

Practical Energy Efficiency in Older & Traditional Buildings

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NUIG Galway

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INTERNATIONAL COUNCIL ON MONUMENTS AND SITES
COISTE IDIRNÁIMUNTA NA SEADCHOMHURTHAIS NA LÁITHREACHA

Why is Energy Efficiency Important

- Ireland signed up to the Kyoto Protocol - 2009
- The Kyoto Protocol set targets of 20% by 2020
- We have more recently signed up to the Paris Agreement – Dec 2015
- The Paris Agreement set targets of 30% by 2030
- Will we meet either
- NO - Why?
- Because our successive Governments have done Nothing to promote, educate or incentivize Energy Efficiency



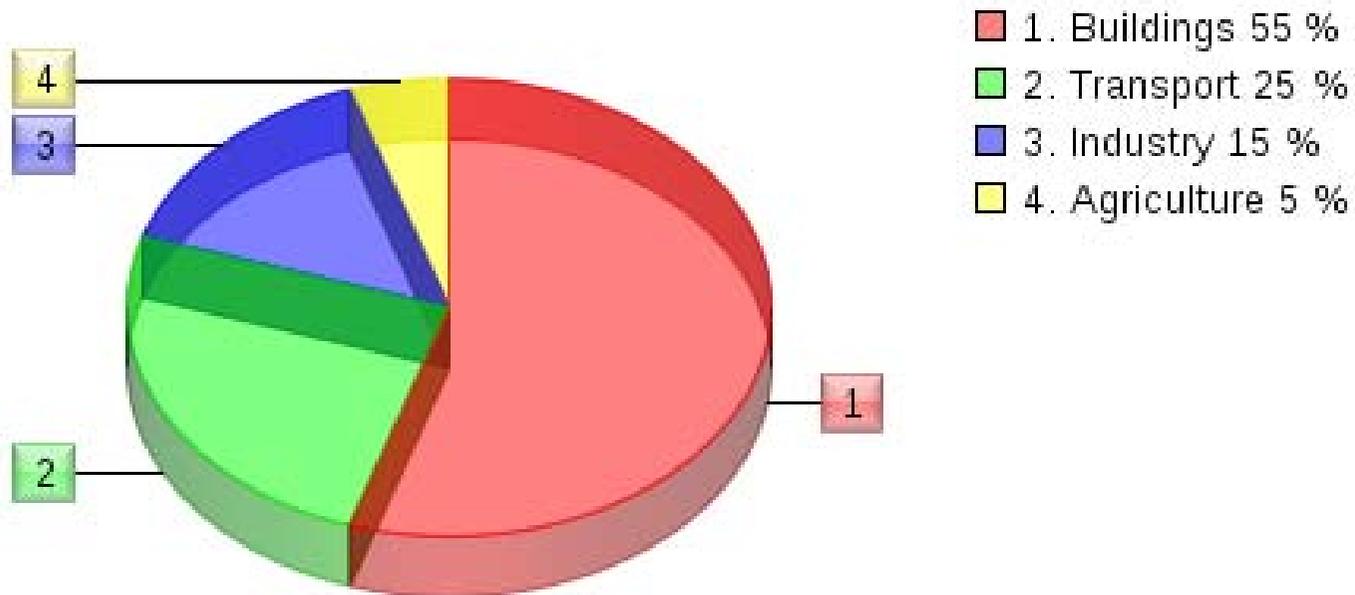
What does this Mean?

- It means that Ireland will face major Fines for not Achieving our Targets
- How much? Probably in the region of 3 to 400 Million

