

Chalmers University Study

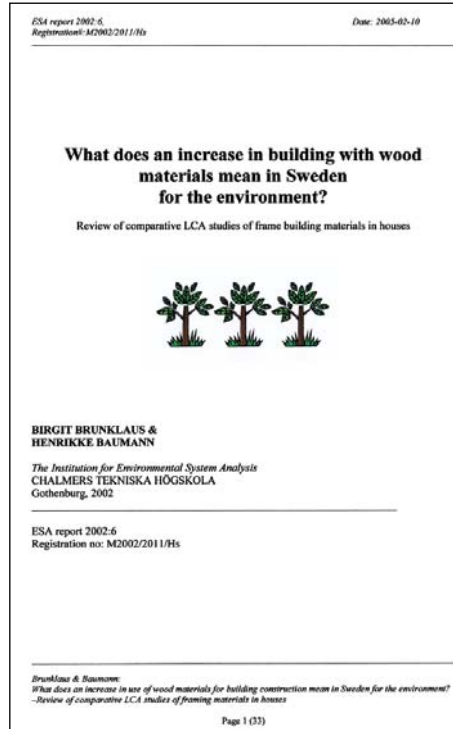
The End of the 'Wood for Good' Campaign by Brian Ó Murchú

Chalmers University Independent Study Comprehensively Refutes Claims in Relation to the Supposed Environmental Benefits of Timber Housing.

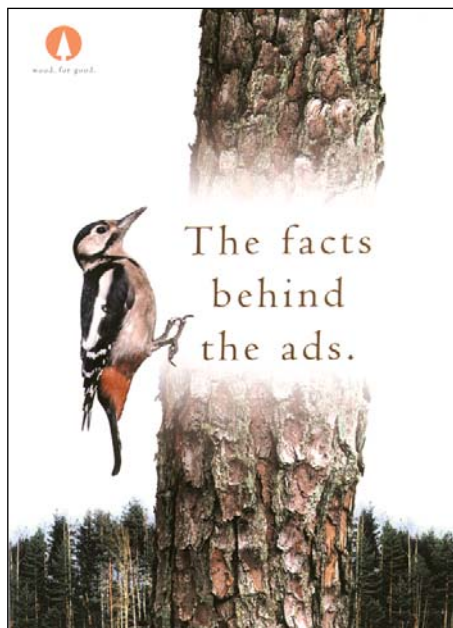
A study published recently in Chalmers University, Gothenburg, Sweden, has effectively put a stop to the exaggerated environmental claims being made by the Swedish timber industry, which have been repeated across Europe, including in Ireland, where exaggerated environmental claims as to the supposed 'environmental benefits of timber frame' are a daily occurrence. Published jointly by two independent academics, the study which is entitled 'What does an increase in building with wood materials mean in Sweden for the environment', is a detailed assessment of methodologies used and the conclusions reached in 8 separate 'Life Cycle Analysis' (LCA) studies comparing the use of wood with other materials in houses.

The authors of the recent Chalmers Study, Birgit Brunklau and Henrikke Baumann, concluded that out of the 8 comparative studies that had been previously made in The Institution for Environmental Analysis at Chalmers, that 6 of the studies show that 'wood is not a better or worse environmental alternative seen over the complete life cycle of the houses'. The remaining two studies (which were not independent) point to wood as 'the clearly better environmental alternative because of the lesser CO² emissions on account of waste combustion and that wood is seen as a renewable resource'. The authors of the Chalmers Study conclude that the supposed 'advantage of wood is partly based on the fact that, apparently, recycling has not been taken into consideration, in the 2 non-independent reports, for the alternative to wood i.e. concrete'. Brunklau & Baumann question the methodology of the reports noting that whereas 'concrete certainly cannot be combusted - it can be recycled'.

In assessing the 8 studies, Brunklau & Baumann noted that a number of the university studies show that 'just looking at



the manufacturing phase, wood is slightly better, but this is relatively marginal'. However, this marginal advantage in the manufacturing phase is effectively negated in the operational phase where nearly all of the studies assessed show that 'the operation and energy system is more important for the total result than the individual choice between wood and another material'. It is the performance of the building in use which is the critical



factor since the 'energy in use' accounts for over 90% of the total embodied energy over the life of the building.

