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Environmental Conflicts in Urban Regeneration Areas

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Key words: Environmental conflicts, urban regeneration, spatial planning, zoning, planning implementation, implementation tools, harbor redevelopment, neighbor interest, multifarious cities, sustainable development.

SUMMARY

Older industrial- and harbor areas are undergoing dramatic transformations these years due to several alterations in some basic structures in society; e.g. globalization resulting in moving-out of manpower intensive production to low pay regions, changes in the structure of transports resulting in more land-based freight and less shipping, amalgamation of industries and re-location due to new localization parameters. As the case may be, these structural alterations bring about more or less abandoned and worn-down areas. Typically, the areas are located centrally in the towns. With that, they hold a substantial need for redevelopment and revitalization from an urban planning and management point of view as well as a considerable development potential, as the areas generally offer an attractive possibility for building new housing, offices and other white-collar workplaces.

However, redevelopment of these older business areas faces great challenges; especially compared to urban (re)development in general. The property structure and ownerships are often complex and need re-composition to meet new land uses, the soil may be polluted from former activities implying large clearing costs, the areas may have a low accessibility due to their localization between other built-up areas, etc.

Besides these challenges, a particular challenge arise from the fact that the areas perhaps not are totally abandoned but still hold vigorous enterprises. Often the enterprises in question are old firms with a viable industrial production and no interest in moving out of the area. In such cases potential environmental conflicts can be foreseen between the ongoing enterprises and new sensitive land uses on adjacent sites. The obvious problem is how to secure proper environmental conditions for the new users and at the same time protect the existing firms and their economy. The problem can pose a decisive barrier to the redevelopment of partly abandoned and worn-down urban areas – putting off an urgent revitalization to an indefinite future.

The paper analyzes the problem through several cases. Furthermore, it describes the 2003 amendment to the Danish Planning Act which was just aimed at a solution to this problem. Finally, the paper in broad outline evaluates to what extent the amendment has eliminated this barrier to urban regeneration.

Environmental Conflicts in Urban Regeneration Areas

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1. INTRODUCTION

Traditionally, prevention and solution of environmental problems has been given different weight in different countries but has now become a substantial concern in most European countries as well as outside the EU (European Commission 1999, Altermann 2001). As the environmental impact of a certain activity may vary considerably depending on the siting, the localization of e.g. enterprises may in itself increase or reduce environmental impacts and problems. This may be the case in many different scales and respects, and several tools have been developed to handle such questions. Used the right way land use zoning can prevent and relieve a number of environmental problems but regarding urban regeneration areas this tool has some clear limits.

2. THE FUNDAMENTAL PROBLEM

The fundamental problem concerning handling and prevention of environmental conflicts in urban regeneration areas originates from the inhomogeneous character of the areas. Among other things the lack of homogeneity implies an irregular pace regarding the redevelopment conditions in the individual sub-areas which are difficult to cope with, not least due to the absence of adequate tools.

2.1 The zoning tool

A well-known planning tool is land use zoning. Amongst other things this tool is used to prevent and to some extent also solve¹ environmental problems. By designating plots to different land uses it is possible both to reduce the environmental impacts in general and to prevent local environmental conflicts arising from externalities affecting adjacent areas. Especially regarding the prevention of local environmental conflicts zoning has showed to be useful.²

Used the right way zoning in spatial plans has proved to be an effective tool to prevent local environmental conflicts in new urban areas. By separating sensitive land uses (e.g. housing) from land uses having an adverse impact on the environment prior to the actual development it is possible to avoid conflicts between different land uses, and through a detailed zoning it is furthermore possible to obtain a mixture of urban functions which otherwise might cause problems (Kjærdsdam 1992). For instance, it is possible to categorize enterprises according to their environmental impacts on the adjacent areas and then, through zoning, integrate the categories having the least adverse impact on the environment with sensitive land uses. Application of such categorizations in the land use zoning has proved to be a useful tool in the planning of new urban areas in Denmark.

Similarly, zoning is considered an adequate tool regarding large, connected redevelopment areas where all previous activities have stopped (or are planned stopped in a near future). In such cases the redevelopment area has – other things being equal (e.g. pre-existing soil pollution) – the same attributes regarding environmental issues as virgin urban areas have. Cases in point are the relocation of F. L. Smidt Industries' production of roof plates leaving a large site in the central part of Aalborg, Denmark (cf. Aalborg kommune 2005) or Carlsberg Inc.'s relocation of beer production from the central part of Copenhagen.

