22 STIMULATING THE RE-USE OF DURABLE GOODS

22.1 Description of Policy

The aim of the policy is to encourage the re-use of furniture as much as possible instead of households discarding it, and in particular, before a bulky waste collection takes material for disposal. To achieve this aim the local communities would receive the right of a "first call" upon used furniture. The local authorities could then exercise this right either on their own, or to those working on their behalf.
A central information system would need to be set up - preferably at the local community level - functioning as the central contact point for citizens as well as second-hand stores, craftsperson, etc, who repair and sell furniture. Used furniture should be collected from private households, separately, before the furniture is dismantled, and placed in front of the house. It would be selected according to re-usability with or without being repaired, and delivered to community owned or private second-hand stores, if they are not entitled to collect the furniture on their own. That does not mean that charity or collections of local second-hand stores would be forbidden. On the contrary, they should be encouraged to extend their work, but they should be integrated in a central information system.
The policy of "first call" should be supplemented by:

- A free of charge collection for those households who want to discard used furniture;
- Information for households through waste information leaflets, covering, amongst other things, the concept of "furniture re-use", and the details of the local contact point. This could be enhanced by a directory for used products in the internet and/or as print-version; and
- Potentially, targets for the collection and supply of re-usable furniture for the local authority.

Further policy aims are:

- The lack of knowledge regarding opportunities for re-use, and the awareness that used furniture is a valuable good, would be improved amongst possible discarders, collectors and buyers of used furniture; and
- The policy could influence the social and economic situation in a city in many ways, e.g. improving the situation for local craftspeople, repairing furniture can help create jobs for people (particularly by community sector initiatives) and, last but not least, the initiative could enable citizens to acquire furniture of good quality at reasonable prices.

The policy should focus on used furniture (not antiquities) but can be extended to other product groups, e.g. used clothes or electronic equipment.

22.2 Rationale

CIPFA reports bulky waste collections in 2001/02 (England only) as being 2.7% of total household waste arisings, amounting to 621,050 tonnes. The figure varies between 1.4% for all non-metropolitan districts combined, and 5.0% for all metropolitan districts combined. This is equivalent to 15.8 kg/hh/yr and 59.8

kg/hh/yr respectively.[352] Reuse currently prevents approximately 85,000 tonnes of material from going to disposal, representing some 2 million items[353]. This is equal to a recovery rate of 12%. A stock of used furniture is retained in households, increasing the potential for re-use in the future.
A trend to stylish furniture enhances the pressure on the waste generation and could hinder the re-use of furniture:

- Low quality (faceplate/cardboard instead of massive wood)
- Trendy (form, colour, material, surface)
- Cheap and short product life

The Problems of second-hand furniture can be described as following:

- Having a bad reputation
- Facing insufficient market-mechanism (warranty for the furniture)
- Cause logistical problems as transport and storage costs
- Are more likely to be disposed of instead of re-used

The co-operation of different actors, esp. local authority, households and second-hand shops concerning the value of used furniture and its "safe" collection (not to be further spoilt due to unprofessional dismantling or transport) throughout the UK is low. There are several big cities with functioning projects to solve the above-mentioned problems. Experts are of the opinion that easy to find contact points for used furniture in the local communities are necessary to foster professional structures (see the project of the city of Augsburg).[354]

22.3 Scenario Development

The amount of recoverable material present in bulky waste is a key factor in determining potential diversion rates. Table 84 shows approximate proportions of material estimated to be reusable.

Table 84. Estimated Recovery Rates of Bulky Items by Type

Type of Bulky Item	Proportion Reusable
Hard Furniture: e.g. chair, table, chest of drawers, bookcase, cupboard, shelves, sideboard etc.	49%
Soft Furniture: e.g. bed, sofa, armchair, mattress etc	31%
Other Furnishings: e.g. carpets, underlay, bath, sink, toilet etc	18%
General: e.g. bike, ironing board, seesaw, duvet, roof felt, ladder etc.	49%

[352] Network Recycling (2005). *Bulky Waste Collections: Maximising Re-use & Recycling. A step-by-step guide*. Report for Defra

[353] http://www.frn.org.uk/default.asp

[354] Bayrisches Landesamt für Umweltschutz, Nachhaltigkeitsstrategien im Gebrauchtmöbelsektor, (Fachtagung Augsburg 23.1.2007), Augsburg 2007, http://www.lfu.bayern.de.

Large WEEE: e.g. cooker, washing machine, fridge, tumble dryer, dishwasher etc.	30%
Other WEEE: e.g. lawnmower, record player, TV, video, computer, fan etc.	36%

Source: Network Recycling (2005). *Bulky Waste Collections: Maximising Re-use & Recycling. A step-by-step guide*. Report for Defra

The proportion of each of these materials in the waste stream is subject to substantial variation. Waste Analysis data suggests that by weight WEEE makes up approximately ¾ of bulky waste[355]. Overall the figures suggest that at least one third of bulky goods material is potentially reusable[356].

For the design of the scenario we have made the following assumptions (see

Table 85):

- For both scenarios: Increase of the total amount of disposed furniture (main part of bulky waste) of 1% per year.
- Scenario 1: 5% waste prevention by re-use of furniture (constant).[357]
- Scenario 2: 12% waste prevention by enhanced re-use from 2015 (Cp. the City of Hagen) and 18% until 2025[358]

Table 85: Furniture Re-use Under Modelled Scenarios

Scenarios	Additional re-used furniture Year 2008	Additional re-used furniture Year 2015	Additional re-used furniture Year 2025
Scenario 1:	31,400	33,600	37,100
Scenario 2: Enhanced Re-use	75,300	80,700	133,700

The comparison of both scenarios shows that, if 18% furniture re-use is implemented in all UK municipalities, the waste prevention in the year 2025 could account for a significant amount of furniture not disposed (approx. 134.000 t/per year). It should

[355] Parfitt (2002) *Analysis of household waste composition and factors driving waste increases*. WRAP

[356] This figure was confirmed as a reasonable estimate via personal communication with Jon Rolls, ReZolve.

