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Short version

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Concepts for the removal of legal barriers to climate protection in Germany's buildings sector
Short version

by

Veit Bürger
Andreas Hermann
Friedhelm Keimeyer
Christoph Brunn

with contributions from
David Haus
Joanna Menge

Öko-Institut e.V., Institut für angewandte Ökologie, Berlin, Germany

Stefan Klinski

Hochschule für Wirtschaft und Recht, Berlin, Germany

On behalf of the German Federal Environment Agency

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Study performed by: Öko-Institut e.V., Institute for Applied Ecology
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10179 Berlin, Germany

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Wörlitzer Platz 1
06844 Dessau-Roßlau
Germany
Phone: +49-340-2103-0
Fax: +49-340-2103 2285
Email: info@umweltbundesamt.de
Internet: http://www.umweltbundesamt.de
http://fuer-mensch-und-umwelt.de/

Edited by: Section I 1.3 Environmental Law
Monika Ollig

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1 Objective and background

1.1 Introduction – The need for additional instruments

One of the foremost declared goals of German climate protection policy is the intention to make Germany's building stock almost entirely carbon-neutral by 2050. This goal has not been underpinned by regulatory instruments up to now. The existing legal conditions – at the heart of which are the German Energy Saving Ordinance (EnEV) and the German Renewable Energy Heat Act (EEWärmeG) – only address the building stock in a few places and do not include far-reaching requirements. The success rate of the energy refurbishment of buildings up to now is essentially the result of the initiative of building owners and of financial incentives provided by governmental support programs (in particular the KfW promotional bank).

The governmental support programs are not sufficient in their previous layout and volume of support to carry an overall strategy geared to the long term. The annual energy refurbishment rate needs to more than double to 2 % of the building stock and be to a very high standard (which must go beyond the current minimum requirements of the German EnEV for new buildings for 2050). In addition the question always arises with such support programs as to whether the financial basis is sufficient and reliable. Up to now the support activities of the German government have been shaped by the typical incalculabilities of instruments based on public budgets (fluctuating funds, changing conditions, exhaustion of funds, dependence on day-to-day political realities). These have led to substantial uncertainties for building owners in the past.

1.2 Objective of the analysis

The aim of the analysis is to determine what legally feasible and effective instruments can be used to give building owners a sufficient financial incentive to implement (particularly) ambitious energy refurbishment measures, without making the functionality of the incentive dependent on the incalculabilities of public budgets.

1.3 Range of instruments

The analysis attempts to take into account the whole range of possible instruments. Given the stated goal of making the instruments as independent of public budgets as possible and avoiding the associated incalculabilities, it would have been conceivable to limit the analysis from the start to instruments not based on public budgets. However, narrowing the focus in this way would lose sight of the fact that it is not impossible to circumvent the typical disadvantages of public-budget-based support in other ways. From the perspective of building owners, a typical disadvantage is the lack of reliability of support programs that are not legally safeguarded; and from the governmental perspective it is primarily the burden of (general) public budgets.

On this basis it seems useful to differentiate the possible instruments according to which actors offer the financial incentives in each case. These could be:

1. the government with its different institutions (authorities, funds, promotional bank, etc.), with a distinction between

a) tax-based instruments,

b) non-tax-based instruments (e.g. new special levies with a promotion fund),

2. private actors, with a distinction between

a) the building owners themselves (e.g. in the case of refurbishment obligations with or without compensation options)

b) and market actors, who enter into a business relationship with the building owners (e.g. energy suppliers, network operators, banks).

2 Key findings regarding functionality (suitability)

In terms of functionality, a distinction can be drawn between the *incentive effect* and the *revenue effect*. Both effects can be found in one instrument or addressed alongside each other by different instruments. In addition further instruments are conceivable, with the help of which the function can be flanked or undesired secondary effects reduced.

2.1 Incentive effect and volume effect

In terms of incentives, two key goals are pursued with the instruments:

- To trigger as many energy refurbishments as possible (breadth of incentive effect, increase of refurbishment rate).
- To achieve the greatest degree of refurbishment possible (depth of incentive effect, achievement of refurbishment standard).

In terms of revenues, the key goal is to generate sufficient funds to be able to cover the volume needed for the incentive instruments. This effect should be brought about in such a way that

- the whole range of instruments functions reliably and thus as independently as possible of short-term budget fluctuations,
- (general) public budgets are not burdened or are burdened as little as possible overall.

2.2 Consequences

In order to fulfil the set tasks and requirements, some basic conclusions can be drawn for the shortlist and assessment of the instruments:

- Incentive-burden relationship in line with the polluter-pays principle: It is helpful to select and design the instruments in such a way that both the incentive and burden effects arise for those who decide whether energy improvements measures are implemented or not (the building owners). Burdens and benefits for non-responsible third parties (e.g. tenants) weaken the functionality of the instrument and should be avoided as far as possible, if necessary by means of flanking rules or regulations. Usually the landlords, for example, pass on the additional costs arising from energy consumption to the tenants as ongoing heating or utility costs. The landlords themselves do not feel the effect of the higher energy costs. In the case

of the instruments assessed here, this should be (able to be) prevented as far as possible.

