

维也纳可持续性的住房建筑

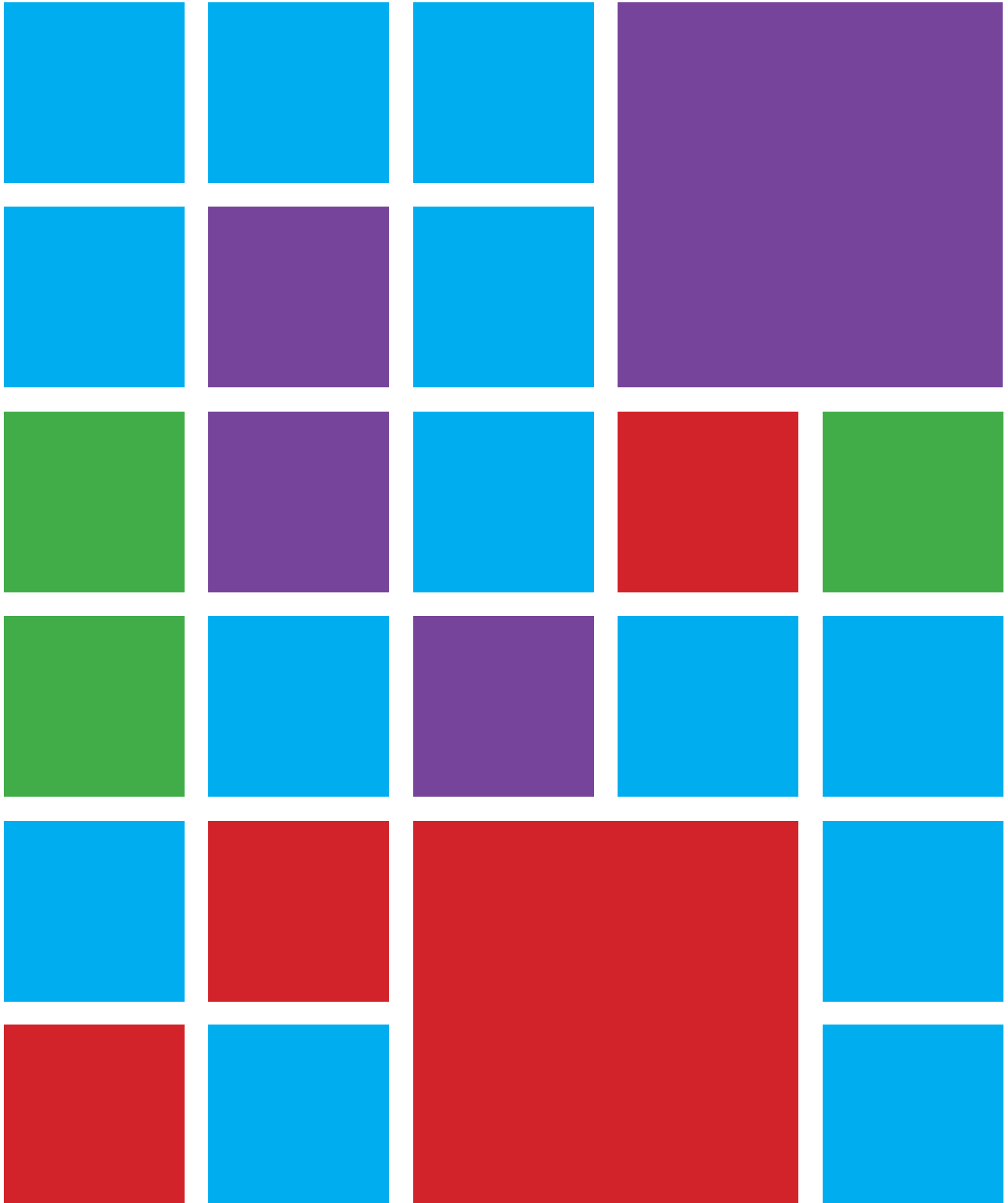
保证社会福利的环保建筑创新计划



UN-HABITAT Best Practices

Sustainable Housing Construction in Vienna

Innovative Programmes Secure Ecological and Social Living Standards for Subsidised Housing