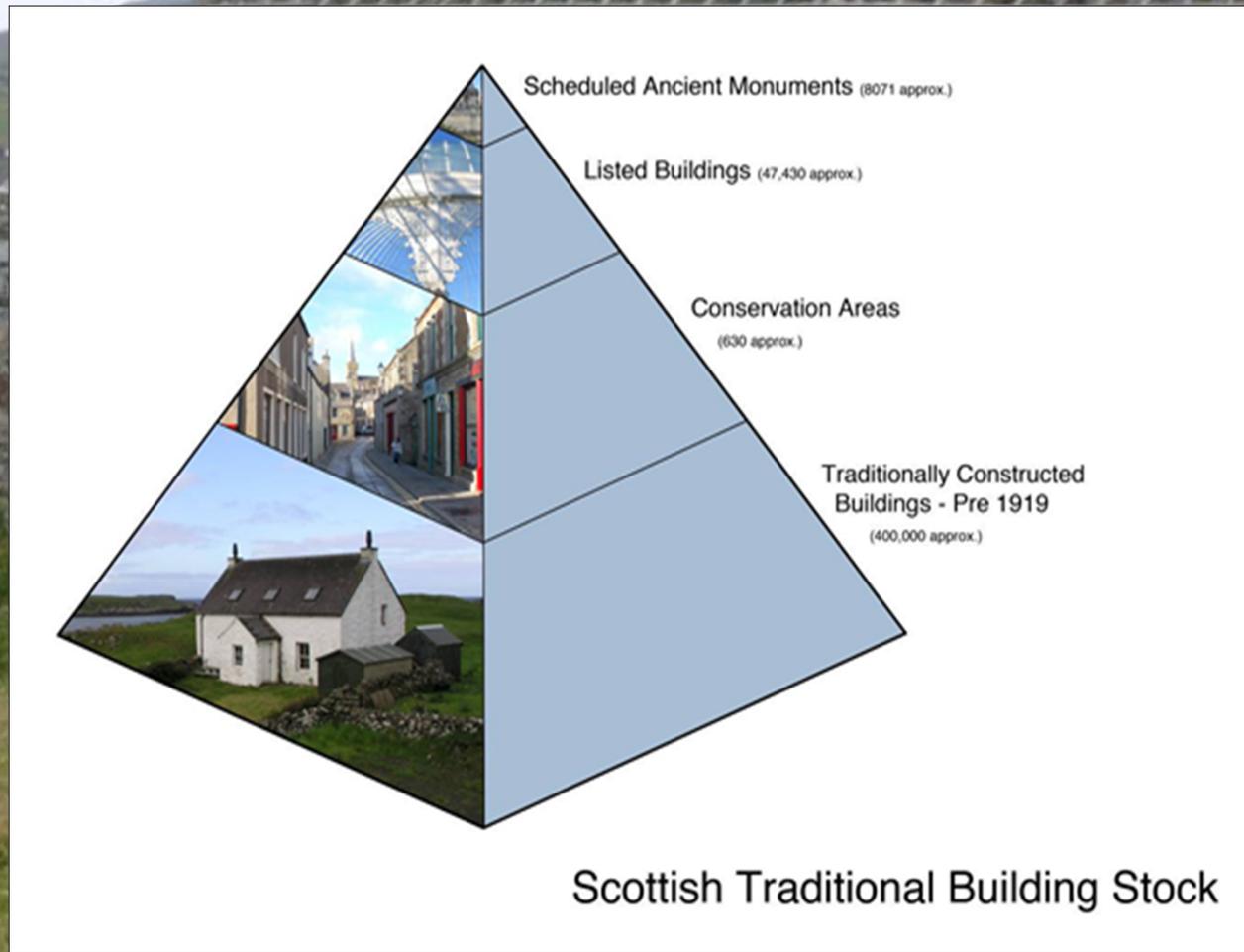
“So we should take this to all our local Politicians & Councillors and Make them Take Notice!”



Primary Energy



Breakdown in Heritage Terms



EUROPEAN RESEARCH

- We looked at the 28 Countries of Europe
- In 2015 34% of our built housing stock was pre-1945
- If you add Public Buildings that will raise to about 50%
- Then add Industrial it will hit 60%
- All needing an Energy Retro-Fit
- and Yet all Governments are ignoring this sector



Tokenness

- Government introduced the BER
- So all houses that are sold or Let have to have a BER (Protected Structures are Exempt)
- It's a Tick Box Situation so if your Building doesn't *Fit* it **Fails**
- It is ***SO FLAWED*** it's almost unbelievable



BER



BER Cont.