- Planning security and legal entitlement to support: In terms of the conditions for maintaining the financial support, legal and planning security should be ensured as far as possible (at least for typical planning/building phases lasting many years, the reliability of the planning variables is important). The best possible solution is provided by instruments which can be connected to a legal entitlement to support (also with regard to specific requirements and conditions). From the perspective of investors the disadvantages of support dependent on public budgets can thereby be extensively reduced.
- Targeted steering and promotion of ambitious refurbishments: As far as ambitious refurbishments are concerned, targeted steering and verifiability is important. Since particularly ambitious refurbishments cannot generally be halted or at least not at short notice, external funds (support funds) need to be used, at least as long as an energy refurbishment obligation is not in place. Such refurbishment obligations geared to the long term can, under certain circumstances, be additionally incorporated as a "strategic threat" to increase the willingness to invest.
- General public budgets burdened as little as possible: From a governmental perspective there is (also) the question of removing the burden on general public budgets or keeping such a burden as low as possible. The optimal solution would be a set of instruments which functions completely independently of public budgets. But it would still be a large achievement if the set of instruments finances itself without the utilization of general tax revenues by counter-financing the need for support through specific additional revenues (i.e. revenue neutrality is achieved).

3 Key results of legal analysis

3.1 Germany's financial laws: tax-based instruments

In accordance with the existing types of taxes in this field, the German government receives the revenues from the energy tax on heating fuels. The municipalities command the property tax revenues and the federal states (*Länder*) command the property transfer tax.

Should support activities geared to the energy refurbishment of buildings remain on a national level, they cannot be connected to the property tax or the property transfer tax. It is conceivable that the property tax and/or property transfer tax would be incorporated in the set of instruments by, for example, staggering the tax rates according to criteria for the energy performance of buildings. However, solutions of this kind can only be implemented on the basis of a comprehensive agreement with the German *Länder* since the government does not command the revenues from these taxes and does not have sufficient legislative competences to launch a reform of this kind by itself.

On a national level a special additional charge on top of the energy tax can be levied (see 4.1). The respective revenues can be used to finance comprehensive support programs. However, it would be impermissible to implement a special fund for this purpose into

which the monies would flow. This would create a special levy with a financing function, the revenues of which would not be used – contrary to the requirements of the Federal Constitutional Court of Germany (BVerfG) – to benefit the group (i.e. the interests of the burdened payers of energy tax). Explicit (formal) establishment of a legal earmarking of funds should also be avoided.

The introduction of a new tax on CO_2 emissions attributable to buildings ("building-related climate tax") is – irrespective of its specific design – not recommendable because it does not fall under any of the recognised tax categories. It would probably fail early on in the legislative procedure because of concerns about its constitutionality.

The creation of binding and enforceable legal entitlements to receive support funds is permitted under German financial law.

3.2 Germany's financial laws: non-tax-based instruments

General obligations to make payments to the government are (in a broad sense) special levies and not taxes if they are not included in the public budget but rather in a special fund. Generally according to the jurisdiction of the German constitutional court there are no doubts about their constitutionality if they are assigned a compensatory function (or alternatively a payment instead of an existing primary obligation). However, the assessment of Germany's financial law raises uncertainties about the case of special levies which do not have a compensatory function. As long as they serve to finance specific tasks, they are generally considered special levies with a financing function (= special levies in the strict sense) which are only declared permissible when they are, among other things, collected by a widely homogenous group close to the task at hand and used in line with the group's interests.

Against this background the legislator has room to manoeuvre as long as either a levy with a compensatory function (e.g. as an alternative to fulfilling a refurbishment obligation) or a group-orientated fund levy is created, which is to be paid by those who also profit from the support funds generated (e.g. a climate levy for buildings to be paid by the building owners, see 4.3).

Concerns about financial constitutionality do not arise at all for obligations to make payments which – as is the case in the German Renewable Energy Sources Act (EEG) – exist between private entities only and thus do not result in revenues for the government. This is because they are not considered levies at all under Germany's financial laws. The case would be the same for an energy saving obligation initiated within the scope of a governmental obligation and a so-called premium or bonus model (which are re-financed via increases of final product prices). However care should also be taken with regard to making a governmental institution the "intermediary" to distribute the funds. There is a danger that the model will be classified by many lawyers as a special levy with a financing function and therefore would not successfully make it through the legislative procedure.

3.3 Constitutional burdens

The discussed instruments generally legitimate relatively far-reaching interventions affecting fundamental rights since they pursue objectives which – according to Art. 20a of

Germany's Basic Law (*Grundgesetz*, GG) – have a particularly prominent position in Germany's constitutional law.

From the perspective of basic property rights there are no fundamental concerns about the introduction of a refurbishment obligation geared to building owners (see 4.4). According to Art. 14 GG the legislator is not bound to obligate property owners only to implement measures which are profitable for the parties concerned. Nevertheless, it would be prudent to avoid unreasonable burdens by allowing for exemptions/waivers for hardship cases and to alleviate the effects by having alternative options of compensation (e.g. compensatory fee). The effects can also be ameliorated by means of binding legal entitlements to support funds.