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联合国人居署最佳范例

维也纳可持续性的住房建筑

保证社会福利的环保建筑创新计划

被联合国人居署评为最佳范例的原因在于建筑计划的创新、可持续性的发展、居民的积极参与等等。它集中了各个城市对共同问题的解决，包括廉价的、公正的、环保的建筑住房，同时也包括提高城市生活质量措施。

联合国人居署最佳范例维也纳办公室

UN-HABITAT Best Practices

Sustainable Housing Construction in Vienna

Innovative Programmes Secure Ecological and Social Living Standards for Subsidised Housing

UN-HABITAT Best Practices are programmes recognized by UN-HABITAT for their innovative, partnership and sustainability aspect. They provide urban solutions for pressing issues shared by many municipalities which are to meet the need for affordable, fair and ecological living space and come up with answers on how make our cities more sustainable and worth living in.

UN-HABITAT Best Practices Hub – Vienna



© Ludwig Schedl

维也纳作为一个生活质量非常优秀的世界古都，主要体现在住房建筑方面。她的住房政策在建筑空间现代化上充分反映了人文的需求，这就意味着维也纳市政府在考虑建筑环境保护和气候的同时，向市民提供可承受的住房价格。在充分满足市民需求、愿望的构想下，市政府规划并改造的建筑包括工业场区和旧兵营，另外还包括给一些对自行车独具钟情的市民提供特别的自行车区域。

维也纳的新建筑对环境保护作出了相当的贡献。近十年来，在《低能耗建筑》标准下，维也纳建造了大量的社会福利建筑。与此同时，我们积极地推广《被动式能源建筑》。现在，维也纳已经拥有世界上最多的被动式能源建筑和世界领先的有关专家。

Vienna is a metropolis boasting exceptional quality of life. This is due primarily to housing construction in the city which successfully manages to create modern living space cut to the needs of individuals but is nonetheless affordable and, what is more, helps to protect our climate and the environment. Housing policies in Vienna are not “simply” about raising living space. Apartments here are not built off the peg but instead bear witness to the needs and requirements of individual tenants. We offer a kaleidoscope of housing types, including special interest projects, such as the Bike City, as well as former military barracks or industrial premises put to new use as residential buildings.

New constructions are also instrumental in protecting our climate and the environment. Thus, low energy standards were established a minimum requirement for subsidised housing construction in Vienna more than ten years ago. Besides, we place special emphasis on

由于《恒温建筑更新》在旧建筑的维修过程中对环境气候保护起了非常重要的作用，所以毋庸置疑它被联合国人居署列为最佳范例。经过改建，近年来的空气污染和二氧化碳排放量都有明显的改善。例如仅仅在2006年就减少了23, 4万多的二氧化碳散发。

今天，维也纳在城市更新的许多方面都走上了新的台阶，软性城市更新就是一个很好的例子。它的宗旨在于：在保留旧建筑原有历史面貌的基础上加以更新并尽量避免大规模的居民迁移。近年来我们着重考虑整个小区的维修工程，包括公共绿化地带空间，从而使不同物业主的各类建筑都得到了根本的改变，而且改善了小区的环境和公共场所。

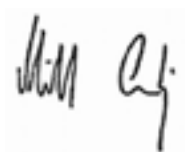
subsidising new zero energy or passive house projects. The City of Vienna already has the highest density of multi-storey passive houses worldwide and a number of leading experts in passive house technology to call its own.

Rehabilitation of old building stock constitutes a major contribution towards protecting our climate. THEWOSAN - Thermal Rehabilitation for Residential Buildings, also classified a Best Practice by UN-HABITAT, no doubt plays a leading role in this. Thanks to this method air pollutants and carbon dioxide have been markedly reduced in recent years, with CO₂ emissions down by more than 234,600 tons in 2006 alone.

