

Transition Plan Workshop

Towards a future of sustainable heating practices in Irish households

Trinity College Dublin | Long Room Hub | 11th October 2011

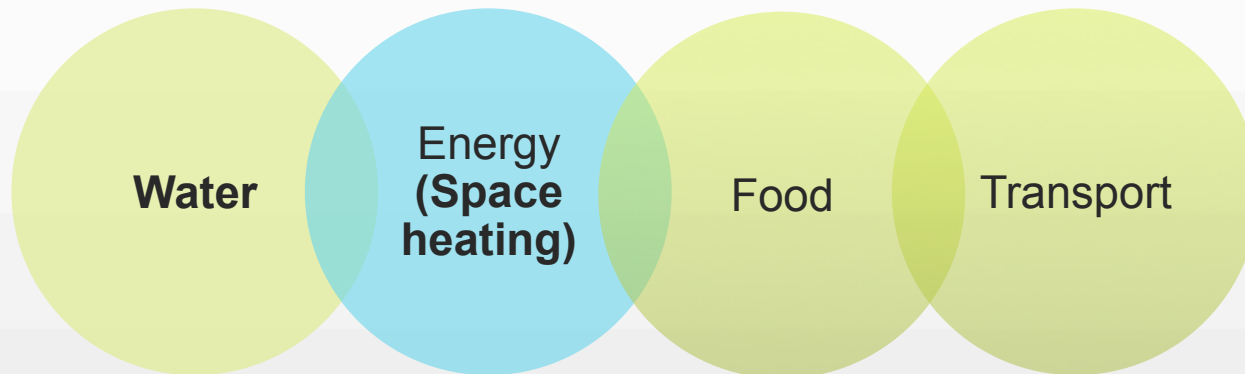
Consensus Team

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TCD Geography Department

Consensus all-Ireland research project

- **ConsEnSus**: Consumption, Environment, Sustainability
- Environmental Protection Agency (EPA) funded, 4 year project
- Trinity College Dublin & National University of Ireland Galway
- Consumption in Irish households



- SCRN – Sustainable Consumption Research Network

Participatory backcasting process & steps

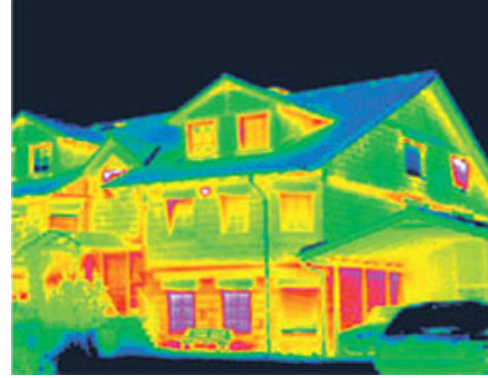
Backcasting: Dreborg (1996) “normative” future visions

Goal: To design, explore and evaluate future visions integrating socio-technical innovations to develop transition plans for more sustainable home heating practices in Irish households

Research Phases



Energy consumption issues



- **Fossil fuel dominance:** import dependency (+90%)
- **Residential sector:** 25% of total primary energy consumption (NI 33%)
- **Space heating:** 60% - focus of Consensus research
- **Fuel poverty:** 20% (ROI) 34% (NI)
- **Inefficient housing stock:** 60% (ROI) and 90% (NI) fail to meet basic energy efficiency standards
- **Trends:** larger houses, fewer occupants, individualization, rebound effect
- **Climate change targets:** EU 20-20-20 | 90% reduction in emissions by 2050 (based on 1990 levels)

Consensus research framework

Current response	Consensus approach
Fragmented	System innovation
Incremental improvements	Fundamental change
Simplified model of behaviour	Social practice theory
Efficiency	Sufficiency (limits)
Predict & provide	Manage demand
Short-termism	Long-term view
Non-interventionist	Intervention & regulation
Top down	Co-creation
Growth	Wellbeing

(Key references: Kemp *et al.* 2006, Meadowcroft 2005; Shove, 2005; Seyfang, 2006)



**Delivering warmth
through time...**

...In the future?