In the case of instruments like the bonus/premium models (see 4.6), the energy saving obligation (see 4.5) or an obligation of the banks to grant favourable loans ("preferential interest rate model", see 4.7) market actors are utilized for public interests. Commissioning private entities in this way is generally only permissible under the jurisdiction of the Germany's constitutional law when those burdened by the situation/solution are (also) given responsibility. Therefore those solutions are problematic in which, purely for reasons of practicability, obligations are imposed on, for example, the electricity network operators although the legal objectives concern the building heat sector.

3.4 Particular challenge: energy classification of buildings

For some of the options the need for an energy classification of buildings presents a particular challenge. The prevailing conditions of the German Energy Saving Ordinance (EnEV) do not offer a useful basis since

- the parameters it uses are not consistently based on climate protection targets (they are not geared to CO_2 abatement, but rather primary energy saving),
- the calculation method does not always lead to sufficiently quantifiable results when burden-based legal obligations are connected.

From a legal standpoint such a classification of buildings has to be linked to the parameters of energy demand since the goal of the instruments is to transfer the building stock to a constructional and technical state which ensures the climate protection targets are achieved independently of consumer behaviour. However, the legislator can also draw on (use-based) consumption levels if suitable demand parameters are not available.

In view of the very complex circumstances of this issue, the legislator is also generally permitted to use a simplified building typology in the classification; building types can be tied to simple construction and technical parameters of buildings such as age, measurements, cubic content, purpose - as long as it allows building owners to achieve a more favourable classification upon appropriate proof of adherence to higher standards.

Additional analysis is needed to identify suitable parameters in this regard.

4 Assessment of relevant options of key instruments

A differentiated overview of all options of the instruments assessed in the report is not possible within the scope of this short version of the report. The focus will thus be placed

on those options which are considered to be of particularly high relevance either within this analysis or in the expert community.

4.1 Energy tax surcharge on heating fuels

***Conceptual approach**: To increase energy taxes on fossil fuels, if appropriate to base tax rates on the greenhouse gas emissions of the fuels concerned; intended effect: to generate additional financial resources for the budget in order to expand (in a revenue-neutral manner) the support programs geared to the refurbishment of buildings.*

This instrument enables additional revenues to be generated for the budget to the desired or necessary extent, without necessarily giving rise to an unreasonable increase of heating fuel prices. The price increases for generating yearly support funds of, for example, 5 billion EUR would be below the usual market price fluctuations that occur from year to year.

The instrument does not require an energy classification of buildings.

The instrument can be used in parallel or in advance of the introduction of a legal entitlement to support. It is not necessary for the two to be legally connected; this should be avoided for legal reasons (since the model would otherwise approach consideration as a special levy with a financing function).

It is not possible for this instrument to bring about support which is, from a governmental perspective, wholly independent of public budgets. Nevertheless, it is still possible to achieve revenue neutrality.

The surcharge on the energy tax only has a relatively unspecific steering effect in terms of the burdens that arise because it does not specifically reach those who take energy refurbishment decisions and is instead paid by all heating fuel customers. The pressure to take action that is potentially triggered is substantially weakened by the broad distribution of the burden. The incentive-burden relationship is thus not fully in line with the polluter-pays principle. In the rental housing sector the building owners can pass the additional burden on to the users (tenants) as part of the heating bill. However, this can be prevented by means of suitable flanking rules. Germany's constitutional law does not preclude this.

4.2 Income tax concession

***Conceptual approach**: To allow a tax concession for investments in energy refurbishment of buildings within the scope of income tax; intended effect: to provide a financial incentive (in the form of a tax concession) to implement energy refurbishment measures.*

By including an income tax concession that offers an alternative to support based on loans or subsidies, the attractiveness of the government's support portfolio increases. However, additional funds need to be used for this to happen. If the concession is implemented in the form of a conventional tax deduction, it would create an advantage for building owners with high taxable incomes.

The instrument has a special attraction for owners of rental housing: The tax-based support does not – in contrast to public loans or subsidies – have to be taken into account within the scope of the allocation of refurbishment costs, with the result that its use in the

case of rental housing is generally more attractive than an application for support funds. Potentially, however, this can be to the disadvantage of the tenants.

A key advantage of the instrument compared to the existing support provided by the KfW is the planning and legal security that can be achieved by its means. Essentially, the tax concession creates a kind of legal entitlement to support.

The support conditions could be laid down in such a way that the problem of progressive dependence is reduced (e.g. a tax credit instead of a tax deduction). However, it is barely possible to implement different concessions for different kinds of measures or degrees of refurbishment because varied concession rates are not practicable under Germany's tax laws.

A particular problem with an income tax concession is that it would cause a substantial fall in revenues for the federal states (*Länder*) and the municipalities.

4.3 Building-related climate levy with promotion fund

***Conceptual approach**: To create a new (additional) levy on buildings, the amount of which is based in particular on the energy performance of buildings and the building-related energy demand; intended effects: to provide a direct incentive to carry out energy refurbishment measures (in order to reduce the burden from the perspective of the building owner) and to generate additional support funds.*

The building-related climate levy with a promotion fund can be one of the key components or the core instrument of the overall strategy. It generates the desired incentive effects both on the part of those levied and of revenue use: The incentive-burden relationship is in line with the polluter-pays principle. It specifically addresses the people responsible for the energy performance of buildings and at the same time creates the possibility of generating support funds and appropriately allocating them to different refurbishment measures (and standards) in accordance with policy objectives. It leaves room for granting a legal entitlement to support and thus ensures – from the perspective of potential investors – a reliable support framework.

