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# National building regulations for municipalities:

## In addition to 'technical issues': quality of life and climate and biodiversity protection as new challenges in focus

An essential part of the government's strategy *'Méi a méi seier bauen'* is to draw up a national *'règlement des bâtisses'* that will be binding for all municipalities.

The Ministry of the Interior is taking the lead on this new regulation, but other sectoral ministries are closely involved in its drafting, as is apparently the case at the municipal level.

Until now, there have been no such binding national guidelines for all municipalities. However, the Ministry of the Interior provided municipalities with a template for municipal building regulations (règlement-type sur les bâtisses) that they could adopt and adapt.

This 'decentralised' solution has led to considerable differences in the local regulations of the various municipalities, with all the associated advantages and disadvantages.

This has had a noticeable impact on planning security, approval times and investment costs, as well as a lack of transparency and traceability of rules. Why – to take just one much-cited example – the distance between a solar panel and a neighbouring building varies from municipality to municipality is incomprehensible and cannot be justified on technical grounds.

In addition, different municipalities have addressed future challenges in different ways. While some have integrated guidelines against light pollution or measures for better use of water resources in public spaces, others have done so to a lesser extent or not at all.

**However, it does not make sense for each municipality to have to establish its own basic standards that are not related to the specific characteristics of the municipality and its urban design.**

In urban planning issues or the general design of a locality, it will continue to be important to give municipalities the necessary autonomy, but this is less appropriate for minimum standards for buildings.

**In this respect, the Mouvement Ecologique welcomes the creation of such national building regulations. We consider this to be a simplification of work for municipalities, a sensible harmonisation and a contribution to the transparency of technical standards. Well-thought-out national regulations can lead to substantial improvements and simplifications.**

**However, in the opinion of the Mouvement Ecologique, it is essential that not only technical adjustments and harmonisation take place, but that today's challenges – keywords: urgency in climate and biodiversity protection, climate adaptation, transport transition, rational use of resources – are also taken into account.**

**With this statement, Mouvement Ecologique would like to illustrate, for each topic area, which adjustments are necessary from an ecological point of view and which additional parameters should be included.**

## Important preliminary remark:

**Mouvement Ecologique is taking the drafting of national building regulations as an opportunity to propose a series of concrete provisions that meet today's challenges.**

**In particular, these issues must also be in parts integrated into land use plans (PAGs) and partial development plans (PAPs) on a mandatory basis. This is an essential prerequisite for them to have a general effect at the municipal level.**

**The Mouvement Ecologique is well aware that deviations from standards will always be necessary. However, it should not be a problem to stipulate that exceptions are permissible on the basis of generally defined criteria.**

## 1. Reconsider the objectives of the current 'règlement type'

In the opinion of the Mouvement Ecologique, the objectives defined in the current draft of the 'règlement type' no longer adequately address the new challenges.

***ART. 2 PURPOSE***

*The present regulation aims to ensure the solidity, safety, health, sustainability and convenience of constructions and developments to be carried out on public and private land.*

It should also be emphasised that it is not adapted to the 2004 legislation, which prescribes additional provisions in the 'règlement des batisses' (building regulations). This is clearly demonstrated by a quote from the relevant article of the law. In the opinion of the Mouvement Ecologique, this requires substantial improvements to the current version of the 'règlement type' (essential aspects that should be included have been underlined):

***"Art. 39.****Contents*

*The regulations on buildings, public roads and sites cover:*

*1. the solidity, safety, convenience and healthiness of buildings, dwellings and facilities, as well as their surroundings;*

*2. access to buildings, dwellings and facilities and their provision by public utilities for the distribution of water, gas, electricity, heating, telecommunications and waste water disposal;*

*3. the conservation, salubrity, safety, convenience of passage and viability of public roads, their access and their surroundings;*

*4. the conditions to be met by public roads in general and those to be built by private individuals with regard to their alignment, location, pipelines, lighting, traffic, parking spaces and plantings;*

*The regulations contain provisions relating to natural lighting, ventilation, heating, sanitary and electrical installations, fire protection for buildings, dwellings and installations, as well as traffic and parking.*

*The regulations may also concern all developments, constructions and installations above and below ground, signs and advertisements, antennas, pipes, fences, deposits, plantings, modifications to the ground relief, as well as the development of sites intended for traffic and parking of motor vehicles on and off public roads.*

*The regulations lay down the procedure to be followed for granting building permits, for the development of construction sites and for the demolition of buildings in danger of collapse.*

## 2. Integrate uniform CGDIS regulations

The safety regulations of the CGDIS and the ITM are currently the subject of ongoing debate. They are also applied differently by the municipalities, which is a real problem.