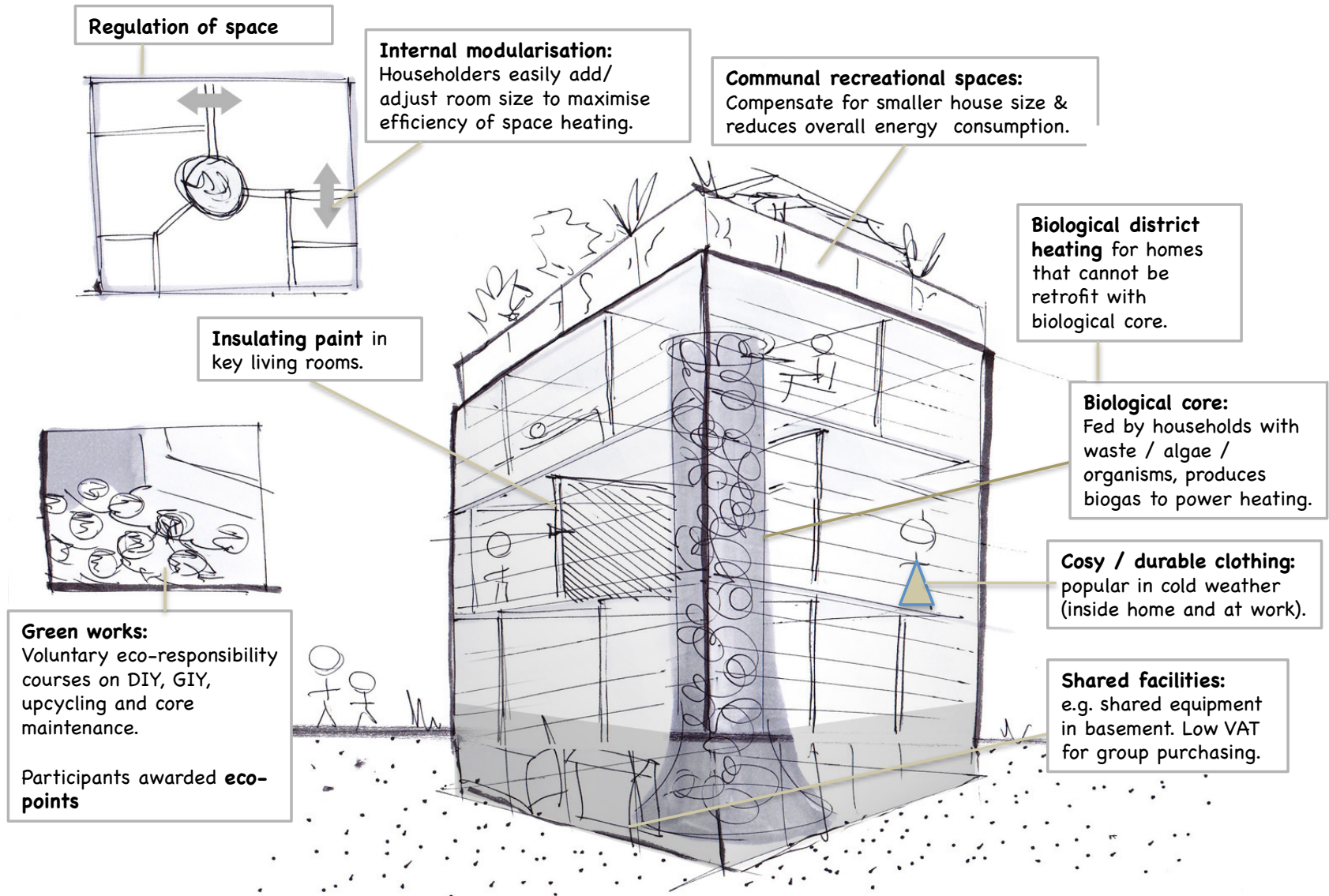
2050 Visions

Visioning Question

What social, organisational and technological innovations might fulfill the **NEEDS** of home heating more sustainably in the year 2050?

