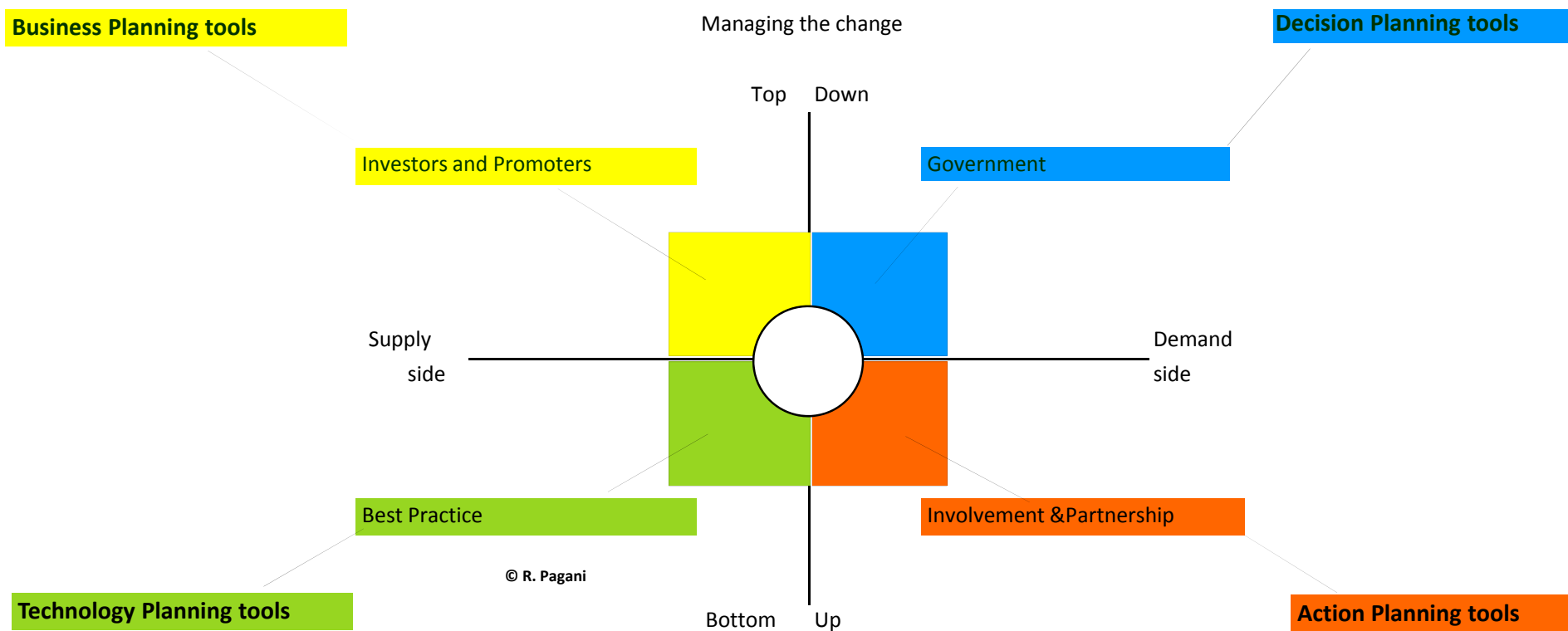











DEMO_ZONE_TOOLKIT



TECHNOLOGY PLANNING TOOLS 技术规划工具

Roberto Pagani



		Research		Demonstration				Dissemination			
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	Green P. Procurement										

There are many various kinds of Technology Planning Tools, in all sectors of technological decisions: building, industrial, transportation, energy, materials, equipment, etc.

在技术决策的各个部门中，从建筑、工业、交通到能源、材料基础配备等，技术规划工具呈现多样化。

Each sector has its own set of tools, from planning to design and implementation...

从规划设计到项目实施，每个部门都有各自的一套工具包。

We categorize and select those tools among many that are widely applied in energy demonstration projects...