For example, in order to be 'on the safe side', some municipalities have adopted safety standards that, according to CGDIS proposals, only apply to residential buildings with three or more residential units or a size of 400 square metres or more, even for simple private houses. This causes unnecessary and disproportionate construction and cost expenditure for private house builders.

Safety standards for solar installations in relation to neighbouring houses, to give another example, also vary from municipality to municipality without any technically comprehensible reasons (the problem has also been recognised by the Energy Table and is to be remedied). The risk does not change from municipality to municipality. This also applies to the distance between heat pumps and neighbouring houses, among other things.

The same applies to criteria for greening towns and villages, where the CGDIS imposes restrictions (e.g. how close trees in public spaces may be to residential buildings).

It would be a considerable relief for everyone if all these safety aspects were regulated in a national 'Règlement des bâtisses' (building regulations).

## 3. Promote renovation instead of making it more difficult – ensure differentiation between new buildings and conversions

Article 1 of the 2004 law stipulates that "***Toute** réalisation, **transformation, changement du mode d'affectation** ou démolition d'une construction sur l'ensemble du territoire communal **doit être conforme au présent règlement**. »*

Accordingly, there are numerous provisions in the 'règlement type' that make renovation work considerably more difficult and expensive, as the regulations are exclusively geared towards new buildings.

The reform must therefore focus on a paradigm shift: the new building regulations must clearly and differentiatedly regulate the treatment of existing buildings and distinguish between new construction and renovation.

Until now, all the provisions of the "standard building regulations" applied generally to alterations, without taking into account whether the existing buildings had been constructed according to the standards in force at the time. As a result, as soon as a building of this type is subject to modifications, such as a change of use or interior layout, a catalogue of requirements equivalent to those of a new construction applies.

In practice, this often means demolition instead of conversion.

An example illustrates the problem: many existing buildings still have ceiling heights of 2.50 metres, while the *règlement-type sur les bâtisses* now requires a minimum height of 2.55 metres.

If such a building is converted, the existing ceilings often have to be torn out and rebuilt five centimetres higher – a measure that is not only structurally complex but also involves considerable follow-up costs. As a rule, this also requires adjustments to stairs, façade openings and parapets. Under these circumstances, it is understandable that building owners often opt for demolition.

Similar problems arise when applying current sound insulation or structural requirements to older buildings. It is therefore urgently necessary to better protect existing buildings in the event of renovations by adapting requirements and granting them greater protection.

The existing practice is no longer ecologically justifiable. In future, existing buildings must be treated as a strategic resource. If, as has been scientifically proven, around 40% of greenhouse gas emissions are attributable to the construction sector, with a large proportion of this coming from the construction and not just the operation of buildings, then it is clear that every new building that is not built is an active contribution to climate protection**. Luxembourg also generates 75% of its total waste in the construction sector – an alarming figure that directly contradicts the goals of the circular economy.**

The new building regulations should be consistently geared towards compliance with national and European climate and environmental targets. The EU Directive EPBD ((EU) 2024/1275) and Luxembourg's updated Integrated Energy and Climate Plan (PNEC) for the period 2021–2030 (mise à jour 2024) provide for a significant reduction in so-called grey emissions by 2050. This goal can only be achieved if the preservation and further development of existing buildings are prioritised over demolition and new construction. The targets for waste prevention and resource conservation set out in the national waste and resource management plan also require the responsible use of existing buildings.