The climate levy does not achieve formal independence from public budgets because of the promotion fund, but revenue neutrality can be ensured via the funds additionally generated.

A considerable challenge for this instrument is that the climate levy requires an energy classification of buildings. This is, however, feasible if a simplified building typology is used in the classification and there is sufficient lead time (see 3.4). In principle such a system can be prescribed under German law; however, the legal and levy-based requirements would have to be established first.

It is not possible to bring about the far-reaching enforcement of a climate levy on a national level in all respects. It is of course conceivable for national-level institutions to manage the consolidation of revenues and the spending programs. However, local administrative entities need to be incorporated - particularly as regards implementation of the levy; the assistance of the tax authorities is conceivable in this context. The administrative responsibility for the classification of buildings should also be left to the federal states (*Länder*).

4.4 Refurbishment obligation (with compensatory fee/compensation fund)

***Conceptual approach**: To combine a refurbishment obligation (= primary obligation; there may be different triggering situations) with the possibility of paying a compensatory fee as an alternative (= secondary obligation); intended effect: to increase energy refurbishment activities by building owners implementing their own measures or (alternatively) making a payment to a support fund, out of which refurbishment measures are promoted which are under the target level.*

In principle the climate levy with a promotion fund and the refurbishment obligation with the option of paying a compensatory fee can be considered as variations of essentially the same instrument.

However, both kinds of instruments do not have the same effect in practice. The refurbishment obligation aims to have a direct effect on those targeted while the climate levy operates exclusively as an indirect pressure-based financial incentive. Thus, from a jurisprudential perspective, the former constitutes the stronger intervention. In addition a crucial difference from a legal viewpoint is that levying a compensatory fee is tied to the non-fulfilment of the refurbishment obligation. This has the consequence that:

1. The compensatory fee cannot be imposed immediately, but rather when a reasonable period of time for implementation of the demanded refurbishment measures has passed.
2. The compensatory fee can only be demanded for buildings which do not fulfil the targeted refurbishment obligation at the time concerned.

In contrast the building-related climate levy can take effect without delay. In the case of refurbishment obligation, it would only be possible to achieve short-term revenues if comparatively low improvements are demanded within a short period of time. However, the volume of revenues would then be relatively low because the amount of the compensatory fee is unlikely to be significantly greater than the cost of the demanded rehabilitation. Therefore for a significantly longer time period (than the climate levy model) the instrument would depend on the necessary volume of support being provided by other sources.

In direct comparison to the climate levy there are additional practical disadvantages. In particular the term “refurbishment obligation” constitutes a very negative signal and is likely to trigger much greater psychological resistance among those targeted. Additionally the efforts for monitoring compliance are greater because fulfilment of the refurbishment obligation also has to be controlled.

4.5 (Special) energy saving obligation for energy refurbishment of buildings

***Conceptual approach**: To oblige a group of actors in the heat market to bring about a certain amount of energy savings in thermal heat supply within a specific period of time, realised either by the actors themselves or third parties; intended effect: to provide an incentive for energy suppliers who are subject to the obligation to implement energy saving measures or to engage third parties to implement them.*

The option of the energy saving obligation which obliges network operators founders on strong doubts about its constitutionality. The reason for this is that the obligated network

operators would not be sufficiently incorporated in the consideration of responsibility for the energy refurbishment of buildings.

By contrast there are generally no constitutional concerns about the option of introducing an energy saving obligation for the suppliers of fossil heating fuels. In terms of its theoretical approach this option has many advantages. It is attractive – most notably from the perspective of Germany's budgetary policy – because it creates an instrument that is "wholly" independent of public budgets. Under the obligation the targeted actors largely have free reign to develop independent support activities. A positive development dynamic seems to be triggered when the suppliers enter into competition with each other for the more attractive support conditions.

However there are also several large functional disadvantages which, on balance, result in an ultimately unfavourable assessment from the perspective of the suppliers:

- The instrument has an inherent tendency to privilege measures with short-term effects; therefore, refurbishment activities which are geared to the long term, particularly ambitious and involve a very large initial investment, are triggered to a lesser degree. The instrument thus seems more suited for use in the context of electricity consumption rather than the building heat sector.
- From the perspective of building owners the model also does not create – which is particularly important – any planning or legal security. What can arise, however, is – as is the case with budget-dependent support – a premature exhaustion of financial resources or a change in conditions. In addition it is very difficult, from the viewpoint of building owners, to keep abreast of the diversity of available support programs.
- Furthermore the model has to be financed by being added to the product costs, i.e. it is in practice financed by the building users and not by the building owners. In terms of the burdens, the steering effect is thus imprecise; the incentive-burden relationship is not fully in line with the polluters-pays principle. This defective steering effect cannot – in contrast to the energy tax surcharge – be easily counteracted because the additional amounts are charged by the companies themselves and cannot be clearly determined.

