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Improving building energy efficiency through working with the retrofit supply chain

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Why do supply chain attitudes and behaviours matter?

Technology exists for zero carbon buildings

But supply chain decision making isn't using that technology

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The Design Performance gap arises from supply chain decisions

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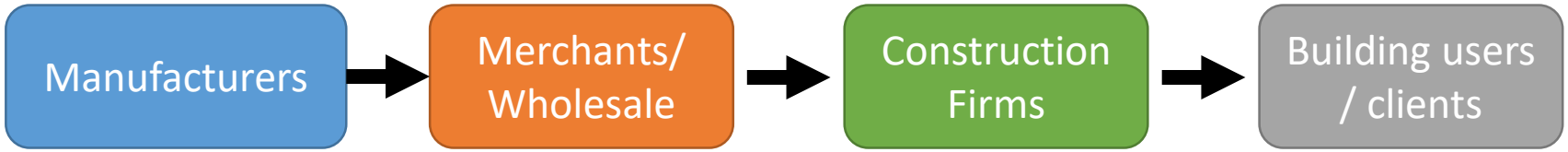
The retrofit supply chain encompasses a lot of individual actions


Manufacturers
Merchants/ Wholesale
Construction Firms
Building users / clients

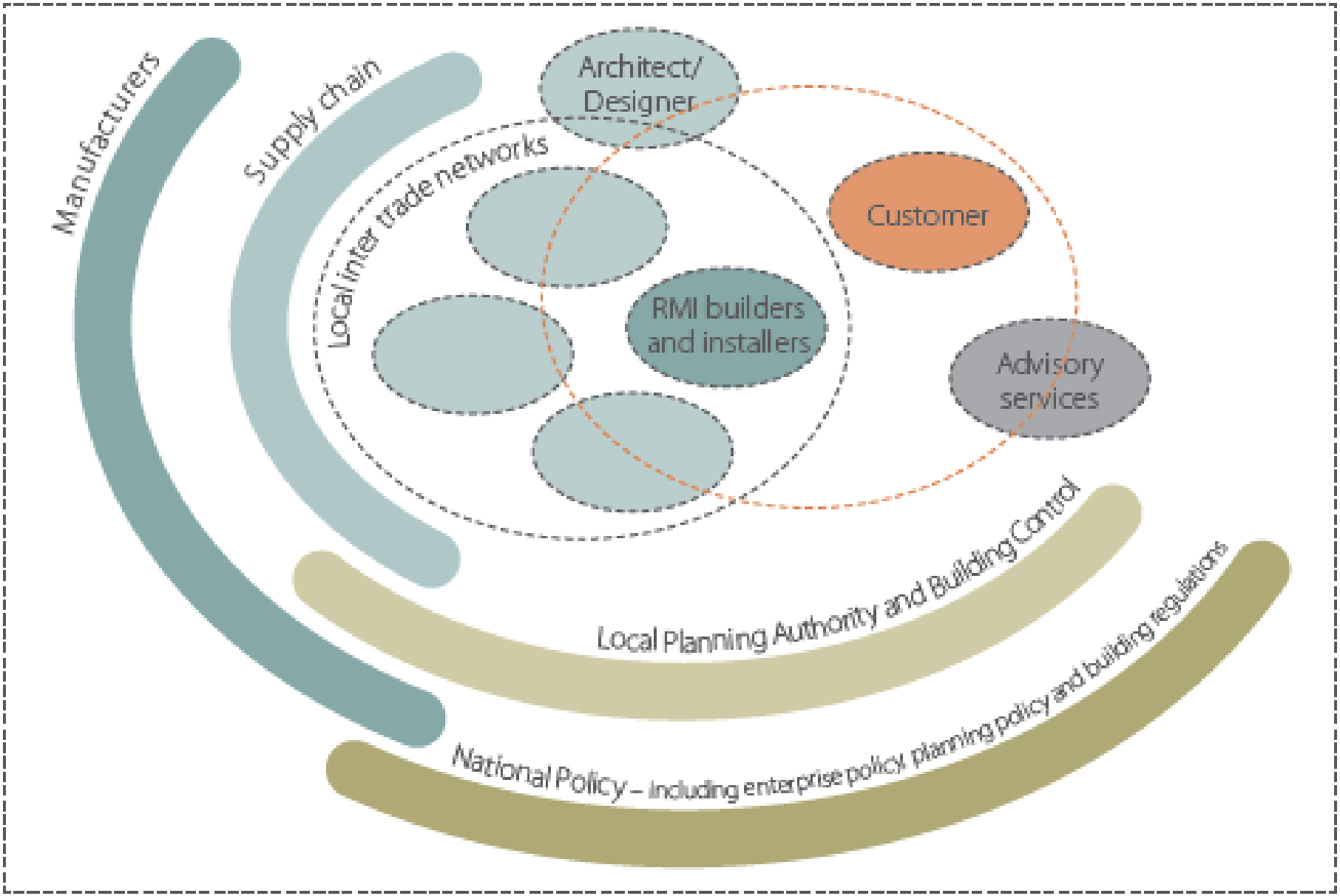


Figure 3: The home energy retrofit system