Also in existing urban areas zoning is considered a usable tool to manage environmental problems in the continuous alterations of urban areas as long as the areas as such are not expected to change its nature. For example, it is possible successively to change the mixture and ratio between housing and retail in downtown areas and this way prevent or relieve environmental conflicts.

However, preventing and solving environmental conflicts can be a hard challenge in some urban areas when the area is undergoing dramatic alterations in the land use on a gradual basis which may be the case in many urban regeneration areas. Older industrial- and harbor areas are undergoing dramatic transformations these years due to several changes in some basic structures in society. Typically, these areas are located centrally in the towns. With that, they hold a substantial need for redevelopment and revitalization from an urban planning and management point of view as well as a considerable development potential, as the areas generally offer an attractive possibility for building new housing, offices and other white-collar workplaces.

But often these areas are abandoned gradually and they may still hold vigorous enterprises. Such enterprises may have an emission of dust (e.g. feeding stuff companies) or noise that hasn't been problematic along with the use of the adjacent areas for industrial or harbor purposes, but the continued operation may be irreconcilable with future sensitive land uses as housing, offices etc. In such cases traditional land use zoning has been proved to be insufficient, as it at a glance can do nothing about the fundamental problem: a transformation of the areas aimed at the location of sensitive land use immediately adjacent to going enterprises having an adverse impact on the local environment.

2.2 Three different situations

The fundamental problem can be illustrated through three different examples. As the regeneration areas often are located centrally in the towns they are typically surrounded by built-up areas and existing infrastructure. In case of former harbor areas the water front will form a clear boundary of the area and likewise the other borders of the regeneration areas usually will be clearly fixed. Figuratively speaking the areas are cramped by a city that is eager to utilize the areas to new high-value purposes. This is illustrated in figure 1.

The situation illustrated in figure 1 holds reasonable possibilities to handle the transformation of the area. The going enterprise sited in the eastern part of the area has an adverse impact on the local environment (dust, noise, smell, vibrations), but outside a certain distance (indicated

by the dotted line) the permit limits are maintained and the remaining area can be reused for housing etc. In some situations the area usable for new purposes may be expandable by constructing a sound-absorbing barrier or by mandating sound insulation of new building close to the production site.

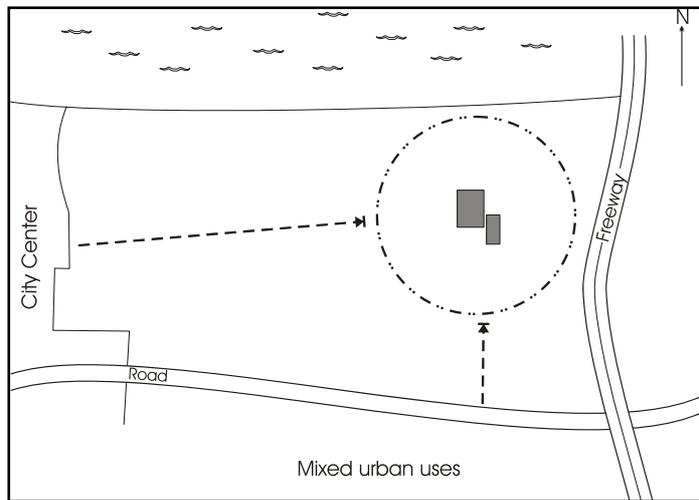


Figure 1: Reasonable possibilities.

A first fictitious example of an older harbor and industrial area in transition.

The area is surrounded by the waterfront (north), a freeway (east), mixed urban uses with high density (south) and the city center (west).

Most of the area is abandoned except the eastern part where a going company operates a vigorous production.

In some situations going enterprises are not located as convenient as illustrated in figure 1. For example, the production shown in figure 1 could be sited in the central part of the redevelopment area implying that the environmental impact area expands to both sides of the enterprise. If the company shown in figure 1 was sited this way, the situation would hold significant poorer transformation possibilities than the one illustrated in figure 1. The area located immediate adjacent to the city center would be reduced substantially and so would the total potential redevelopment area. Even if the eastern area not affected by the production is taken into consideration it may be difficult to plan for a coherent transformation of the whole regeneration area.