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Building Examples



Town Buildings

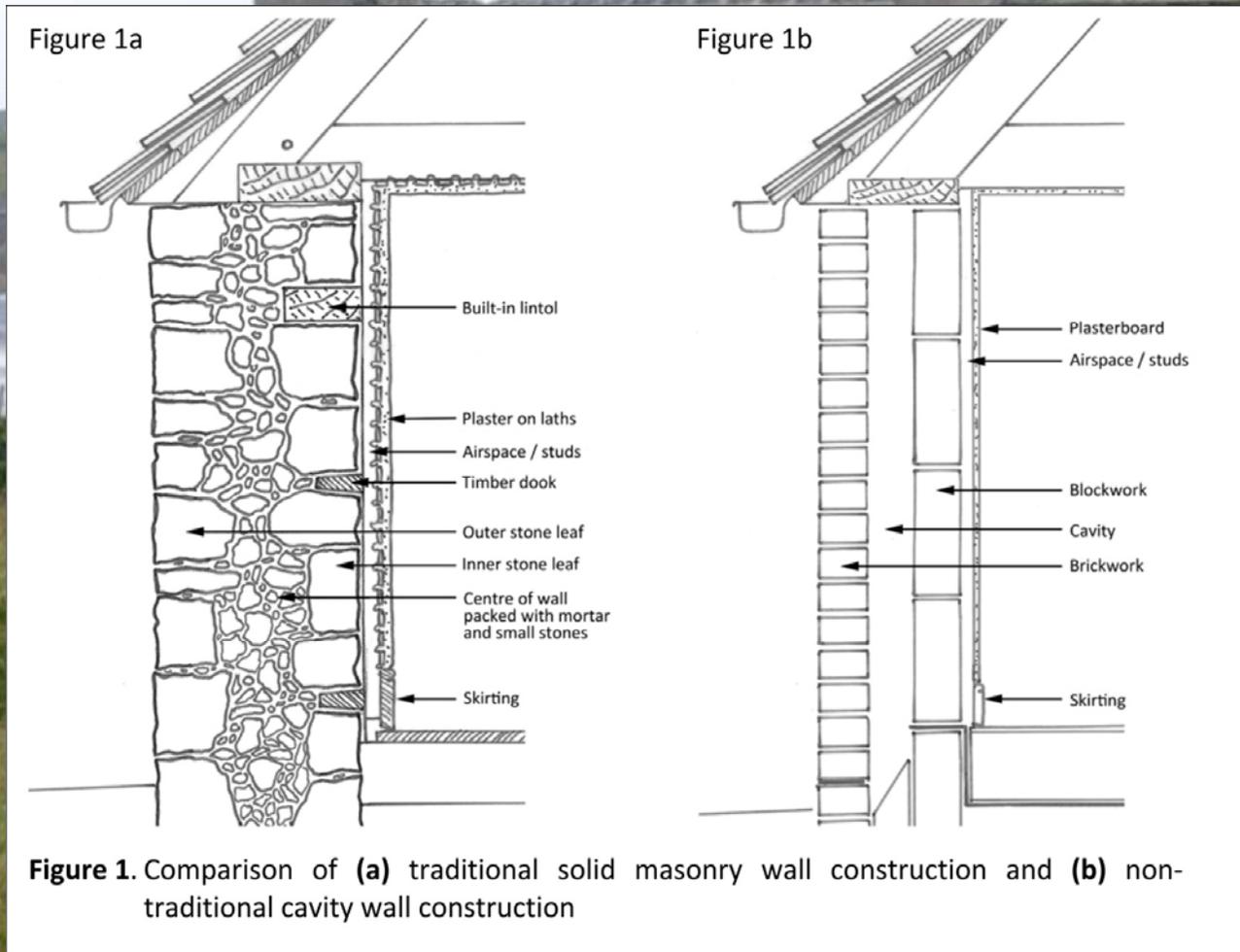


What is a Traditional Building

- Technically a building built pre-1945
- But you could extend that to the mid or late 1960's?
- It was the Oil Crisis in 1974 that changed the form of construction
- Mind you a lot of post 1974 are not that good either.