Background to the Chalmers University Study

In 1994 the Building Regulations (in Sweden) were changed. Until this time, wood was prohibited as a frame material in larger houses (i.e. greater than 2 storeys). Effectively, the Building Regulations were changed from a 'prescriptive' to 'non-prescriptive' standards where technical requirements govern. As a result, specific materials do not need to be specified or prohibited in the Building Regulations. In spite of the changes to the Building Regulations in 1994, the traditional method of using mainly concrete has continued. The timber industry is consequently actively working to increase the market share of wood as a building material. Among other things the timber industry wanted to develop a 'national program of increased building with wood materials' that the Swedish government and parliament would support. It was against this background that Christina Leidman at the 'Institution for Durable Building of Community' at the Environmental Department' ordered the investigation to 'demonstrate the current knowledge level'. Consequently, the Institution of Environmental Studies were assigned.

Environmental Performance and Correct Interpretation of information

One of the key problems in relation to the environmental movement in Ireland has been the lack of scientific rigour in discussing the relative environmental performance of different construction methods - particularly timber & concrete. In most cases, 'evidence' consists of bald statements made by the timber industry that the amount of CO² saved in constructing a timber frame house would drive the average car for a year - or some such proposition. Heavily sponsored television programmes which invariably include the phrase 'and of

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*Timber enjoys a very marginal advantage in the 'construction phase' in the Swedish context. However, this is unlikely in the Irish context where Swedish timber carries a substantial fossil fuel (CO²) transport tariff.

course timber is good for the environment' is another source or 'proof' that timber construction is the environmental way forward. But is there any proof behind the slogans? The Chalmers report demonstrates that there is not.

One of the great strengths of the Chalmers Report is that it puts the issue of relative environmental performance (concrete v timber) on a scientific basis. The report outlines the procedures for carrying

out a 'Life Cycle Analysis' study and a number of factors which must be considered to correctly interpret information. One of the principal factors is that 'the study results must be viewed in relation to the goal and object of the LCA study'. This is because an LCA study answers a question at issue. Since different questions at issue lead to different choices of method, the answer/results can be different for apparently similar studies. The fact that different choices of method can be

selected, does not mean that one can choose anything - the choice of method is guided by the object of the study. Accordingly, the LCA studies investigated in the Chalmers report cannot be directly compared with one another and most of the report is given over to looking at how the goal and critical choice of method differ between the 8 studies. In relation to LCA analysis the choices of method have been defined by 'Baumann and Tillmann 2001'.

The confirmation by Chalmers University, in the form of an independent university report that 'wood is not a better or worse environmental alternative seen over the complete life cycle of the houses' is enormous in its implications. The report is all the more credible in that it emanates from a university source, located in Sweden - arguably the home of European timber and coincidentally the source of nearly all of the structural softwood which is used in the construction of timber framed homes in Ireland. The result begs the question as to why the various environmental/ sustainability agencies and some professional organisations in Ireland have allowed themselves to become platforms for the timber industry's campaign of misinformation. It is the view of the Irish Concrete Federation that this has not been malicious and generally speaking these agencies have acted in good faith, but are misinformed.

The Privileged Position of the Timber Industry

In recent years, Irish specifiers and various state agencies have been bombarded with false information. This has been facilitated by an enormous marketing budget, much of which has come out of state coffers. The object of the bombardment has been to produce an inertia for the sale of timber based products. The reason for the abundance of 'positive environmental information' in relation to timber is related to the privileged position of the timber industry as a state/semi-state organisation right across Europe. As a result, it has an abundance of representatives at European level, compared to the concrete industry for example, which has no official EU representative. This position allows the timber industry to act as a cohesive trans European marketing force, to drive European policy and utilise the hundreds of 'civil servants' at its disposal to produce study after study which show timber in a positive environmental light. This over-representation has distorted the issue of 'Sustainability' to the extent that the cause of Sustainable Development itself cannot be advanced without this issue being addressed.