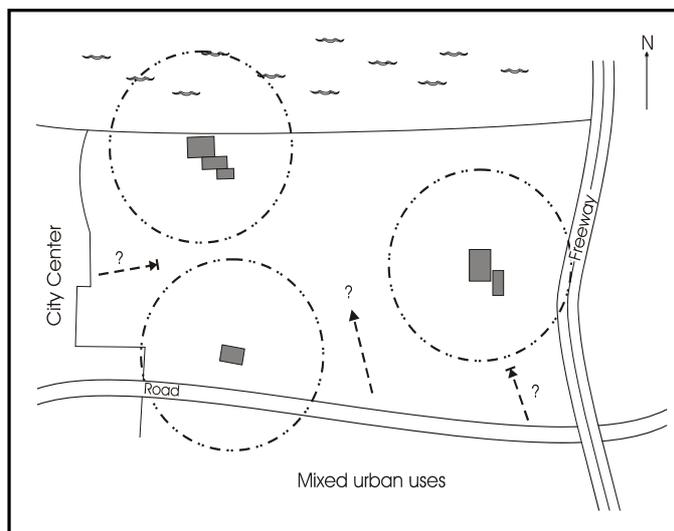


Figure 2: Almost no possibilities.

A third fictitious example of an older harbor and industrial area in transition. The area itself is the same as the one in figure 1, but in this example there are several going companies in the area.

Even if they separately and together only cover a minor part of the regeneration area they may have local environmental impacts on the total area making a transformation almost impossible.

In many cases a regeneration area holds several going enterprises. Even if these enterprises are relatively small and possibly covers only a minor part of the whole area their presence in

the area may imply severe restrictions on the remaining area; thus making a transformation almost completely hopeless. This is illustrated in figure 2.

As shown in figure 2 merely two or three going enterprises can make an urban regeneration very difficult. Although the production sites covers maybe only 10 or 20 percent of the total area they may discharge consequence areas far beyond the property boundaries implying that almost the whole regeneration area is exposed to environmental impacts originating from the enterprises. Despite their small portion of the total area these enterprises will cause severe restrictions to redevelopment of adjacent areas, making a transformation into sensitive land use almost impossible.

Notwithstanding the capability of land use zoning to prevent and solve environmental conflicts in other contexts, zoning can do very little to the problems in urban regeneration areas. The zoning tool is a proactive one presupposing that the mixture of land uses can be laid down in advance to major developments. By these means future environmental conflicts can be avoided. In the case of urban regeneration areas, however, the task typically is to begin a transformation to sensitive land uses concurrently with the continued operation of ongoing companies.

Hence, the fundamental problem can be put this way: Transforming older harbor- and industrial areas, how can the local environmental conditions for new sensitive land uses be secured at the same time as enterprises remaining in the area are protected?

Protection of remaining enterprises can be essential for both (local) political reasons and economic ones. Tightened environmental regulations caused by new sensitive land uses on adjacent areas can be very expensive and may even be impossible to satisfy for the company. The consequences may be a closure of a vigorous production or a costly relocation.

3. ENVIRONMENTAL CONFLICTS AS BARRIERS IN PRACTICE

Multiple evidences can be given that the handling of environmental issues causes problems in connection with the planning of urban regeneration areas, at least in Denmark. Possibly, the problems in particular are present in middle size towns (which most Danish towns are); big enough to hold complex transformation areas but not so big that the single regeneration area in itself holds a broad range of solutions to planning problems.

Below two cases are presented. The first case concerns the transformation of a former ship-building yard in Aalborg (approx. 125.000 inhabitants) where the municipality performed great planning efforts to handle the environmental impacts from industries surrounding the area. The size of the concerned area is approx. 124.500 sqm. The second case concerns the transformation of the Harbor of Odense (approx. 150.000 inhabitants) where environmental impacts from some ongoing companies in the area have caused severe problems in the regeneration process. The size of the concerned area is approx. 50.000 sqm.