- 1. Community Core:** high levels of cultural change with reductions in home space & community biological heating sources
- 2. Carbon Control:** tighter regulation combined with the engagement of householders in energy management through smart technologies and renewable energy generation.
- 3. Heat Layer:** high levels of technological change – advancement bioclimatic architecture complemented by direct body heating solutions.

2050 Vision sample (Community Core)



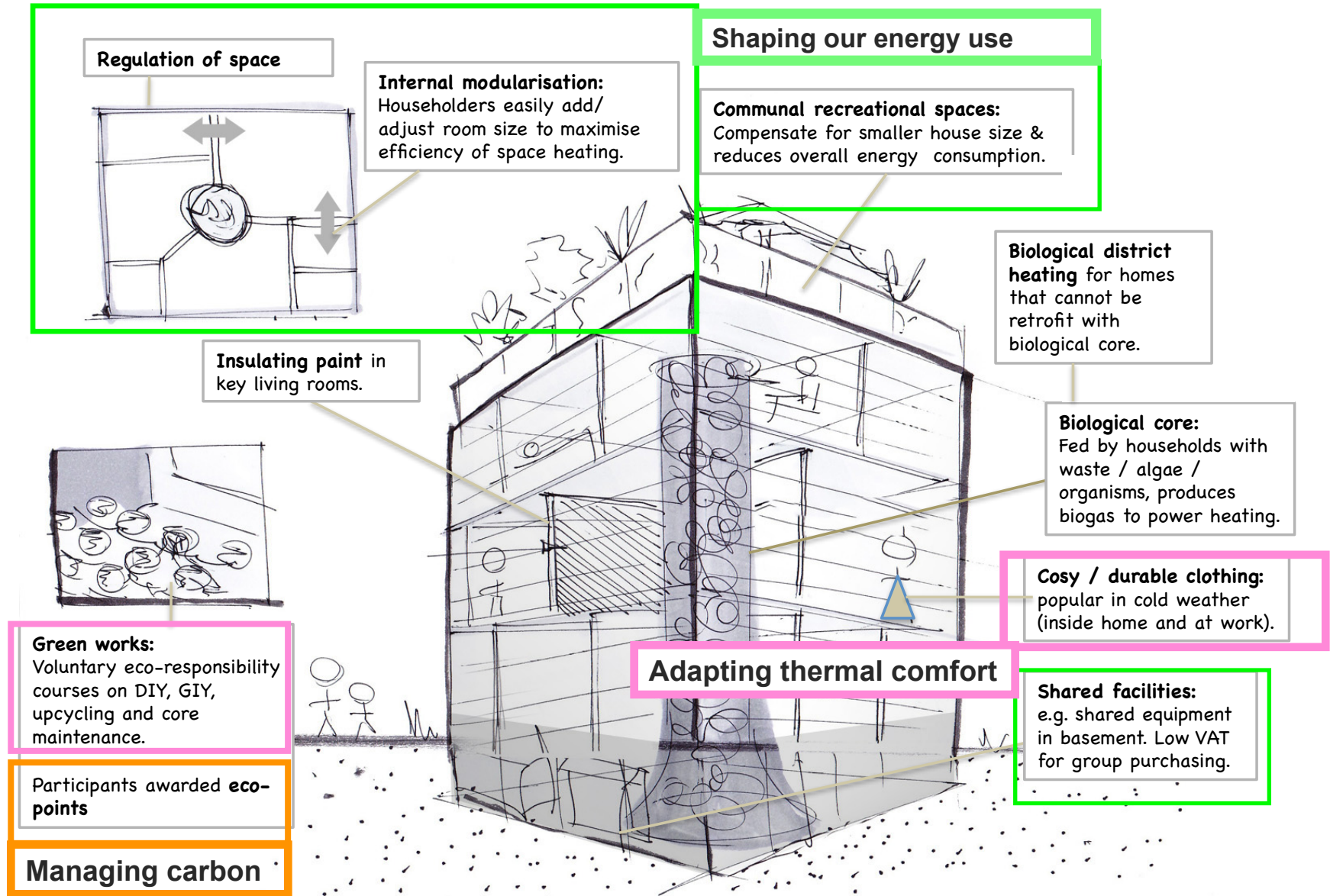
From 2050 visions to “Promising Practices”