4.6 Bonus/premium model for energy refurbishment of buildings

***Conceptual approach**: Building owners and users of heating systems can claim payment of a bonus when they implement certain energy refurbishment measures in their buildings; the suppliers of energy products (fuels, electricity, heat) are obliged to pay; intended effect: to create economic incentives for building owners by ensuring financial support from the energy suppliers.*

The bonus model (premium model) is based on the way in which the system of the German Renewable Energy Sources Act (EEG) functions. While the electricity produced through the EEG is a tradable product which is fed into a public network and thereby reaches electricity customers, there is neither a tradable product nor a network in the case of renewable heat and (even more so) of the energy performance of buildings where the product or its surrogate (an "environmental protection payment") could be uniformly distributed.

The greatest challenge for this approach is to regulate who specifically has to pay what sum to whom – i.e. in which way the claimed premiums are transferred from those obligated (the importers or suppliers of fossil heating fuels) to the beneficiaries (certain building owners). In the EEG system for the electricity sector this is simple since the demand for payment (when measurable) can be legally claimed from those in whose network the electricity is fed. However, there is a lack of comparable starting points for a similar approach to be used in the case of heat supply for buildings.

In meeting this challenge two ways which seem relatively simple should not be used because they are at risk of being unconstitutional: allowing the financial flows to be managed by a competent governmental body and utilization of (electricity) network operators.

As an alternative, consideration could be given to enlisting those subject to the obligation to pay to create a "joint body" themselves, which is entrusted with the task of managing the revenue and cost flows. As another alternative it is conceivable for the beneficiaries to be allowed to claim payment from those obligated through a limited number of accredited "bonus intermediaries", who assert the claims together as service providers for the building owners concerned. A governmental agency could be given the task of determining the different obligation shares on the basis of energy tax data.

Both these alternatives entail highly complex control and processing systems, through which far more payment transactions would have to be managed than in the EEG system. The option of having a "joint body" would depend on the willingness of the obligated companies to cooperate; an obligation to create such a body would, however, raise constitutional concerns. From a functional viewpoint, an argument against the option of using "bonus intermediaries" is that it would create a system seemingly lacking in transparency, which would have to include both detailed individual measures (e.g. replacement of heating systems) and the complete refurbishment of buildings. The number of processes to be included would be far larger and many individual cases would have a very large investment volume. To avoid misuse, it must be ensured that the payment demands are always made after the measures have been completed and can only be legally claimed in practice after some time has passed.

From the viewpoint of the building owners that are potential beneficiaries, a system of this kind would bring about substantially less reliability and security than a clear legal entitlement to support which can be legally claimed from a governmental body.

It would also not be possible to implement this instrument in the short term. It would thus be in competition with the building-related climate levy which also requires lead time. Compared to that levy, the bonus/premium model has the added disadvantage that the burden-based steering effect is relatively unspecific because the burdens do not reach those whose buildings are in (especially urgent) need of energy refurbishment measures. Rather the steering effects would be weakened since the additional burdens would be distributed among all final consumers of fossil heating fuels.

4.7 Obligation to banks to offer preferential interest rates

***Conceptual approach**: To oblige the credit institutes granting building loans to offer loans for measures geared to the energy refurbishment of buildings at more favourable*

rates than those available for other building loans; intended effect: to prompt the credit institutes to create their own financial incentives for their customers to undertake energy refurbishment measures.

Taking this kind of approach has not – as far as could be determined - been discussed in expert legal and environmental literature up to now. Its implementation would mean entering new legal territory although it should be noted that it takes the form of a simple price regulation which is legally not completely unheard-of. The constitutional assessment undertaken in this analysis has a positive result for this obligation. As part of the overall strategy of the energy refurbishment of buildings, enlisting the cooperation of credit institutes in the public interest can be justified against the background of their existing private cooperation and joint responsibility in financing building investments.

The burdening of the credit institutes remains reasonable since they have the possibility of refinancing the additional costs by increasing the interest rates on loans for other building measures and/or for the purchase of real estate. That can be reasonably expected of them. Implementing a compensation system between the credit institutes is – in contrast to the EEG system – not necessary because the banks would not be obliged to grant loans, but rather to comply with certain conditions *when* they grant building loans.

The level of the reduced interest rate can be shown as a percentage of a reference interest rate or as a nominal reduced interest rate.

The model has a direct effect on the decision of building owners in terms of the purposes for which they use their building loans. It thus takes effect at one of the key decision-making points for future investments, although the scope of its effect is limited to the building loans market. The model is limited by not reaching those energy refurbishments undertaken independent of loans and by the cases where loan-based support does not create sufficient incentives (namely in the case of very ambitious refurbishments). Further analysis would be needed to determine whether the approach could be practicably used in markets other than the clearly defined market for residential property loans.

It must be ensured that the credit institutes also actively use the instrument. Going beyond the requirements of transparency and documentation a compensatory fee could be introduced for this purpose; the fee would be paid by the credit institutes if a fixed minimum quantity of loans granted at the preferential interest rate is not reached. A special levy of this kind with a compensatory function would raise no concerns from the perspective of constitutionality.