3.1 The Case of Aalborg

The city of Aalborg is originally founded in the thirteenth century by a 'natural harbor' at a narrowing of the Limfjorden inlet, and this location has had a decisive importance to the development of the town until a few decades ago. Until the late 1990'ies the entire waterfront was dominated by industry- and harbor enterprises, i.a. shipbuilding, trade, heavy industry and a power plant. The waterfront has been under transition for the last decade or two but still a lot of the previous enterprises are located in the area.

The area concerned (Aalborg kommune 2003) forms a part of a former shipbuilding yard and it only makes up a minor part of the total waterfront area. The remainder of the shipbuilding area is utilized for industrial productions, primary in former shipyard buildings. The regeneration area (approx. 124.500 sqm.) is abandoned and it is the part of the former shipbuilding site located closest to the city center. However, a number of enterprises (i.a. feeding stuff companies) separate the area from the city center further west. On the north side the inlet is situated, and east and south-east a number of major industries are located. The areas to the south contain an older neighborhood dominated by housing blocks, cf. figure 3. That is, the area is cramped between going industries in the east-west direction.

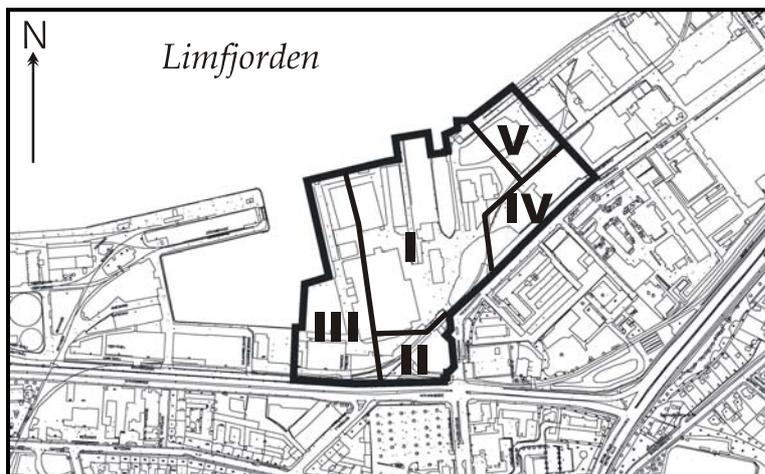


Figure 3: The Case of Aalborg.
(Scale 1:10.000)

The map shows the area covered by the binding local plan and the sub-areas zoned for different purposes.

Sub-area III is a buffer zone with no building possibilities.

Sub-areas I, II and IV are zoned for mixed urban uses, housing not included.

Sub-area V is the area 'leftover' for housing.

The planning for the waterfront's transition was commenced in the middle of the 1990'ies. Several planning documents were prepared to clarify the overall terms and objectives of the transformation process and to determine a master plan for the transformation. Regarding the case area, the municipality didn't plan an imminent regeneration, but in 2001 a private developer company was set up with the object of initiating a redevelopment of the area. The developer company owned the area and wanted to use it for offices and residential buildings. The municipality agreed to provide a binding local plan regulating the future layout and use of the area. However, the municipality did not want to force the going companies on the adjacent areas out but to adapt the future land use to presence of these.

The adaptation to the adjacent land uses influenced the local plan in a very decisive way. The feeding stuff companies west of the area had an emission of dust and smell implying a 100 meter wide buffer zone covering the western part of the area where building was prohibited,

cf. figure 3 (sub-area III). As the national permit limits regarding dust and smell are independent of the land use, it wasn't possible to fit in any buildings in this area.

The industries to the east and south-east as well as the feeding stuff companies to the west all belong to the so-called environmental class 5 or 6, meaning that sensitive land uses (housing) not should be located within a distance of 150-300 meters. The national (guiding) permit limits regarding noise from industry are 50/45/40/dB (day/evening/night) measured outdoor in housing areas versus 60/60/60/dB in business areas. As a part of the planning the municipality performed specific noise measurements of the impacts on the regeneration area.

The impact of dust, smell and noise from surrounding industries implied that only a small part of the area located to the north-east was zoned for housing, cf. figure 3 (sub-area V). The remaining area (sub-areas I, II and IV) was zoned for "mixed urban uses" (offices, public and private service, shops etc., housing not included). Hence, the housing area was located as an "island" most remote with respect to the city center and existing urban areas.