我们选取能源示范项目中的的一些工具，然后对其进行分类和选择。

This Toolkit helps to improve the planning and design phase of urban regeneration processes

该工具包将支持和优化新型城镇建设进程中的规划与设计阶段。

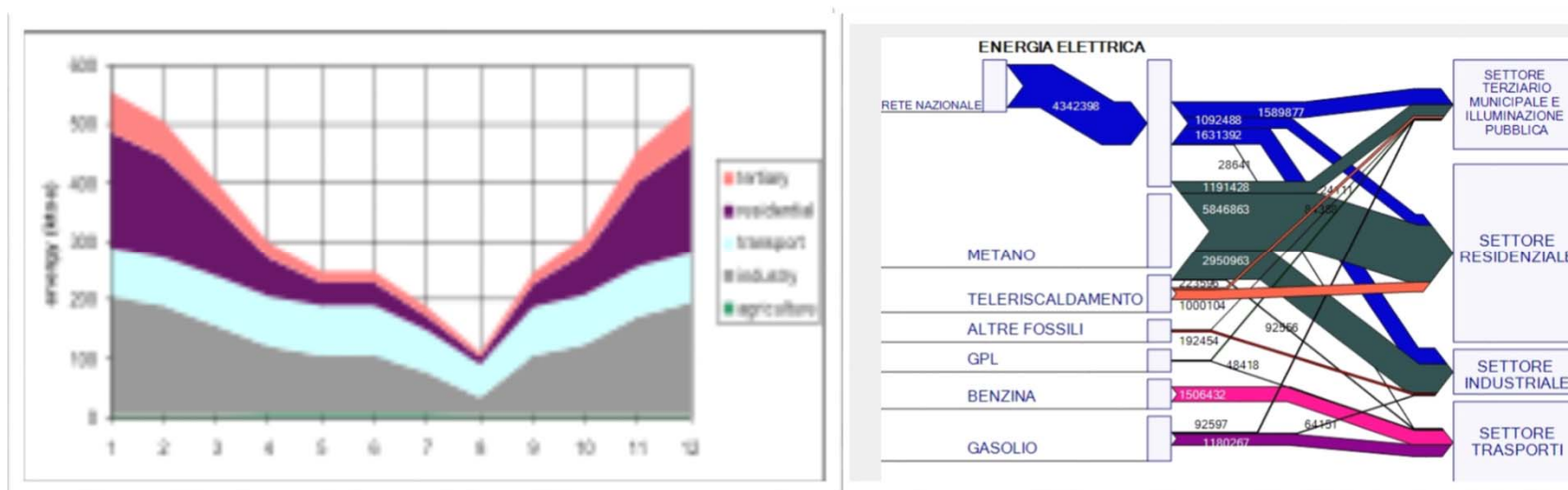
- energy balance on the city/district scale
- environmental assessment at the district/building level,
- multi-purpose tools for selection of best technological solutions, such as the “multi-criteria analysis”

- 城市/区规模下的能源均衡
- 区/建筑物规模下的环境评估
- 多功能工具包来支持选择最佳技术方案，如“多元标准分析法”

Tools can qualify and quantify the effectiveness of energy solutions; assess the environmental quality of selected eco-technologies; demonstrate the cost effectiveness of technologies in urban regeneration...

- 利用工具，对能源效率进行定性定量测定；对所选生态技术条件下的环境质量进行评估；对城镇革新过程中的成本效力、技术实践进行说明展示。

Energy Action Plan 能源行动计划



WHAT

The Energy Balance Tool aims at answering to the need for energy planning at the urban level.

It supports the evaluation and monitoring of the effects of cities' development from the energy point of view.

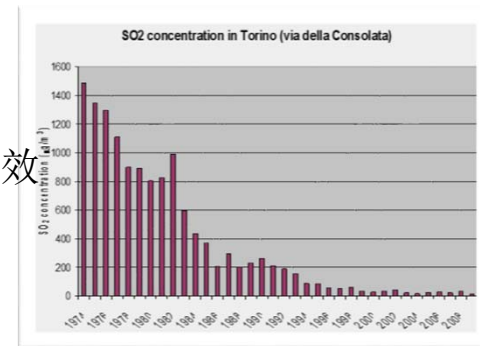
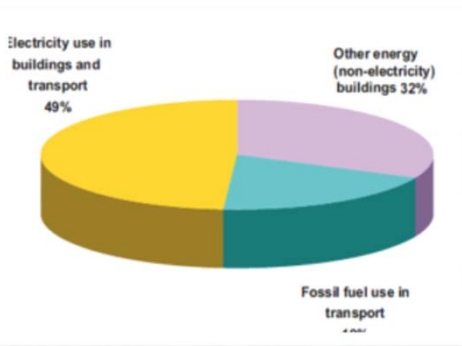
The specific objective of the tool is the organization of an information system on energy flows entering in the urban system and the final demand of the different sectors