The City of Vienna is indeed setting new courses in many areas. Among these Sustainable Urban Renewal is exemplary, constituting as it does a way to maintain the city and renovate historical building stock without having to relocate

我们非常荣幸在南京联合国世界城市论坛上有机会给大家介绍维也纳建筑改造工程计划，另外我们也带来了一些新建或改建的建筑样板供大家参考。我真挚地希望各位在方便的时候来维也纳实地考察。谢谢大家！

Dr. Michael Ludwig
维也纳市政建筑部门负责人



tenants, as is happening in many other cities. Main focus of urban renewal in Vienna in recent years has been shifted to rehabilitating entire building blocks. Thus, it is possible to establish concepts across several properties to improve individual houses and substantially raise the attraction of entire residential areas by adding new green and open space, amongst others.

Presenting these programmes and some of the housing estates created or rehabilitated in their course to a wide public at the World Urban Forum in Nanjing is perfect proof for the success of our housing policies. I would be delighted to see this presentation of housing in Vienna arousing people's interest in our city, allowing us to welcome even more guests in our beautiful city in the future.

Dr. Michael Ludwig
Executive City Councillor for Housing, Housing Construction and Urban Renewal

Property Developers Competition 建筑发展竞赛



联合国人居署最佳范例1998年及2008年

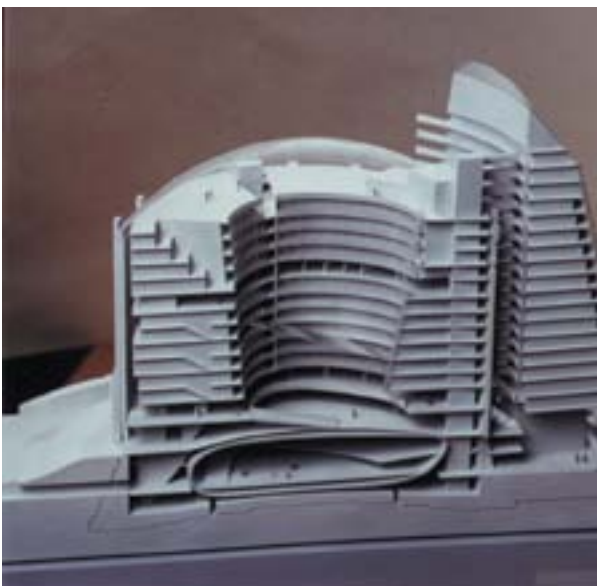
建筑发展竞赛的原则是提高社会福利住房的生活质量和环境保护。通过竞赛不仅在住房的各个方面提高了质量，而且降低了大规模住房的建筑成本。建筑发展竞赛充分证明了可以在市场经济的基础上给社会福利住房提供高标准的环境保护以及社会措施。



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Best Practice UN-HABITAT 1998 – Update 2008

Property developers competition means to place the principles of competition in the forefront in order to raise the environmental qualities of social and subsidized housing. The competition approach aims to reduce costs in large-scale multi-storey housing, while at the same time raising the living quality. Property Developers competition shows that high standard ecological and social solutions can be applied in subsidized and social housing on a market basis.



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竞赛方法

首先，维也纳市政府成立了专家工作小组，包括建筑师、建筑公司、城市更新和住房建筑部门、环境保护和社会学专家。工作小组规划了一系列的有关标准，并用它来评估不同建筑公司的工程计划。在评估建筑方案的同时，也着重考虑经济发展和环境保护方面的因素。环境保护和社会措施中重要的建筑信息部分包括：一，《被动式能源建筑》，二，考虑不同民族和原住民与外来人员的和谐相处，三，考虑照顾老人和残疾人员以及多代同居的问题，四，考虑如何更实用地使用建筑木材，五，加设阳台、电梯等等，六，充分考虑建筑工程中的排污问题。

Methods

The City of Vienna, in a working group consisting of City officials, the **wohnfonds_wien**-fund for housing construction and urban renewal, architects and environmental and social experts, has developed a set of key criteria, that have to be met by property developers in subsidized housing projects. In the assessment process, these criteria are taken into account to make a comparative assessment of the projects submitted.

In assessing a project equal weight is given to economic and ecological aspects adding to the planning and architectural aspects.

The key dates required concern ecological and environmental measures as well as social criteria.

They range from balconies to passive housing standards, from timber construction technology, to integration and the possibilities for assisted housing and multigenerational living, and also criteria for the environmentally sound organization of construction sites.