3.2 The Case of Odense

The harbor of Odense City is situated at the end of an approx. 7 kilometers long canal lengthening Odense Fjord (an inlet) to the city of Odense. The canal was first deployed in 1806 and has since then been deepened and straightened several times. The harbor has been expanded in the period as well, now comprising three basins and an area of approx. 3.8 square kilometers. From holding transportation uses only the area first developed into a mixed harbor- and industry area over the years, but due to the development of the shipping industry a new terminal built in 1992 closer to the sea has taken over most of the shipping traffic. Left over is an area holding large and minor industries in the heart of Odense City, most of them with no contemporary connection to the water. Almost all the land was owned by the Harbor Company implying that the companies in the area are renters with lease contracts expiring 2006 through 2027. In 2003 the municipality bought much of the land from the Harbor Company.

Because of the central location in the town the entire harbor area holds a considerable and attractive development potential from a municipal as well as a private point of view (Odense kommune 2002). In 1994 the municipality published a booklet with a view to initiate a debate on the future development of the harbor area. Against this background and the work of some external consultants the municipal council adopted a long term strategy plan for the harbor in 2000. The strategy plan was transposed into the municipal structure plan the same year and has subsequently served as the basis for several spatial plans; e.g. municipal structure plans, binding local plans, urban regeneration plans etc. Coincident with the adoption of the strategy plan several developer companies stated interests in building offices in the inner harbor area, but at the same time they called for assurance that the entire area would be developed into an attractive area.

The overall objective of the strategy is to develop the harbor area into "a new and attractive town district focused on a maritime urban environment" (Odense kommune 2002, p.1)³. According to the strategy plan, this objective shall be achieved through redevelopment of al

ready released areas in the inner (southern) part of the harbor (phase 1) and a step by step development of the areas holding going enterprises (phase 2 and 3). As a development into housing would necessitate too extensive environmental requirements to the surrounding activities the future land use in the inner harbor area was planned primary to be offices, retail and private service. However, despite this consideration in the strategy plan the municipality has all the time had a desire to locate housing in this area (Odense kommune 2002, p. 9).

As mentioned, the inner harbor was planned to be redeveloped as phase 1. The redevelopment area (approx. 50.000 sqm.) comprised in the first binding local plan (Odense kommune 2002, cf. figure 4) was surrounded by going enterprises most of them with an environmental approval and a lease contract expiring around 2020. In the center of the area a going enterprise – an engineering workshop – was located with a lease contract expiring in 2021. This company had an environmental approval implying i.a. a permit limit regarding noise on 60/60/60/dB (day/evening/night).

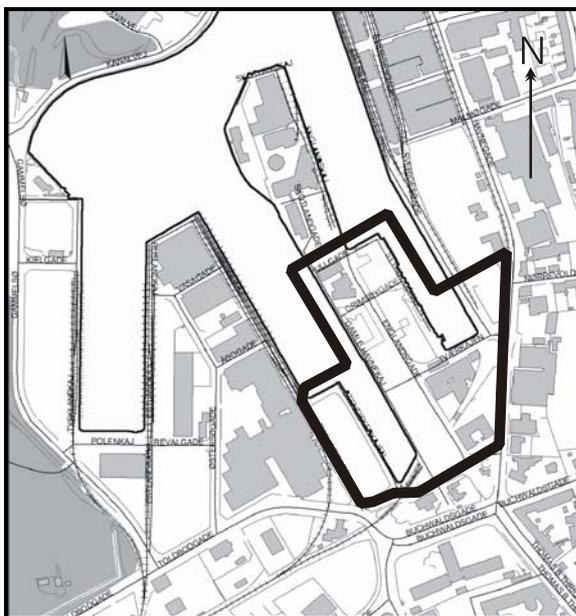


Figure 4: The Case of Odense
(Scale 1:10.000)

The map shows the area covered by the first binding local plan (Binding Local Plan no. 1-586, 2002) Most of the area is abandoned except the central part where a vigorous engineering workshop. The area is surrounded by going enterprises west, north, east and south.