Because the scope of its effect is limited to the loan market the model is not suited to acting as the more or less only key instrument of the overarching strategy. However, it is an attractive option for complementing, and removing some of the burden on, other instruments – most importantly because the necessary use of public funds can be significantly reduced overall with its help.

Additional analysis is needed to elaborate the concrete design, above all in terms of determining suitable calculation parameters (in particular for the interest rate and the compensatory fee) and of the question of what energy refurbishment measures the instrument specifically covers.

5 Final recommendations – sets of instruments

The two key combinations of instruments which emerge from the analysis conducted in this report are:

a) a **set of instruments with an energy tax surcharge**, based on: a legal entitlement to support, an energy tax surcharge (without a fund, the revenues are fed into Germany's general budget) and obliging the credit institutes to introduce a preferential interest rate,

b) a **set of instruments with a climate levy**, based on: a legal entitlement to support, a building-related climate levy (with a promotion fund, out of which the promotion is financed) and, again, a preferential interest rate.

Both sets of instruments can be complemented by an income tax concession. Additional flanking measures – e.g. tax rates staggered according to the energy standard of a building in the case of property or property transfer tax and/or removal of barriers in tenancy and residential property law – are also conceivable (and useful).

The creation of a binding legal entitlement to support is an essential part of both sets of instruments. Through this, the whole structure of instruments achieves the desired legal and planning security from the perspective of building owners. The concrete support conditions of the legal entitlement would have to be laid down in a separate law or in a related ordinance. Another component in both cases is an obligation to offer preferential interest rates. This transfers a considerable part of the promotion of loans, which has hitherto been realised governmentally, to the hands of the market actors concerned. By distributing private burdens based on a fair consideration of responsibilities it reduces the pressure on public budgets. Further analysis is needed to determine the concrete design characteristics of this component.

Both combinations of instruments are distinguished by the method they use to generate the funds needed for the support activities (outside the scope of the preferential interest regulation). The objective is to ensure parity between the amount of funds needed and the revenues to be accrued (= revenue neutrality). With the set of instruments which includes an energy tax surcharge, this is achieved by a corresponding increase of the energy tax, the revenues from which flow into the national budget (without being formally earmarked). With the set of instruments which includes the climate levy, the revenues enter a special fund and are then distributed by that fund (with their purpose formally earmarked).

From the perspective of steering policy the set of instruments with the climate levy constitutes the better model because it can trigger more targeted incentives. This is because the payment obligation reaches those who bear the responsibility for the energy performance of buildings – the building owners. They are given an incentive to make energy refurbishment investments not only via the legal entitlement to support, but also via the payment obligation. By doing this, an incentive-burden relationship is established that is in line with the polluter-pays principle and a fair consideration of responsibilities.

However, the implementation of a climate levy requires a long lead time, particularly because additional expert analysis is needed beforehand to ensure a viable classification of buildings. For this purpose it is not necessary to conduct an expert analysis of the energy characteristics of all buildings. From a legal viewpoint it is possible to base the classi-

fication on a simplified building typology with the help of general characteristics, as long as the building owners are given the possibility of achieving a more favourable classification for their buildings if they provide appropriate proof.

More detailed preparatory analyses are nevertheless needed for such a procedure – on the one hand to develop a simplified building typology that is as consistent as possible and on the other hand to determine suitable parameters for the classification. Subsequently the comprehensive classification of buildings would have to take place (assigning buildings to the respective categories), on the basis of which the levy can be assessed. The classification would have to be carried out or steered locally by a competent authority; the local tax offices which are responsible for collecting the property tax could collect the levy. It should be noted in this respect that the classification of buildings is also useful for the property market and in particular for the residential market because it would provide a significant basis for comparing the energy performance of buildings on the market.

The set of instruments with the energy tax surcharge (without the climate levy) is less accurate in its approach because the amount of the additional payment lies within the scope of market price fluctuations for heating fuels and is thus relatively inconspicuous; and because the surcharge is paid by heating fuel customers (who are not always the building owners) and typically passed on to the building users as part of the service costs. As a result serious negative steering effects can be avoided by making legal corrections to the design. It should be specifically laid down that the surcharge cannot be passed on to the tenants within the scope of the ongoing service costs and that tenants that pay the energy costs directly (e.g. typically the users of heating systems covering one floor) can claim reimbursement from the building owners.

An energy tax increase for heating fuels can be undertaken relatively quickly, making it possible to increase the volume of funds needed for the promotion more quickly than is the case with the climate levy.

Using an approach with different time stages it would be possible to combine the advantages of both sets of instruments. Such an approach could be based, for example, on the following sequence of steps:

1. With the aim of implementation in the short term, the necessary preparations could be made for an energy tax increase and for the creation of a legal entitlement to support.
2. The preparatory work for introduction of an obligation to offer preferential interest rates could begin, with the aim of entering into force approx. two years later.
3. With the aim of implementation within approx. five years, the expert preparations and the legal conditions for the energy classification of buildings and – on that basis - for the building-related climate levy could be carried out.
4. When the climate levy enters into force, the energy tax surcharge could then be frozen or gradually phased out.