[357] The average rate of re-used furniture in Germany, see: Bayrisches Landesamt für Umweltschutz, Nachhaltigkeitsstrategien im Gebrauchtmöbelsektor (Fachtagung Augsburg 23.1.2007), Augsburg 2007.

[358] So far the city of Hagen (200.000 citizens) has a re-use rate for furniture of 12% which represents the best re-use-rate in Germany. It is estimated that a re-use rate of 18% is the maximum achievable rate in Germany, see FN 1, Bayrisches Landesamt für Umweltschutz, 2007. Cp. Personal Interview with Werner Baumann, INFU, University of Dortmund, January 2007.

be noted that this is in addition to existing levels of recovery for reuse (estimated to be approximately 85,000 tonnes).
For the rest of the furniture that cannot be re-used the recycling of the material components should be optimized (e.g. secondary fuels instead of waste incineration where appropriate) as the second best option.

22.4 Environmental Impacts of the Policy

The environmental impacts of the re-use of furniture concentrate on the reduction of resources used for the manufacturing of new furniture. Table 86 shows the main components of furniture in Europe.[359]

Table 86: Main Components of Furniture in Europe

Material	Composition
Wood	60.0%
Metal	11.9%
Plastics	5.9%
Fittings	5.4%
PU foams	4.0%
Fabrics/textiles	3.4%
Glass	2.0%
Rubber	0.7%
Others	6.7%

Furthermore enhancing the lifetime of furniture will reduce the pressure on the waste sector.
If this composition is applied to the tonnage of material expected to be diverted from disposal through reuse the following tonnages result:

Material	Estimated Tonnes
Wood	20,057
Metal	3,978
Plastics	1,972
Fittings	1,805
PU foams	1,337
Fabrics/textiles	1,137
Glass	669
Rubber	234
Others	2,240

In addition some 100,000 tonnes of metal could be potentially diverted through reuse of WEEE.

[359] Cp.: European Furniture Manufacturers Federation (UEA) co-funded by the European Commission, Furniture waste and its treatment, http://www.ueanet.com/furniturewaste/.

22.5 Economic Impact of the Policy

For the establishment of local contact points for re-used furniture it is estimated that only few costs will occur for the local government concerning the administration and ongoing operational costs of such a contact point (one to two persons, an office). The costs for the implementation of the network (building up a network of local charity organisations, handcrafts, charity shops and waste authorities) as well as the dissemination of information on the contact point and the network will cause non-recurring costs.

Households will clearly benefit from an improvement of the re-use of furniture. If the waste collection is cost-free households can profit from possible reductions in waste charges due to decreasing amounts of waste being discarded. Poorer households will profit from such a service in two ways: saving waste disposal costs and to afford furniture at lower prices.

The competition with existing private collection systems (e.g. charity collections) for durable goods are possible and should be avoided through integrating them in a network of local companies with a central information point run by the local government.

22.6 Social Impacts

The enhancement of the re-use system for furniture will support local handcraft (e.g. repairing furniture) and create jobs in the second-hand market. In the case of the local initiative “Möbel&Mehr” (City of Hagen and City of Iserlohn) over 200 unemployed citizens got jobs in the service system.[360] That shows the job potential of local re-use systems being established throughout the country.

In the UK the furniture re-use sector

- employs around 3,000 staff
- provides training for over 5,000 trainees
- supports and occupies over 8,000 volunteers
- helps around ½ million low income households [361]

If the number of personnel in the industry is pro-rated relative to the tonnage of material collected and extra 134,000 tonnes requiring handling and processing would suggest creation of an additional 4700 jobs, 7,800 trainee positions, and 12,600 volunteer opportunities in the sector.

22.7 Implementation & Design Issues

The policy to enhance re-use of durable goods has the potential to address a wide range of consumers groups. To reach ambitious re-use targets the social acceptability of used furniture must be raised in order to improve the general image of used goods like furniture.

The following issues are important to implement a large-scale re-use system:

- The size of the second-hand warehouse must be large enough to be attractive (comparable to normal warehouses).[362]

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360 see FN 1, Bayrisches Landesamt für Umweltschutz, 2007.

361 http://www.frn.org.uk/

362 In the case of the City of Hagen the warehouse has 4.500 square meters, see FN 1, Bayrisches Landesamt für Umweltschutz, 2007.

- Enough staff to ensure good quality and presentation of the displayed goods.
- Minimization of risks concerning the warranty for used products
- High logistic capacities to acquire and deliver used furniture
- Used furniture must be cheaper than comparable new products
- Marketing for the second-hand warehouse plays an important role, especially when entering the market
- Partnerships with other second-hand warehouses to tackle demands and surpluses concerning single products are necessary to guarantee a consumer friendly service system
- Internal quality standards for used furniture concerning pollutants in the furniture (used products) should be obeyed.

22.8 Other Impacts

With the re-use system the risks that valuable furniture in good shape will be discarded is reduced.

22.9 Summary & Conclusions

Enhancing the re-use of durable goods and thus improving the structure of the local market will strengthen the idea of sustainability in all its three dimensions. There are a couple of very positive examples in German Cities which prove that with intelligent re-use systems the re-use rate for furniture can increase remarkably. Following a scenario with nation-wide re-use systems the amount of bulky waste can be reduced considerably and valuable resources can be saved.
The implementation of the policy will have to take place on the local level and does not need a complicated and time-consuming legislation process (e.g. on an EU or national level). Mainly a clear strategy and a good management are necessary to successfully implement the policy.