Despite a number of favorable circumstances the location between going enterprises has implied a troublesome redevelopment process. These circumstances can be summarized as:

- the greater part of the inner harbor was abandoned,
- a considerable development potential existed due to the central location less than one kilometer from the downtown area and great amenities attached by virtue of the water,
- a clear municipal commitment and clear objectives for the area was provided,
- continued planning efforts resulting in several planning documents, and
- most of the companies were prepared to move out in the future due to overall development and the time-limited lease contracts.

The fundamental problem constitutes a dilemma between on the one hand prevention of environmental conflicts (especially noise) between the going companies outside and inside the

area and the new land uses, and on the other hand avoidance of delaying the redevelopment until 2020 where the municipality as the landowner has the option of denying an extension of the lease contracts. Postponing the commencement of the regeneration would imply that the area would be more and more abandoned and become more and more dilapidated.

During the period since 2000 the going enterprises surrounding the inner harbor increasingly have read the writing on the wall and most of them have as a consequence speeded the relocation process, more or less obliging (cf. e.g. *Månedsmagasinet Erhverv/Vest* 2004, p. 16). One could say that these enterprises have adapted to the municipality's strong commitment to the redevelopment.

Regarding the engineering workshop located inside the area it has from the beginning been clear that it stood in the way of the municipal plans. The company was established at Odense harbor in 1912 and was at the time for the adoption of the strategy plan a vigorous company. However, the sequence of events has given rise to a hostile relation between the company owner and the municipality. In the binding local plan adopted in 2003 the municipality stated that "the company must be expected to be forced to give way for future environmental sensitive building" (Odense kommune 2003, p. 11), but apparently the municipality did not wish to help the company to move out and this way provide an assurance of continued working, e.g. by entering into a covenant with the owner about moving out in return of economic compensation or by use of compulsory purchase, despite a statutory basis for this opportunity is provided in the Planning Act and the criteria attached (cf. Sørensen and Aunsborg 2006, section 2.2.2) are considered met. During the development of the inner harbor the company has been located in a building site surrounded by fences and building activities implying difficult access and impossibilities to use the company's lathe-type devices for more than a year due to vibrations originating from pile works.

3.3 Summary of the Cases

In both cases the handling of environmental conflicts has posed serious challenges to the regeneration process. In the Aalborg case all the ongoing enterprises were located outside the regeneration area and the municipality did not want to force these enterprises out. But in virtue of their environmental impacts across the area border they influenced the future land use and the layout of the area in a very decisive way.

In the Odense case ongoing enterprises were located outside as well as inside the regeneration area implying severe problems to the redevelopment process. On the one hand the handling of environmental conflicts originating from especially noise problems has been troublesome to the municipality implying an irregular planning and implementation process. On the other hand the situation for the going enterprises is not happy either, many of them feeling compelled to push up a relocation of their activities, and one of them seriously confined regarding the future development.

The type of problems discovered in these and many other cases have brought about an amendment to the Danish Planning Act, extending the zoning tool to comprise a possibility to zone for special "urban regeneration areas".

4. THE DANISH SOLUTION: NEW TOOLS IN SPATIAL PLANNING

In 2003 the Danish Parliament adopted an amendment to the Planning Act (Act no. 440, 2003) aiming to improve the possibilities to transform older industry- and harbor areas into new town districts with a mixture of housing and businesses compatible with housing. The amendment was provided on the basis of a committee work, two workshops held by The Ministry of Housing and The Ministry of the Environment, and a national review of the volume of potential regeneration areas, etc.

In the review of potential regeneration areas it was considered that areas mature for redevelopment made up approx. 27 square kilometers equivalent to 6-8 percent of the total built up business area in the country. Furthermore, the review considered that this proportion will remain steady as new areas over time will enter into this category.

4.1 The Work and Recommendations of the ‘Urban Policy Committee’

The Urban Policy Committee was established in 1999 by the Minister of Housing. Participants in the committee were representatives from the municipalities, counties and ministries and participants appointed by the Minister in person. The mandate had a broad objective as it was to discover barriers to a favorable business development as specified by the government in the so-called Urban Policy Statement (Statement R13 1998-1999). The statement defines ‘urban policy’ as systemic policies comprising business conditions, social conditions, building- and housing conditions, conditions relating to urban planning, traffic, environment, energy supply, culture etc. The objective of the urban policy is, referring to the statement, to ensure consistency among the different urban interests and to provide the setting for a sustainable development – economically, commercially, socially and environmentally.