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Part B:

Removal of legal barriers in Germany's buildings sector

Authors: Friedhelm Keimeyer, Andreas Hermann (Öko-Institut)

1 Objective and background

Besides depending on a promotion based on financial instruments, decisions on energy refurbishment measures also significantly depend on other aspects: Numerous legal and factual barriers may arise, for example, from monument conservation, the tenancy law, the building law as well as the law concerning the respective interests of neighbours. The second part of this study takes such barriers into account. In a first step numerous relevant barriers are identified and presented in a brief outline of the problem.

The second part of the study focuses on the analysis of the extent to which the law concerning the fees of the building designers, in particular the German Fee Structure for Architects and Engineers (HOAI), and public procurement law contain barriers to climate protection. The lack of incentives is partly taken into account, too. The results constitute the basis for the development of regulation concepts to overcome these barriers.

2 Law concerning the fees of architects and engineers

2.1 Obligation to implement energy efficiency measures

In a first step the text analyses whether and to what extent architects and engineers are obliged to conduct energy-efficient planning according to the law concerning their fees or other laws. Obliging them to carry out energy-efficient planning could help – with each future planning of new buildings or refurbishment measures – to steadily increase the energy efficiency of existing buildings.

However, the HOAI is designed as a pure price legislation; so in principle it does not lay down its own requirements for building measures with regard to contents. The contractual arrangement in accordance with the German Civil Code regime (BGB) is the only decisive factor. Although the aspects of the efficient use of energy and the use of renewable energy are mentioned in Appendix 11 of the HOAI, there is not a tangible legal obligation of the planner to preferred treatment of this aspect. Neither does such an obligation automatically result from the nature of the architect's contract as a contract to produce a work (Werkvertrag). Therefore – without a separate agreement between building

owner and planner – there is no obligation to carry out particularly energy-efficient planning.

At the same time, the German Energy Saving Ordinance (EnEV) lays down mandatory requirements for the energy efficiency of existing and newly constructed buildings. While it primarily addresses the building owner, he or she can, however, expect that the work of the planner meets the relevant standards and thus corresponds to the requirements of the EnEV ("reference condition"). The work is, therefore, deficient if it deviates from the prescribed standards in a negative way. Accordingly, the energy minimum standard of buildings specified in the EnEV is effectively binding for the planner without explicit regulation under the HOAI.

2.2 Market-based mechanisms of the fee structure

In a second step the text analyses which market-based incentives or barriers for energy-efficient planning have resulted from the German HOAI.

It should be noted that the HOAI as a mandatory price legislation significantly limits the parties' freedom of contract. The ordinance allows a price range within which a fee agreement can be made. § 6 HOAI, which shows the parameters by which minimum and maximum rates of the fee are to be calculated, is the crucial part of the remuneration structure of the ordinance. Primarily, the remuneration results in binding the fees to the cost of the object: the costlier the construction project, the higher the planer's entitlement to payment.

In a nutshell: The HOAI forces the parties to pay the planner according to the market value of the project. At first glance, the planner thus has an interest in increasing the costs of the object in order to increase his or her own entitlement to payment. Considering, however, the economic structure of the market, the building owner is usually in a position of economic superiority. Given the intense competition among architects, it may be reasonable for smaller, less-established architectural firms to yield to the pressure on prices and (e.g. with regard to refurbishment) to create simpler and more cost-effective proposals. From the planner's point of view giving up energy efficiency measures beyond the minimum standard of the EnEV ("voluntary measures") may appear economically worthwhile. On the one hand, the minimum guaranteed price of the HOAI thereby prevents the development of a downward price spiral, thus contributing to the quality of planning services and, consequently, the measures. On the other hand, the price structure leads to a certain stagnation of the standard of energy-saving construction. As long as particularly energy-saving measures and procedures cannot be regarded as a market norm, the planner can feel a pressure to abandon them in order to increase his or her competitiveness. In other words: when energy saving measures are "voluntary measures", people tend to avoid them.

Finally, the text analyses the extent to which the success fee of § 7 para 7, sentence 1 HOAI provides incentives to use energy efficient materials and processes. According to this regulation it is possible to agree on a success fee of up to 20 percent of the fee. However, the regulation only has a very limited scope, is deficient in its actual design and, thus, it does not really give rise to the realization of energy efficiency measures.

To summarise, the fee structure of the HOAI currently does not provide an effective incentive to increase energy efficiency.

2.3 Recommendations for the removal of barriers

As a conclusion, possible solutions are presented for how incentives for the planning and implementation of energy efficiency measures can be provided by changing the fee structure of the German HOAI. Developing the concept of the success fee in § 7 para 7 HOAI from a "paper tiger" towards a tangible incentive for the scheduling of energy efficiency measures, is at the center of our recommendations. In order to achieve this, a (preferably staggered) bonus for a certain increase in energy efficiency could be required by law, while giving the planners plenty of rope in the choice of means. The bonus-malus system of § 7 para 7 HOAI would have to be transformed from a "can-do" to a "must-have" rule. With regard to quality, this could lead to a competition between the planners whereby each planner would try to achieve the required reduction in energy demand as efficiently as possible to maximise his or her own bonus. Taking into account cost savings it must be ensured that building owners are not put in a much worse position financially by implementing the energy measures than by avoiding them (aim of cost neutrality).