是什么

能源均衡工具用于解决城镇层面的能源规划问题。

它从能源角度为城市发展成效的评估和监控提供支持。

该工具的具体目标是建立能源信息系统，全面展示进入城镇系统的能源流、不同部门（建筑、交通、工业）的最终需求量以及相关污染物排放量三者之间的关系。



Energy Action Plan 能源行动计划

HOW

1. Commitment of the local authority

2. Creation of adequate technical structure

3. Energy balance and baseline emission inventory

4. Sustainable energy action plan development

5. Action Plan implementation

6. Monitoring of actions

7. Feed-back on implementation plan

如何开展

1. 地方政府许可和委托

2. 精准的技术构建

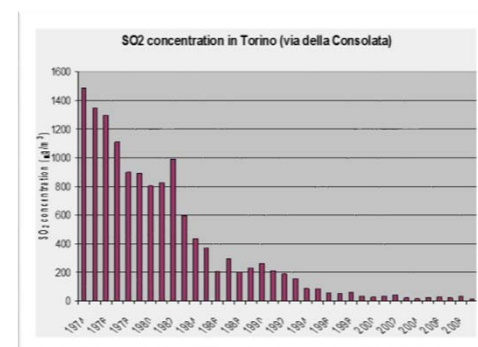
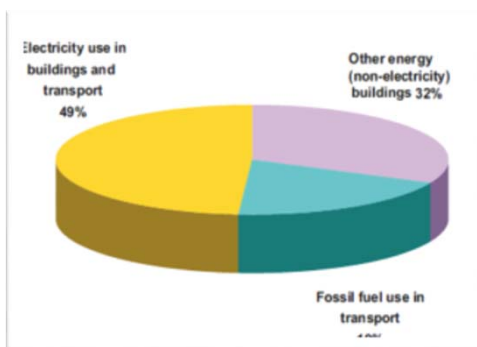
3. 能源均衡和基本排放清单

4. 可持续能源行动规划发展

5. 行动规划实施

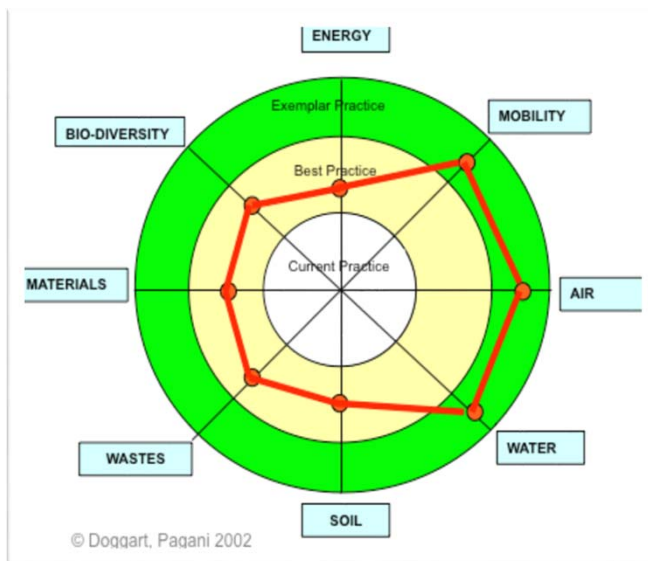
6. 行动监测

7. 实施规划反馈



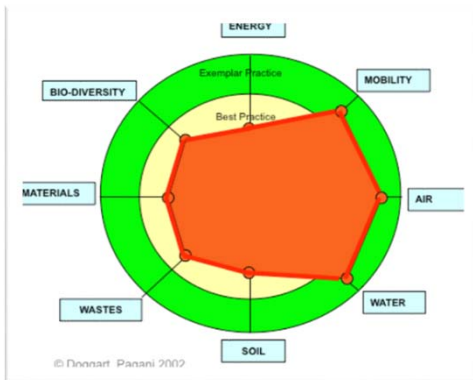
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Low Carbon Assessment 低碳评估



WHAT

Environmental Assessment Tools represent the indicators of environmental sustainability of an urban area, in order to check the potential improvements of projects.