Promising Practices:

- Combine innovations from the three visions
- Take into account results of sustainability assessment & public feedback
- Permit focused development of Transition Plan

1. **Shaping our energy use – building fabric solutions**
2. **Adapting thermal comfort – personal changes**
3. **Managing carbon – consumption within limits**

2050 Vision sample (Community Core)



Workshop Aim

The aim of today's workshop is to use the 'Promising Practices' as a basis for which to develop a long-term **Transition Plan** for sustainable heating.

The Transition Plan should contain recommendations for **policy, educational and business measures**

Shaping our energy use – building fabric solutions

*In the year 2050... “My new home is fully equipped with the latest **space adjusting interior** and is encased in a beautiful ‘**second skin**’. This is a permeable outer membrane that maintains a comfortable, healthy indoor temperature. Many of my friends’ old homes have also been retrofit with these features. I’m lucky enough not to have to use heating at all. My **space is a bit tighter but communal spaces** for socialising and eating compensate for this”*

- **Home ‘second skin’**
 - Ventilation membrane for passive heating & natural cooling (bio-climatic architectural principles)
 - Intelligent façade & solar cells for generating electricity
- **Adaptable internal space / modular home units**
 - Modification of space according to number of occupants (long / short-term)
 - Reduction in home floor size.
- **Compact communal living**
 - Increase in shared spaces and live-work spaces to reduce overall energy use

Adapting thermal comfort – personal changes

*In the year 2050... “we’re **actively engaged in adjusting our personal temperature** and the energy use of our homes. I keep cosy through a combination of **additional layers** or by activating my ‘**smart-vest**’. I maintain tight control over energy use through checking room **temperature indicators** and actively adjust space heating and all our appliances”.*

- **Cosy clothing**
 - Warmer, ‘practical’ clothing accepted at home and at work
 - Awareness and educational campaigns on behavioural adaptation strategies
- **Smart vest**
 - Provides direct on-body heating
- **Heating controls & energy monitor**
 - Enhanced controllability of indoor temperature & appliances
 - Live electricity grid information permits smart use

Adapting thermal comfort – Today

Japan 'Super Cool Biz' campaign urges businessmen to shed suits & save energy



KYODO PHOTO

Environment Minister Yuriko Koike holds up a panel showing how to wear a suit fashionably without a necktie at the Environment Ministry on Wednesday.