The committee report (Report no. 1397) notices that the internationalization intensifies the inter-municipal competition for attracting companies and their employees. The report points to the fact that old business- and infrastructure areas on the one hand often appear worn down with a bad image and on the other hand represent an opportunity to develop a more multifarious urban environment complying with companies’ and employees’ requests; that is, an opportunity to develop integrated, multifaceted and living cities. The report also point to the fact that a regeneration of these areas holds the potential to contribute to a sustainable development by restraining the area necessary for urban growth and in this way contribute to more compact cities entailing a decrease in the need for transportation by car. However, the report emphasizes as well that such redevelopments carry a risk of increased environmental impacts within limited areas.

In the report, several barriers are identified concerning revitalization, most of them posing economic and other kinds of uncertainty regarding the possibilities of future land use:

- the areas are not released completely and at the same time,
- the areas possibly hold soil pollution to a considerable but unknown extent,
- noise emitted from works may be a barrier to future mixed land use,
- complex conditions regarding property structure and land ownership,
- difficult transportation conditions and bad accessibility.

The report analyzes the present possibilities and means to meet these challenges along with other tasks prompted by the urban policy. On this background, the committee submitted a number of suggestions. In the present context the following suggestions are considered of most relevance:

- provision of statutory authority to assign ‘special urban regeneration zones’ and to set up regeneration companies to operate in these zones. Furthermore, provision of one or more financial pools at the national level to cover economic losses for these companies if such losses occur in connection with the regeneration,
- provision of statutory authority to impose the costs connected with infrastructure investments on the investors, using uniform rules,
- preparation of guidance notes on the handling of noise problems (originating from traffic as well as companies),
- considerations concerning how to accept a minor, temporary non-conformance with the maximum permissible values regarding noise in the regeneration zones until the regeneration is completed,
- extension of the possibility given in the Planning Act to establish provisions regarding the sequential order for putting new urban land into use. The committee suggests that this possibility is extended to cover transformation of land use in existing urban areas.

As it appears some of the suggestions are directly related to spatial planning and environmental matters whereas others affect financial, fiscal and company law issues. The suggestions related to spatial planning and environmental matters formed part of the basis for the amendment to the Planning Act pertaining to urban regeneration.

4.2 The Amendment to the Planning Act

The amendment to the Planning Act was passed by the Parliament in 2003. The Act was amended at six points in total, of which four are of major importance in this context while the remaining two points relate to the possibility to set up homeowner’s associations in urban regeneration areas and a requirement that public access to the waterfront must be secured when harbor areas are transformed.

Firstly, a statutory authority was provided to zone special urban regeneration areas in the municipal structure plans, where ... “...*the use of buildings and unbuilt areas for business- and harbor purposes or the like shall be altered into housing-, institutional-, shopping area-, recreational- or business purposes compatible with housing*”. Compared to the development of new urban areas the transformation of existing urban areas poses greater implementation difficulties. On this background, the reason for special regeneration zones is that it this way is possible to attach some special-purpose tools to such zones. The provision covers a broad range of land uses regarding the previous as well as the future use. From the explanatory notes it is clear that the essential criterion for the zoning is that the area is in the process of transformation and that the previous land use has either stopped or some of the companies have moved out and parts of the area are no longer in use. Furthermore, it is clear that the time horizon for the transformation is presupposed to be about eight years. In contrast, neither the previous nor the future land use signifies severe criterions. And as it appears, avoidance of environmental conflicts between housing and business makes up a manifest motive.

Secondly, the provisions make requirements to the way an urban regeneration zone is delimited. The regeneration zone must be delimited in a way so ... “... *it only covers an area where business-, harbor- or the like activities having an adverse impact on the environment have either stopped or are winding down in a predominant part of the area*”. This provision holds an elaboration of the amendment mentioned above as it specifies that the area must be mature for a transformation due to an actual decommissioning. Besides, the provision stresses the temporary nature of the urban regeneration zones as it determines ‘an earliest starting time’ for the zoning of a specific area. However, this determination is not quite clear as it use the term “a predominant part of the area” which is an elastic provision. Similarly the term “winding down” may give rise to some uncertainty regarding the interpretation.