In Basic Terms



Simulation

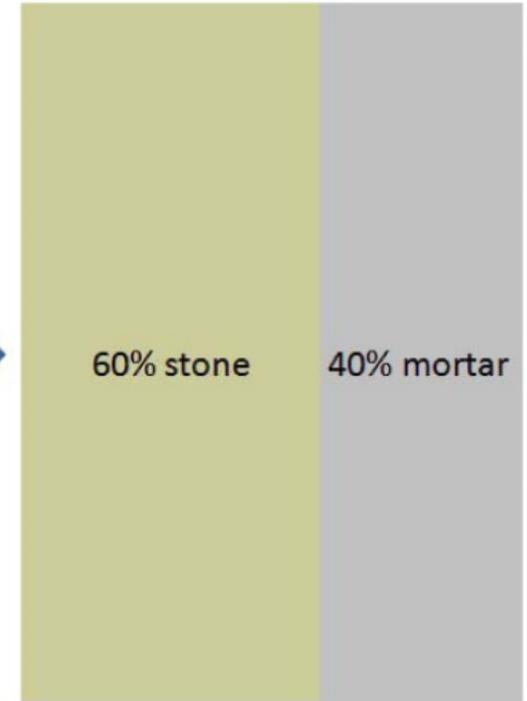
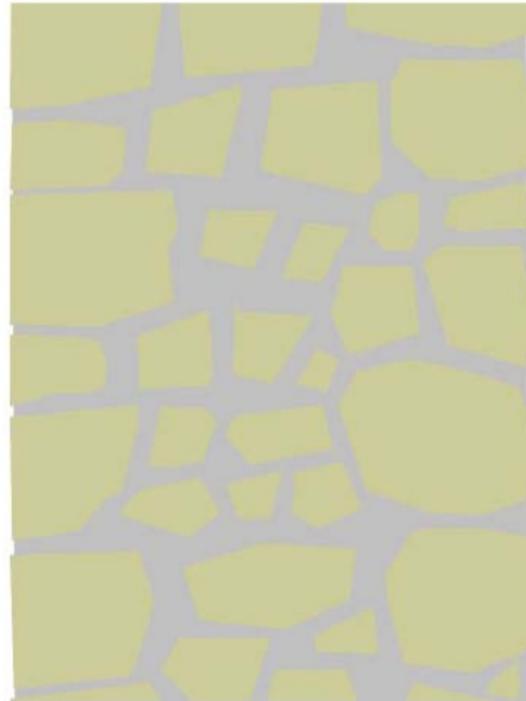
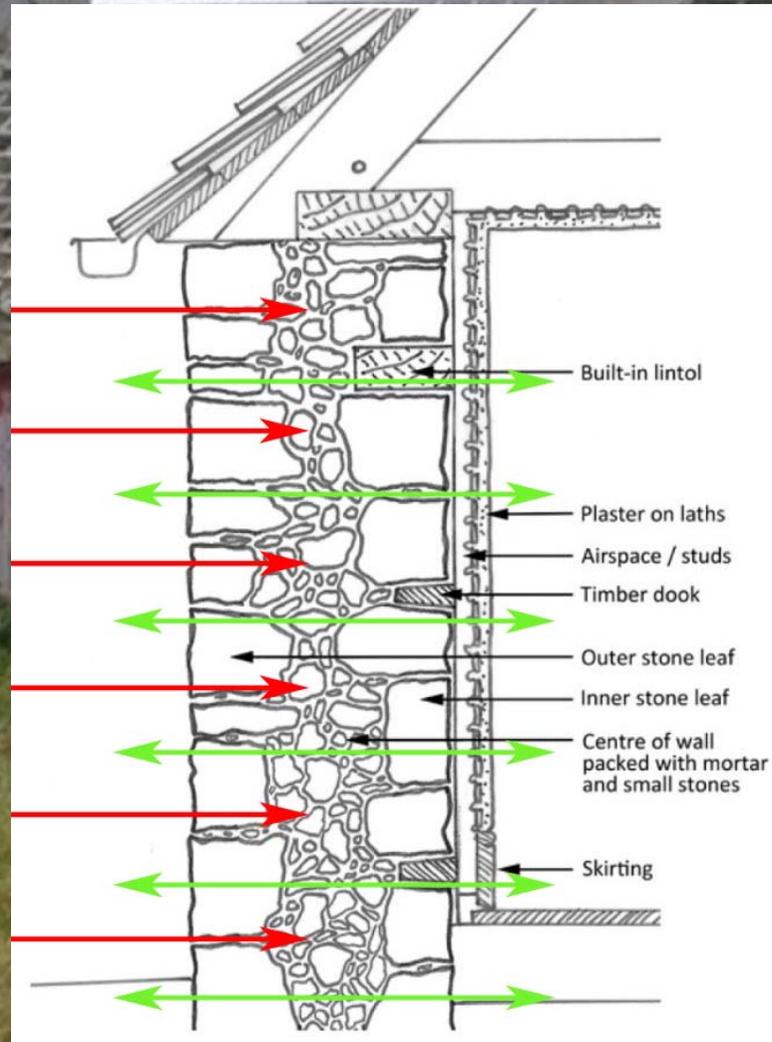


Figure 5. Traditional solid wall construction: the left figure (a) shows a schematic diagram of a rubble wall construction with 40% mortar; and the right figure (b) shows its representation as two layers for modelling.



Breathability



Research

The Building: Alte Schäflerei / (



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**Fraunhofer-Zentrum für energetische Altbausanierung
und Denkmalpflege Benediktbeuern**



Kopfbau der Alten Schäflerei

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Research Cont.