**Against this background, it is necessary for the new building regulations to ensure a clear distinction between requirements for new buildings and those for conversions. The applicable regulations should be designed in such a way that they take account of the structural conditions of existing buildings and at the same time contribute to the achievement of environmental and climate policy objectives. Differentiated and practical regulations can help to develop existing buildings in an economically viable manner while sustainably reducing resource consumption and emissions in the construction sector.**

## 4. Do not discriminate against new forms of housing

The aim must also be for building regulations to facilitate and permit new forms of housing, such as intergenerational living, housing cooperatives and shared accommodation. The existing ‘règlement type’ should be examined for barriers and adapted provisions introduced. The same applies to the temporary use of unused building land for temporary structures, such as tiny houses.

‘Logement intégré’ must also not continue to be hindered to this extent. It can be very useful in the interests of desirable densification.

## 5. Include greening aspects in the interests of the common good

Biodiversity loss in Luxembourg is significant, even in urban areas. It is well known that urban green spaces are essential not only for the protection of biodiversity, but also because of the climate and rising temperatures in urban areas. Settlements are already 3-4 °C warmer than the surrounding area, as sealed surfaces, a lack of vegetation and sources of waste heat cause the *urban heat island* effect. However, trees can lower the air temperature around them by up to 4 degrees and the temperature of the asphalt beneath their crowns by up to 20 degrees – this shows how important inner-city greening will be in order to reduce temperatures. It is precisely these differences in temperature that are extremely important for health and well-being.

It has been scientifically proven, for example, that

- in view of rising temperatures, green spaces are essential for at least reducing the number of deaths during heat waves and making it bearable to spend time outdoors;
- inner-city green spaces are indispensable from a psychological point of view. Green spaces have a significant influence on the human psyche.

Furthermore, access to green spaces is a question of social justice. People with fewer financial resources have little or no private green space and live in poorly insulated houses (with the associated consequences, including during heat waves).

The major challenges in this area have become increasingly apparent and noticeable in recent years, but they have not been integrated into the existing regulations.

But here too, national basic standards that create equal living conditions, reduce the workload of local authorities and are transparent for tradespeople and all stakeholders are a must. The aforementioned Article 39 of the 2004 Act even explicitly permits such regulations and even prescribes them.

The following aspects are just a few examples of others:

- **Plan tree planting for the long term:** The fact is that numerous trees in public spaces are currently threatened with dying, and newer plantings are sometimes struggling to establish themselves. In view of the heat and dry periods, etc., trees are exposed to considerable stress. It is therefore advisable, especially for new plantings/renovations, to create ‘tree pits’ in accordance with certain minimum standards. For example, with regard to their size and irrigation. Such standards should be included in building regulations.

- **Leave open spaces unsealed:** Sealed surfaces, but also gravel gardens, pose a significant problem as they contribute to overheating, prevent rainwater from seeping into the ground and do not provide a habitat for animals and plants. Requirements regarding the proportion of unsealed areas on undeveloped land could help to solve these problems. It is in the public interest that sealing does not increase but decreases, and this should be reflected in building regulations. A number of municipalities in Luxembourg have therefore already banned gravel gardens, making this an easy requirement to implement at national level. However, the proportion of permeable materials used for paved areas would also have to be specified.

- **Include green infrastructure in road construction:** Pipes and cables often pose a problem for subsequent greening. In many cases, trees cannot be planted later because of pipes and cables. However, technical solutions now exist that should at least be addressed in the general guidelines of building regulations.

- **Green roofs**: Even though greening at street level is essential for improving quality of life and providing shade, the loss of green space in new buildings should also be offset by green roofs. Where technically feasible, new buildings with flat roofs or low roof pitches should be equipped with green roofs. These can reduce summer heat effects, improve the energy performance of the building envelope, buffer precipitation and relieve the sewer system during heavy rainfall.

- **Design of property boundaries:** Air-impermeable fences or high walls along property boundaries impede air circulation, promote heat accumulation and have a negative impact on the inner-city climate. They also disrupt ecological continuity for small animals such as hedgehogs. Building regulations that focus on nature and climate protection should therefore favour natural and permeable boundaries, such as native hedges or open fence systems. Solid, sealed enclosures should be limited to the extent necessary to maintain a green, well-ventilated cityscape.