3 Barrier analysis in public procurement law

The public sector has to follow public procurement rules when renovating its buildings stocks according to energy efficiency standards. In the study the extent to which public procurement law entitles the procurement entities to include environmental aspects in the procurement of building services or whether they are even obliged to do so was analysed. Moreover the existing options of the procurement entities to include environmental aspects in the procurement procedure in practice are evaluated and deficits are identified. Finally, economic mechanisms to strengthen the inclusion of environmental aspects in procurement procedures are scrutinised.

3.1 Results of the barrier analysis

Public procurement law offers three possibilities to address environmental aspects in awarding a contract, notably when defining the subject matter of the contract, as a minimum criterion for the object of invitation to tender or finally as an awarding criterion in the awarding phase. Especially, the first and second option leaves the procurement entities with considerable discretion to include environmental aspects regarding the energy efficient renovation of buildings.

Prior to the start of the actual procurement procedure the procurement entity has to make a decision as to which object of invitation to tender meets its demands best. In the case of construction services procurement entities have considerable discretion in terms of whether they include environmental aspects, because the purchaser is not buying an abstract final product but rather is involved in the planning of the construction project.

The subject matter of the contract is the “centerpiece of the procurement procedure” in which the procurement entity has to describe the object of invitation to tender in detail, in particular with regard to the use of technical specifications. According to § 7 para 7 Part A of the German Construction Contract Procedures (VOB/A) procurement entities are

explicitly entitled to include environmental aspects in the detailed description of the building procedure.

The assessment and awarding of the tenders is the last phase in the contract procedure ("award of a public contract"). In a formalised procedure the actual decision is made regarding the "selection of the economically most advantageous tender" (cf. § 16 para 6 No. 3 Part A of the Construction Contract Procedures) which is from an environmental perspective the decisive level.

According to § 97 para 5 of the German Act Against Restraints of Competition (GWB) (§ 16 para 6 VOB/A respectively) the definition of the economically most advantageous tender is not only determined on the basis of the lowest bid, rather the most favorable tender is the one that achieves the most favorable relationship between the contract work desired and the price offered. That work-price relationship allows the incorporation of environmental aspects as well as operation costs and follow-up costs. However, procurement practice so far has shown that the term "economically most advantageous tender" is understood to comprise only asset costs of the procured product and an amortisation time which is shorter than the life-span of the product. The follow-up costs, which arise on the part of the purchaser (i.e. consumption and operation costs) or the inclusion of external effects (e.g. for the removal of environmental damage or for the adaptation to climate change) are not included. Consequently, public procurement law is lacking a clear regulation that defines in which relation asset costs and follow-up costs have to be included in the calculation of the price. Therefore when calculating the price, full life-cycle costs must be taken into consideration and not only the asset costs or an amortisation time which is shorter than the life-span of the product.

Furthermore the analysis in this study shows that according to the present legal framework it is up to the procurement entity as to whether it wants to consider environmental aspects in the procurement of construction services. Binding requirements to observe environmental aspects are regulated in the EU Directive 2010/13/EU on the energy performance of buildings. According to the Directive, after 31 December 2018 new buildings occupied and owned by public authorities have to be nearly zero-energy buildings. In addition procurement entities have to follow legal requirements considering energy efficiency for buildings or the use of renewable energy (cf. the German Energy Saving Ordinance (EnEV) or the German Renewable Energies Heat Act (EEWärmeG)). Against this background the options for procurement entities to include environmental aspects in the purchase of building services have to be on a level exceeding "minimum obligation".

Finally, the analysis has elucidated that in practice it is difficult for the contracting entities to fill the space that procurement law offers to them in order to include environmental aspects. A reason for that can be seen, especially, in the lack of a scientifically-based model to quantify the inclusion of external costs.

3.2 Recommendations for the removal of barriers in public procurement – the example of construction contracts

The existing legal framework already provides the possibility of including operation costs and follow-up costs.

In favour of an environmentally friendly procurement – either in the building sector § 16 para 6 Part A of the Construction Contract Procedures or addressing all products and services in § 97 para 5 of the Act Against Restraints of Competition – shall be amended as following:

"If construction services cause follow-up costs on behalf of the contracting entity, the follow-up costs have to be calculated for the whole life-span of the service and must stand in reasonable relation to the procurement costs."

Even with a change such as this, the problem still arises that the procurement entities lack a scientifically-based method for calculating the life-cycle costs of construction services, taking into account external costs. Regarding public procurement on the federal level the consideration of life-cycle costs could be based on the Guidance document "Nachhaltiges Bauen" ("Sustainable Building") of the German Federal Ministry of Transport, Building and Urban Development (BMVBS). However, regarding legislation for the road transport sector the Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles has played a pioneering role in terms of the consideration of life-cycle costs and external costs. Art. 6 Directive 2009/33/EC contains a methodology for the calculation of operational lifetime costs for the operation of the vehicles being purchased. In contrast, other sectors are marked by methodological uncertainty in terms of the quantification of external costs. Without a legally binding, rather simple and precise operation of the life-cycle-method, procurement entities (e.g. communities) will not include life-cycle aspects in their purchase. This is due to the fact that procurement entities, in general, will not be able to cope with complex assessments connected with life-cycle aspects.