Windows, Doors

Beispielfenster

Außenansicht



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Beispielfenster in der Alten Schäferei



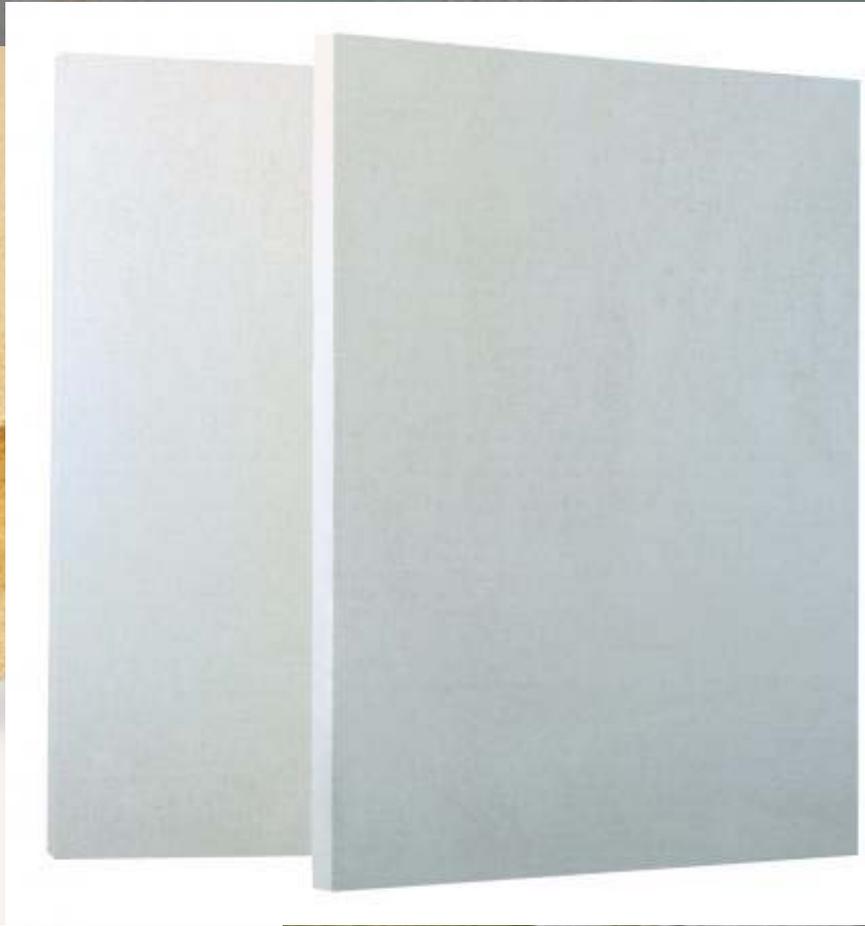
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Materials



The Right Information

- This is the **trickiest bit**
- Who do you believe and why?
- Just because your neighbor did this – can I do the same?
- I would say absolutely not – **Buildings are like Finger Prints – *no two are the same!***
- ***& Maintenance is Essential***





HERITAGE COUNCIL & NSCES+CC STUDY

- The Heritage Council and the NSCES+CC submitted a Proposal to SEAI which we won
- ***Deep Energy Retro-Fit of Traditional Buildings: Assessing Knowledge Gaps & Addressing Skills Training in Ireland.***
- We will start this at the end of this month and deliver by the end of January 2018
- We are hoping to build a reputation to be successful in ongoing funding for similar projects and to become a serious player in this sector.



New EU Standard

- To be signed off in September / October 2017
- We need to Push that this new standard will be inscribed into Irish Law
- We need to work with Government Departments and Local Authorities to Encourage and Incentivize Proper Initiatives
- We need to harass our Local Politicians & Councillor's so that they accept the need for CHANGE.



Key Importance

- We all need to contribute to achieving International Goals and Targets because we do need to get Climate Change under some control
- But Primarily we need Occupier Comfort
- Occupier Education
- Healthy Buildings to LIVE in
- And Healthy & Sympathetic Products to use in our Traditional Buildings
- It's our Collective Responsibility



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An UPDATE on the SDG's

- We discovered an organization “Coalition 2030” seems to have the ear of the Government – we are working with them
- There was a Public March in Dublin on Monday to highlight the SDG's, mainly on social issues.
- We have made contact with the DOFA and I hope to have a meeting next week.
- We are talking to SEAI about funding for an International SDG Meeting
- But we should be Driving the Need for Change
- The Government is committed to submitting a VNR (Voluntary National Report) in July 2018.





THANK YOU