The “Site Footprint” is based on estimating the level of performance for 8 different indicators: energy, mobility, air, water, waste, soil, materials and biodiversity.

These indicators are categorised into three different levels: current practice, good practice, exemplar practice.

是什么

环境评估工具包是指某城镇地区环境可持续性的一系列指标，用于检验项目改进的可能性。

“Site Footprint”以新型评估方法为基础，易预测，可复制。通过8项指标实现绩效水平的评测，分别是：能源，流动性，空气，水，污物，土壤，材料和生物多样性。



这些指标分为三层面：通用实践，优良实践和示范实践。

Low Carbon Assessment 低碳评估

HOW

based on a radial diagram organized in eight axes and three concentric levels, expressing respectively:

- a level of current practice
- a level of good practice
- a level of exemplary practice

The values of the indicators are positioned on different axes representative in relation to assessments made from a special "checklist"

Each ecological category is assessed based on a 0-1 scale.

Eight categories are:

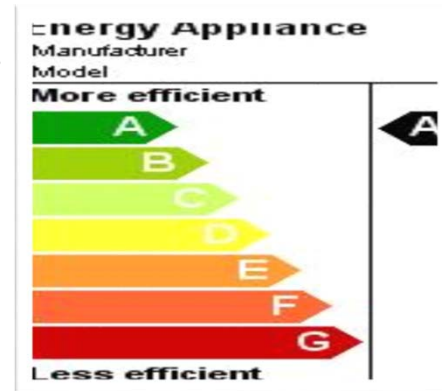
1. Energy
2. Mobility
3. Air
4. Water
5. Soil
6. Waste
7. Materials
8. Biodiversity

如何开展

由8条轴线，3个同心面构成的辐射状图表，分别用来表示：




- 一般通用实践
- 优良实践
- 示范性实践

通过特定核对清单的评估值，各指标值分列在不同轴线上。生态分类的评估值介于0-1之间。

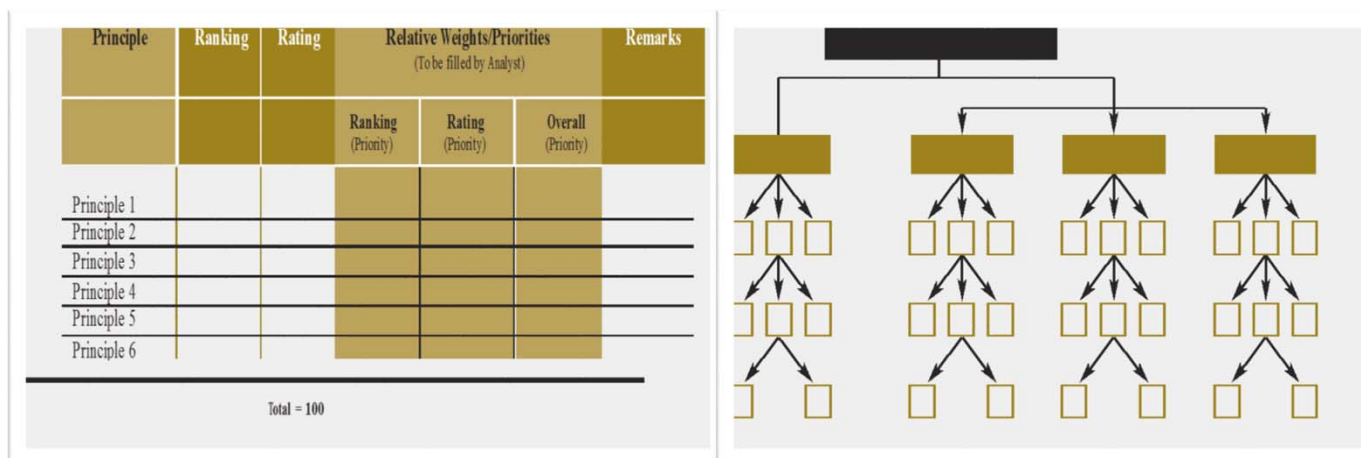


8项分类：

1. 能源
2. 流动性
3. 空气
4. 水
5. 土壤
6. 污物
7. 材料
8. 生态多样性

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Multi-criteria Analysis 多元标准分析



Multi-criteria Analysis 多元标准分析

WHAT

Multi-criteria analysis is undertaken to make a comparative assessment between alternative projects or heterogeneous solutions.