竞赛成效

到目前为止一共举办了139个工程项目的37次竞赛，而且评估了750工程计划，包括1995年至今的7,4万住房。所有的工程均达到《低能耗建筑》的标准，多半也达到了《被动式能源建筑》的标准。比如尽量使用太阳能和地下蓄能等自然能源，各栋楼房建筑的能源消耗都减少到百分之五十至百分之六十之间。如果在奥地利的全部建筑工程都使用前两个建筑标准，马上就可以达到《京都议定书》的预期目的（到2012年，将1990年原有的二氧化碳散发量减少百分之十三）。在实现前两个能源标准的同时，建筑发展竞赛使建筑工程成本降低或维持基本不变，平均每次竞赛所需7万欧元，它主要由维也纳城市住房建筑更新基金会提供。

Results

To date, 37 competitions were carried out for 139 sites. About 750 projects have been assessed. In total, the volume involved amounts to around 74,000 housing units since 1995. In all cases, so-called "Low Energy Standard", more often even "Passive House Standard" (a house producing its own energy), has been achieved, with individual water meters for each flat, and solar and thermal energy being used. The energy consumption of the single building has been reduced to 50-60 %. The energy reduction for heating would enable the country to achieve the Kyoto Target if a similar technology would be applied countrywide. While raising the energy standard costs have been reduced or kept at constant level for a very long period as a result of competition. The whole operational costs for the Property development competition were covered by the **wohnfonds_wien** - fund for housing construction and urban renewal. They were very reasonable, amounting to € 70,000.

THEWOSAN -Thermal Rehabilitation for Residential Buildings

恒温修建



Best Practice UN-Habitat 2002, updated 2006

Approximately 25% of all Viennese houses were built between 1945 and 1980. Main priority in those years was given to creating housing space as quickly and cost-efficiently as possible. Long-term durability, low-energy construction with emphasis on saving resources was only secondary.

Under current environmental circumstances and energy supplies it is necessary to re-insulate many of the post-war housing estates. The objective is to reduce carbon dioxides according to existing potentials.

When restoring post-war buildings, large part of the investment costs is equalized by subsequent savings in energy costs. THEWOSAN has been developed by the City of Vienna as part of the climate protection programme to achieve the objectives set out in the international climate agreements without incurring excessive costs.

Methods

To begin with, an information campaign in several languages was launched to win the approval of residents and owners. After all, they were to bear two thirds of the costs involved. The municipality of Vienna was to pay the remaining one third. Potential cost reductions, to be achieved by a substantial drop in energy consumption, were also advocated as an incentive for investment.

In late 2003 a tiered subsidy system was introduced with the results drawn from concomitant studies, provincial loans were granted to partly finance a vast number of rehabilitation projects. Additional grants are awarded for more extensive improvements to installation engineering. Calculations were made in accordance with prevailing technological and industrial standards. Further incentives for rehabilitation were established with the introduction of subsidies for improving individual living comfort in 2005.

Along with energy saving measures, the municipality of Vienna was also interested in avoiding hazardous building materials such as PVC or CFC's, as well as generally improving the housing situation for residents, e.g. by installing elevators.

Results

By the end of 2007 a total of 66,000 housing units covering a floor space of 4.4 million square meters were improved. 109,000 tons of carbon dioxide are now saved each year.

The project has had the additional valuable effect of generating jobs with an income volume of more than 2 billion Euro.

Adapting the subsidy system through external evaluations and experiences on the part of **wohnfonds_wien** has also significantly raised the number of private applications for subsidies.