- **Facade greening:** Ungreened building facades contribute to the heating of the urban climate, reflect heat and offer few ecological functions. Well-designed façade greening counteracts this: a green façade can be up to 11 degrees Celsius cooler than an ungreened building wall in summer, improves the microclimate in the immediate vicinity and can contribute to $CO_2$ and fine dust binding.

Building regulations should therefore stipulate that suitable exterior wall surfaces be provided for climbing plants or trellises and be greened accordingly, insofar as safety and design requirements allow.

## 6. Addressing water management as a challenge for the future

Climate change will bring more frequent periods of drought and heavy rainfall – sometimes there will be a shortage of water, sometimes there will be a surplus. Well-thought-out rainwater management is therefore essential, both for disaster control and to promote the greening mentioned above and to save valuable drinking water.

Climate-adapted urban development aims to achieve a hydrological cycle that is as natural as possible. In this sense, it is crucial to maximise the unsealing of surfaces – where technically and functionally possible – so that rainwater does not simply run off into the sewer system, but can be used, diverted or allowed to seep away on site.

A number of measures relating to rainwater have already been listed above (e.g. reducing the degree of sealing, prescribing green roofs). Further requirements for sustainable building regulations would cover additional aspects:

- **Drainage of rainwater for irrigation:** In line with the requirement for infiltration, provision should be made for rainwater collected in public spaces (including from buildings) to be directed to green spaces for irrigation and infiltration. This would include, for example, modifying kerbs so that rainwater can penetrate the ground in a targeted manner.

- **Separation system for dirty water and rainwater**: In addition to new development areas, such a separation system should also be a matter of course for more extensive renovations.

- **Rainwater cistern:** In order to relieve the sewage network and reduce drinking water consumption, specifications for the installation of a storage system should be provided for new buildings above a certain roof area. This allows rainwater to be used for garden irrigation, toilet flushing or laundry.

## 7. Energy aspects / lighting: climate protection in practice

Local authorities are THE key players in ensuring that the energy transition is a success. Technical issues play a central role in this, but unfortunately these aspects are criminally neglected in the current regulations.

Uniform nationwide standards are particularly useful in this area and are also relatively easy to ensure.

Here are a few examples:

- **Construction of solar panels and heat pumps**: Uniform national regulations on distances to neighbouring buildings, etc., as well as maximum permissible noise levels for heat pumps, are long overdue for such standardised systems. The same applies to the provisions governing when which permits are required.
- **Requirements for solar installations**: It would also be appropriate to prescribe/regulate solar installations on larger car parks by means of building regulations. Regulations requiring solar installations to be retrofitted would also be necessary.
- **Regulate energy-saving lighting – combat light pollution:** For the installation of public spaces, street and path lighting, it would be appropriate to establish national guidelines for the general minimum lighting requirements, but at the same time to counteract light pollution (in line with the guidelines for good lighting). Sufficient preparatory work has been done in this regard, e.g. in the various dossiers on reducing light pollution.
- **Regulate e-charging stations**: Why not also set standards for the installation of public e-charging stations (e.g. a minimum number per car park size)?

## 8. Mobility in the interests of citizens

Mobility planning as such is undoubtedly carried out via the development plan or partial development plans. And yet, concrete implementations, e.g. for traffic calming and the promotion of soft mobility, definitely have their place in building regulations, as the following summary examples show:

- **Promote traffic calming**: The official website '*apaisement.lu*' provides concrete suggestions for improving the design of traffic-calmed streets. It would be extremely important to include key provisions in the building regulations, such as '*entrées et sorties des agglomérations*', '*trottiors traversants*', '*bandes ralentiseurs*' and so on.

- **'Refreshing' the guidelines on the design of footpaths and cycle paths**: The guidelines on soft mobility need to be adapted to today's requirements.
- **Increase the requirements for the construction of bicycle parking facilities**: minimum standards for their construction should be laid down.

## 9. Regulate advertising regulations more efficiently

The current ‘règlement type’ contains provisions that are unfortunately no longer able to cope with the pressure of today's advertising industry.

For example, the resulting light pollution is currently not included in the list of aspects to be taken into account, nor is the direct nuisance to residents.

Furthermore, the increasing number of mobile advertisements mounted on vehicles is not regulated.

A ‘general overhaul’ of these requirements is urgently needed.