Battery Powered
CORE HEAT

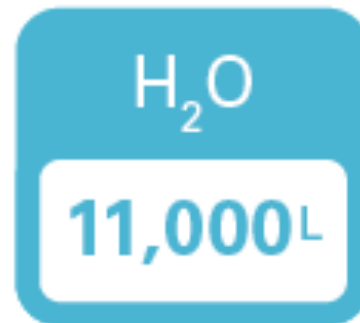
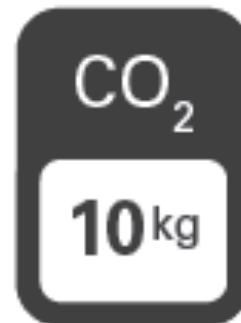
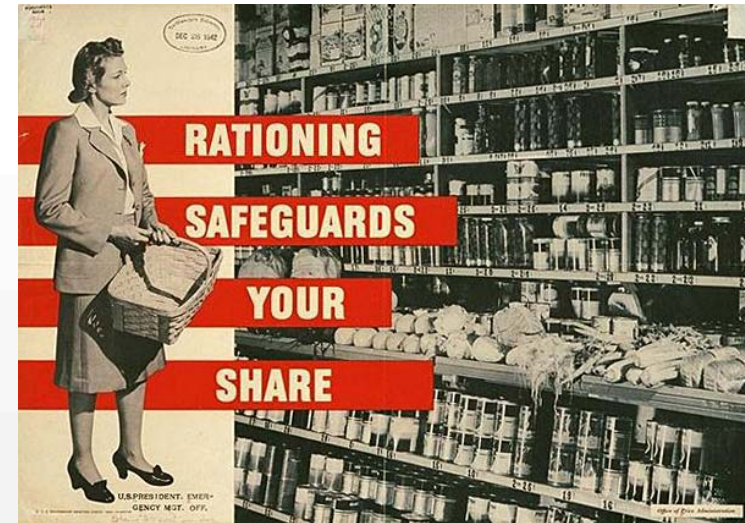


Managing carbon – consumption within limits

*In the year 2050... “I keep a tight rein on my **carbon quota**. It’s easy to do this as every time I use energy to heat my home or I purchase any product / service I can see the exact **environmental costs** associated. I make great **savings** from being careful about my consumption and I’m **rewarded** for keeping within my carbon budget”.*

- **Individual carbon quotas**
 - Shapes how people use energy in their home and all their other resource consuming activities (purchase of products, use of services)
 - Sale of excess credits
- **Carbon transparency**
 - Labeling / ICT for consumers to allow smart choices
- **Consumption rewards & visibility**
 - Publicising consumption levels
 - Individual & community rewards for low carbon use

Managing carbon – Today



Transition Plan potential measures

People

- Education
- Community initiatives
- Social marketing
- Information & consumption visibility

Policy

- Binding targets
- Design regulations
- Planning legislation
- Subsidies / grants
- Eco-taxes

Technology / Business

- Product development
- R&D plans
- Voluntary codes of practice
- Demonstration projects
- Investment

Brainstorm!

What **policies, educational initiatives, business & technology plans** could help pave the way to the 'Promising Practices' of sustainable heating use in **Ireland?**

3 sub-groups

- 1) Shaping our energy use – building fabric solutions (green)
- 2) Adapting thermal comfort – personal changes (pink)
- 3) Managing carbon – consumption within limits (orange)

Timing

Start: 11:00 | Finish: 12:15 | 20 minutes in each sub-group

Rules

1. Unusual ideas welcome
2. Quantity of ideas favoured
3. Limited criticism
4. Combine ideas

Transition Workshop Tuesday 11 October

TIME	ACTIVITY
10:30	Introductory presentation
11:00	Promising Practice brainstorm – 3 sub-groups <ol style="list-style-type: none">1. Managing carbon – consumption within limits (orange)2. Shaping our energy use - building fabric solutions (green)3. Adapting thermal comfort (pink) <ul style="list-style-type: none">- 20 minutes in each group, then attendees re-shuffle
12:15	Lunch
12:40	Transition Path <ul style="list-style-type: none">- 3 subgroups- Development of timeline to 2050 – key ‘actions & actors’
13:20	Evaluation <ul style="list-style-type: none">- Feedback on research and workshop process
13:30	Event close

Transition Path – Key actions & actors

Goal:

Elaborate key measures

Plot over time

Identify barriers, enablers, actors

Timing: 12:40 – 13:10

Short-term (2020)

Medium-term (2030)

Long-term (to 2050)



- Key 'Measures' & 'Actors' over time.

Thank You !

Please complete the '**evaluation form**' before leaving
(Takes c. 5 minutes)