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联合国人居署最佳范例2002年及2006年

维也纳百分之二十五的楼房建于1945年至1980年之间。当时主要的宗旨就是尽快建造大量廉价的普通住房，以后才慢慢重视长期耐用的、节省能源的建筑。在目前的环保和节能需求之下，必须把很多在第二次世界大战后建造的住房重新加上恒温材料，这样就会大量地减少二氧化碳的散发。

恒温修建是维也纳市政环保计划的一部分，修建战后楼房的大部分费用均在节能中得到了回报，它只需要较低的成本就能达到国际气候标准。

恒温修建方法

由于住户和房东须承担维修费用的三分之二，而剩下的部分由市政府负担，所以为了得到住户和房东的同意，首先开展了几种语言的宣传活动，其中着力提及了节能回报及其效果。

2003年年底在专门研究的基础下建立了阶层性的补助系统，而且在大规模的修建项目中政府贷款为其提供了相当一部分的资金。为了促进大

规模设备改良，政府还给予特别的津贴。所有的投资和津贴计算都采用了最新的经济和科技标准。从2005年开始政府还增加了住房现代化的补贴。

除了节能的目的之外，修建工程也包括改良住户的环境，比如安装电梯等等。此外维也纳政府也考虑到避免有害建筑材料在工程中的应用，像CFC的合成物和含有氯的PVC。

恒温修建结果

到了2007年年底修建并改造了占地440万平方米内的6万6千住房。二氧化碳的散发量每年减少至10,9万吨。另外此项目为社会也是提供了大量就业机会，参与此项目工作人员的总收入共超过了20亿欧元。

经过外部评估和维也纳住房基金系统的经验以及对恒温维修补贴的调整也使更多地私人住户乐意申请维修补贴。

Sustainable Urban Renewal 可持续性的城市更新

联合国人居署最佳范例1996年及2002年



基于面向未来的不断发展计划，维也纳在全球的城市更新已扮演着指导性的角色。《软性城市更新》的模式对改善维也纳人们的居住条件作出了相当的贡献。

像许多别的城市一样，维也纳市发展最大的问题集中于需要更新的旧城区内。维也纳市政府决定不拆除旧建筑，也不迫使居民迁移，反而在需要修建的区域使用一种接近居民的发展方式。这种计划从1984年一直沿用至今，而且随着时间的推移，环保和节省能源方面的措施被越来越重视。

更新方法

接近居民的建筑改建必须服从于软性城市更新的原则。建筑的基础需要全面修建，而且包括房东和居民分开承担责任，也包括居民参与决定和参加城市现代化的计划，还包括提供自愿迁移的机会和各种的补助金。祖私房和祖公房的居民都可以得到补助金，补助金额的发放按所需维修建筑的目前状况而定，租金保持15年不变。为了便于建筑修建和公共场所的更新以及与环保措施相连起来，计划还包括在相应的区域里设立服务中心。



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Best Practice UN-Habitat 1996 - 2002

The City of Vienna plays a leading role in urban renewal worldwide, based on a future-oriented, strategic continuing development. The model of "Urban Renewal" has made a significant contribution to improving living conditions in Vienna.

In Vienna, as in many cities, the greatest urban problems are concentrated in those city districts which are most in need of modernisation. The City of Vienna decided both against demolition and against the displacement or compulsory re-housing of those living in such areas. The areas in need of renovation were, instead, improved by applying the methodology of user-friendly housing redevelopment. The programme was begun in 1984 and is still being pursued today, with an increasing emphasis on ecological and energy-saving measures.

Methods

User-friendly housing redevelopment obeys the principles of sustainable urban renewal. Complete restoration of the base of buildings is the most important strategy in this process, involving as it does the division of responsibility between owners and residents, co-determination by those renting, modernisation according to the wishes of those renting, offers to convert and subsidies. The size of the grants is based on the existing standard of the housing in need of repair. Grants are available to those renting both publicly and privately. A fixed level of rent is planned to remain in force for 15 years. In addition, local support services are set up, in order to link plans for housing redevelopment with the transformation of public spaces and ecological measures.