是什么

通过多元标准分析，对同类解决方案和替代性项目方案进行对比评估。

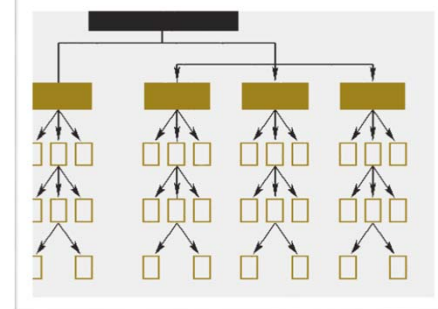
This tool can be of high importance in taking decisions, when the choices are driven by a multiple factors (technological as well as economic, environmental and social).

当选择项受到多方面因素影响（技术、经济、环境、社会）时，多元标准分析在决策制定中尤为重要。

It helps tackling in the decision-making process complex problems including qualitative and quantitative aspects.

在处理综合问题时，从多角度（包括定量定性评测角度）帮助制定决策。

PRINCIPLE	NAME	WGT	WEIGHTED WEIGHTED (Take Study Index)			SCORE
			Ranking (Party)	Rating (Party)	Overall (Party)	
Principle 1						
Principle 2						
Principle 3						
Principle 4						
Principle 5						
Principle 6						
Total = 100						



Multi-criteria Analysis 多元标准分析

HOW

如何进行

Step 1_ Establish an initial set of Criteria & Indicators

第1步_确立一套基本的标准&指标体系。

Step 2_ Expert Team examines the initial set

第2步_专家团体系检验。

Step 3_ Team gives individual judgments on each of the Principles

第3步_专家团就每项原则分别给出个人评判。

Step 4_ Team gives individual judgment on the Criteria under each Principle

第4步_专家团就每项原则下的具体标准给出个人评判。

Step 5_ Prioritise the Principles and Criteria according to their Relative Weights

第5步_根据原则标准所占权重对其进行先后排序。

Step 6_ eliminate those Principles and Criteria that are rated lower than the others.





第6步_删除排序靠后的原则标准。

Step 8_ Calculate the Relative Weights of each Indicator. Prioritise the Indicators according to their Relative Weights.

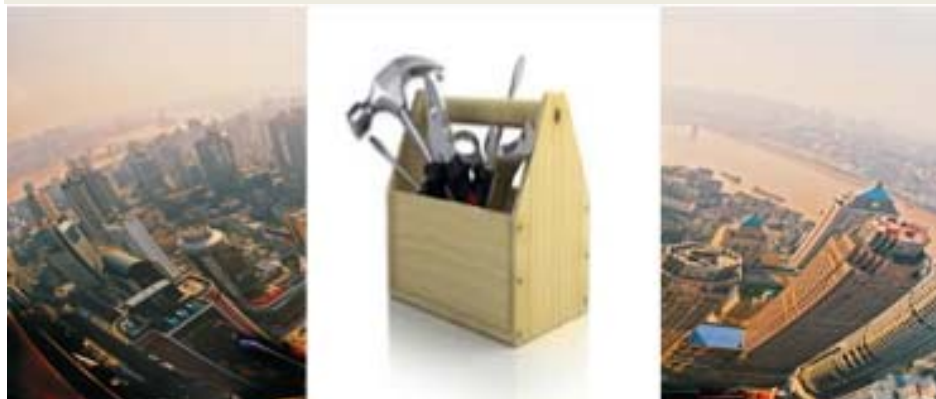
第7步_计算每项指标的权重，并以此为标准对指标就行先后排序。

Step 9_ Show final list to the Team. If the Team is satisfied, the Final List is identified.

第8步_向专家团提交展示最终体系。专家团无异议，体系确定。

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