Thirdly, the amendment provides an extension of the existing possibility to establish provisions regarding the sequential order for putting new urban land into use. The amendment extends this provision to cover the transformation order in the urban regeneration zones, too.

Fourthly, several additions were made to the statutory provisions concerning binding local planning. In these additions the essential provisions with regard to a new special-purpose tool are found. The tool is establishment of a transition period having duration of up to eight years. Ordinarily, it is only allowed to assign noise exposed areas to noise sensitive purposes in a binding local plan if it at the same time is possible to protect the future use against noise nuisance in the plan through requirements securing noise screening etc. This ordinary provision implies that a certain distance has to be kept between noise sensitive and noise emitting land uses, thus protecting both parties. The law amendment implies that in the transition period this ordinary provision is cancelled and non-conformance with the maximum permissible values regarding noise is allowed in the regeneration zones.

However, it is precondition that the municipal council can say for a fact that the noise exposure is brought to an end within a period not materially exceeding eight years. Furthermore it is required that the binding local plan presents a statement on *how* the termination of the noise exposure is secured within this period. Furthermore, if this statement presupposes noise suppression in going enterprises an additional statement is required. This additional statement

must show the basis for the assessment of each company and the data must wherever possible be provided in a dialogue with the enterprises.

Overall, the amendment to the Planning Act has brought a possibility to commence redevelopments even though it is not possible to solve existing noise problems immediately. Solution of noise conflicts between land uses is allowed postponed for up to approximately eight years. According to the Planning Act the municipal council is the guarantor of compliance with this deadline.

5. ZONING OF URBAN REGENERATION AREAS – TO SOME EXTENT AN USABLE TOOL

By supplementing the zoning toolbox with the possibility to zone urban regeneration areas as specific zones and by attaching special instruments to these zones some of the environmental problems related to these areas seems solved. It must be considered an undoubted advantage that the municipalities now have at their disposal an option to set a concurrence of moving out of and moving into the area. Further, a transition period of eight years must be considered reasonable from a municipal- as well as a previous and a new land user point of view.

However, the elasticity in the condition regarding the delimitation of the areas may give rise to problems in the future as it allows the municipalities to zone areas holding one or a few vigorous enterprises not taking up a 'predominant part of the area'. At least this requires that the municipality has the capacity to accomplish successful negotiations with the owners of the remaining enterprises. Also the precondition that the municipal council can say for a fact that the noise exposure is brought to an end within the transitions period must be considered holding embedded potential problems.

Despite the extension of the zoning toolbox some problems regarding regeneration areas continue to exist. First, because the extension only softens the fundamental problem discussed in section 2.2 – it does not solve it fundamentally. In the case of Odense the vigorous engineering workshop had no plans to move out of the area within the next eight years, maybe even not within the next eighteen years (the expiration time of the lease contract). Second, because this softening covers noise problems only. Other local environmental impacts are not comprised. For example, the new tools can do nothing to the problems discovered in the case of Aalborg. Third, a number of barriers and problems to the regeneration process pointed out by the Urban Policy Committee still remain unresolved, among other things funding problems and problems originating in complex condition regarding property structure and land ownership. (Solutions to these problems are elaborated further in Sørensen and Aunsborg 2006.)

Zoning of urban regeneration areas makes up an excellent and usable tool and a step in the right direction, but alone it must be considered insufficient to prevent or solve any environmental conflict in urban regeneration areas.

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NOTES

¹ Particular neighbor disputes and private nuisances are solved through civil law.

² In the last decades zoning has been supplemented by new tools focusing on the environmental matter in a more direct way, including the EIA- (Environmental Impact Assessment) and SEA- (Strategic Environmental As-

essment) procedures (cf. i.a. Jones et. al. (eds.) 2005). However, these new tools aim to assess the environmental consequences of different planning solutions and this way make a contribution to the decision process, but they don't contribute to the subsequent implementation of the selected solution.

³ The area has been subject to continued planning efforts resulting in several statutory as well as non-statutory planning documents since 2000, e.g. strategy plans, municipal structure plans, transformation plans and binding local plans. The present case presentation draws on these plans but for the reasons of space limitations the relations among them are not elaborated in the presentation and neither is the relation between the plans and (changes in) the legislative basis.