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更新效果

- 到2008年中期:
超过了1,05万栋楼房已申请了修建补助。
- 在5千栋建筑里的22万6千的住房已经修建完毕。
- 投资总额: 大约81亿美元
- 政府投资: 54亿美元
- 不符合标准的住房从1984年的大约32万(占维也纳全部可居建筑的39%)减少到2008年的10万以下。

虽然维也纳政府负担的投资相当大,《软性城市更新》显然也可以应用在市政府不能负担大额投资的情况下。计划的第一部分可以分析现状,并且落实一些急救性的措施。《软性城市更新》对一个城市的经济影响已证明了它不但推动了建筑业,而且给各种小企业也提供了相当的机会。

转移更新经验

维也纳在东欧以及欧洲以外的城市更新方面时常起作顾问的作用。她的经验也可以应用于其他城市的区域更新和改造,最重要的因素就是让当地的居民积极参与。

Results

- until mid.2008: more than 10,500 buildings have been applied for renewal with public assistance.
- 5.000 buildings with 226,000 apartments were completed.
- total investments: approx. US \$ 8.10 billion for all buildings recommended for the program
- public investments: US \$ 5.40 billion
- "substandard" dwellings reduced from approx. 320,000 (39 % of the total Viennese housing stock) to less than 100,000 from 1984 to 2008

In spite of this significant public contribution "Sustainable Urban Renewal" can clearly be initiated even in cases where cities cannot invest such sums. A first phase can be used alongside "first aid" measures for situational analyses. Sustainable urban renewal has also proven to have an economic impact. It not only offers growth potential for the construction industry, but also opportunities for smaller businesses.

Transfers

Vienna has often undertaken consultancy work in this context for communities in Eastern Europe and outside Europe. The experience gained is applicable to other urban areas where redevelopment measures are being planned, with an emphasis on strong citizens' participation.

Ecological Block Renewal 环保小区更新



联合国人居署最佳范例2000年及2002年

私营投资参与城市发展规划的现象是近年来的一个重要的因素，政府部门可以运用这种逐年增长的势头，开发更多的公私合营工程。其中包括提供优惠合适的条件，鼓励私营企业家的积极参与。首先我们在一些小区里试建样板工程，在它的基础上可以发展更大的规模。而这些模式有助于私营企业资金的优惠使用，且加速了工程管理的简单化，并促使城市更新的增长率。

环保小区更新方式

小区更新的目的是把建筑的维修和不同物业主以及改进生活质量的措施连结起来。例如，将原来相对隔离的后院连接起来以更利于绿化发展。小区更新使用一些已见成效的方式，比如城市不扩展模式。管理更新工程的计划和落实应该有城市更新有关部门、建筑工程有关人员、物业主、住户共同参与。一个小区的改造工程时限不超过五年。

环保小区更新效果

环境保护的改进、市民的积极参与、以及新的公共交通计划和节能工程都是小区改造的实际效果。城市中心部分的建筑更新由于使用原有的能源和交通系统，与郊外的一些工程比较起来，其优势显而易见。

政府管理部门、私营企业和市民积极参与充分证明了小区改造的可行性



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© Bernart

Good Practice UN-Habitat 2000, Update 2002

A significant new factor in urban development is the increasing potential offered by private investors with their ability and readiness to participate. This can be used by public authorities in a growing orientation towards public-private partnerships. The framework conditions to facilitate this have to be put in place, increasingly drawing on commitment by the private sector to the objective of comprehensive urban renewal. An organizational model is to be developed and tested in practice, using a pilot project for selected individual blocks. This model should facilitate simplification and acceleration of administration and better use of private resources, thereby contributing to an increase in the efficiency of urban renewal.

Methods

The block redevelopment seeks to improve entire blocks with different owners by combining housing redevelopment with other measures to improve living conditions more generally. For example, courtyards can be merged to open

up the possibility of developing green spaces. Proven concepts such as the “short route town” are applied. The task of the block management is to implement a plan by involving all those affected, as well as the offices for policy and administration. Owners of buildings or companies as well as those renting are involved in the development process. The time-frame of the single projects is limited to a maximum of five years.

Results

Ecological improvements, the transfer of responsibilities to citizens, new transport plans and energy-saving projects are all positive effects of block redevelopment. Inner urban renewal minimizes high infrastructure costs, when compared with projects on the urban periphery, and represents an alternative to urban expansion.

Block redevelopment has proved to be a cross-departmental model of urban renewal, involving private actors and a broad participatory approach.



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THEWOSAN -Thermal Rehabilitation for Residential Buildings 恒温修建

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Sustainable Urban Renewal 可持续性的城市更新

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Ecological Block Renewal 环保小区更新

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