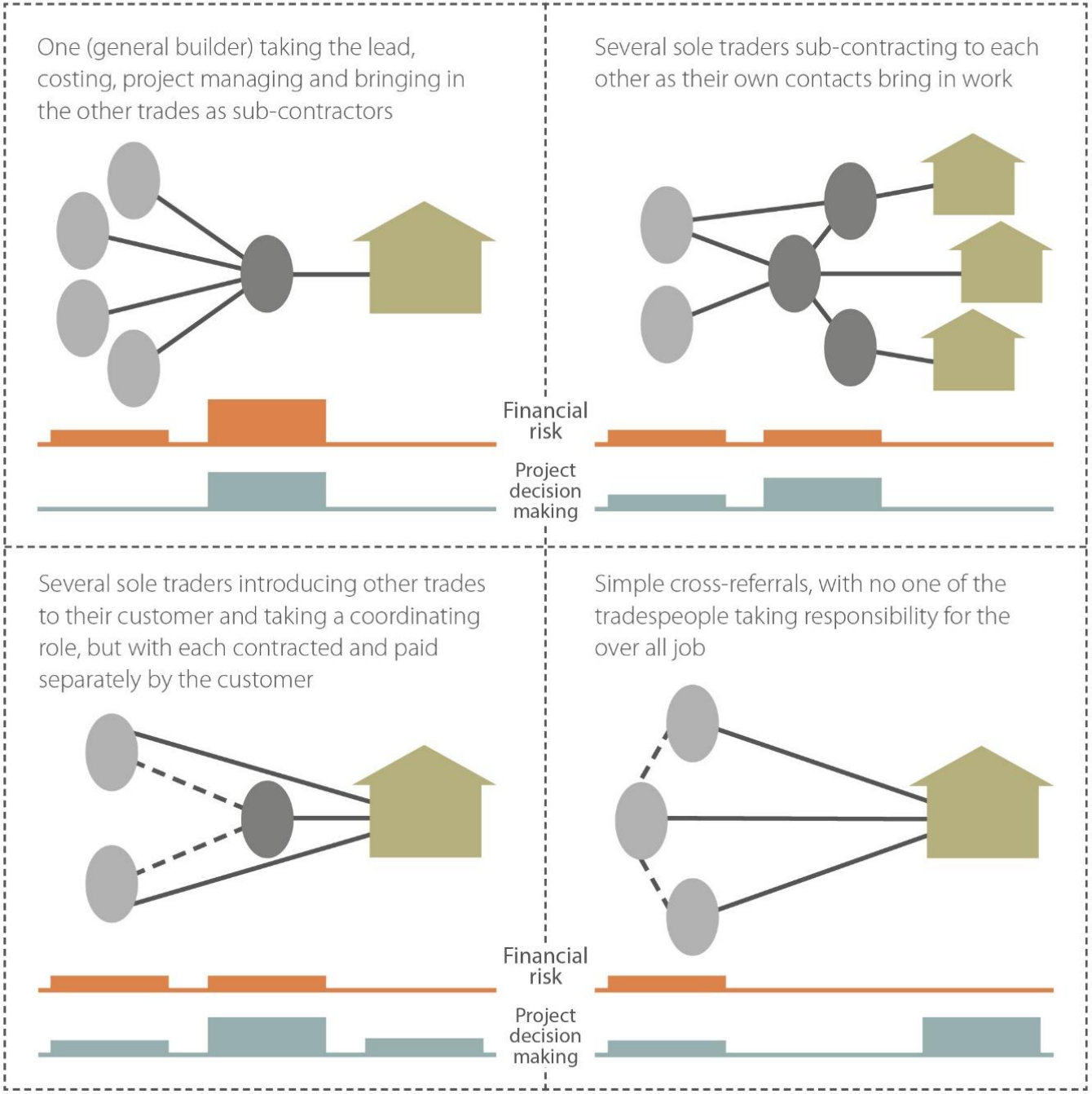


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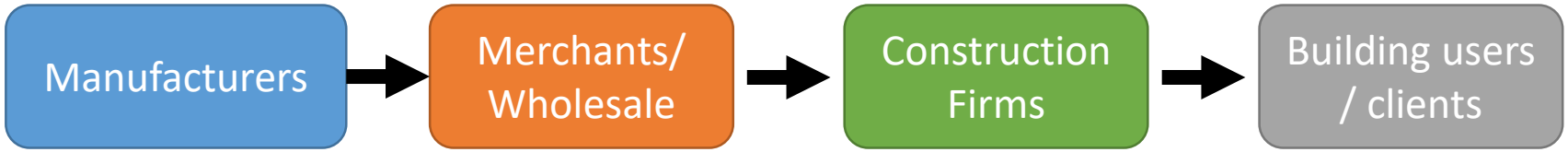
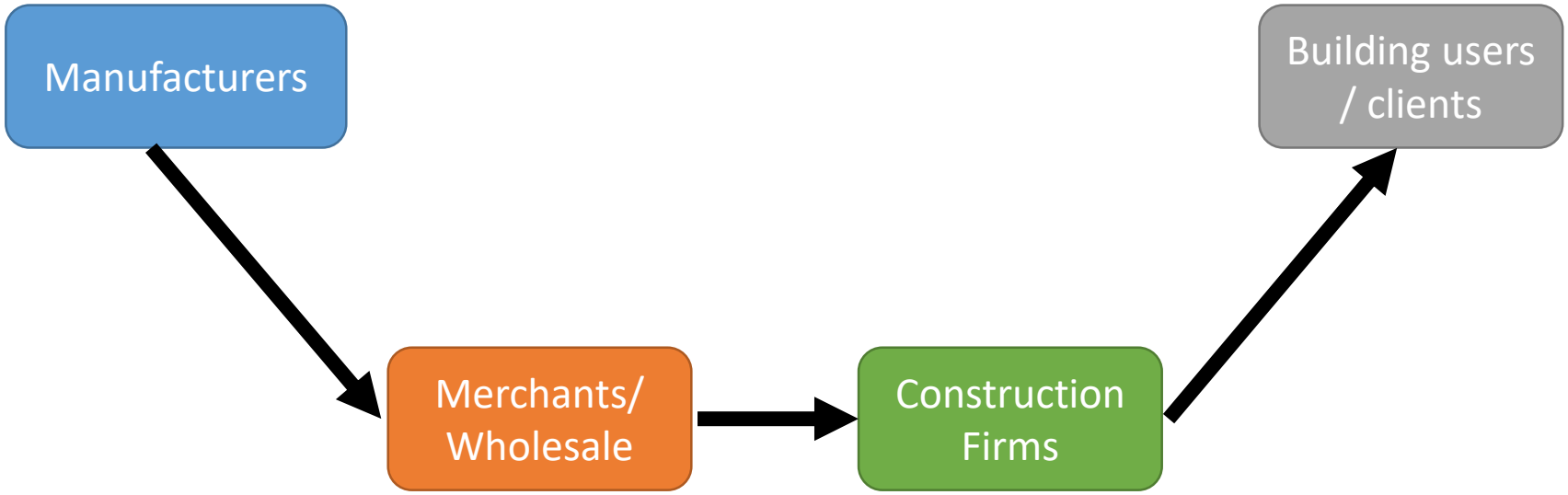
Figure 2: Informal local inter-trade networks


Manufacturers
Merchants/ Wholesale
Construction Firms
Building users / clients


Manufacturers
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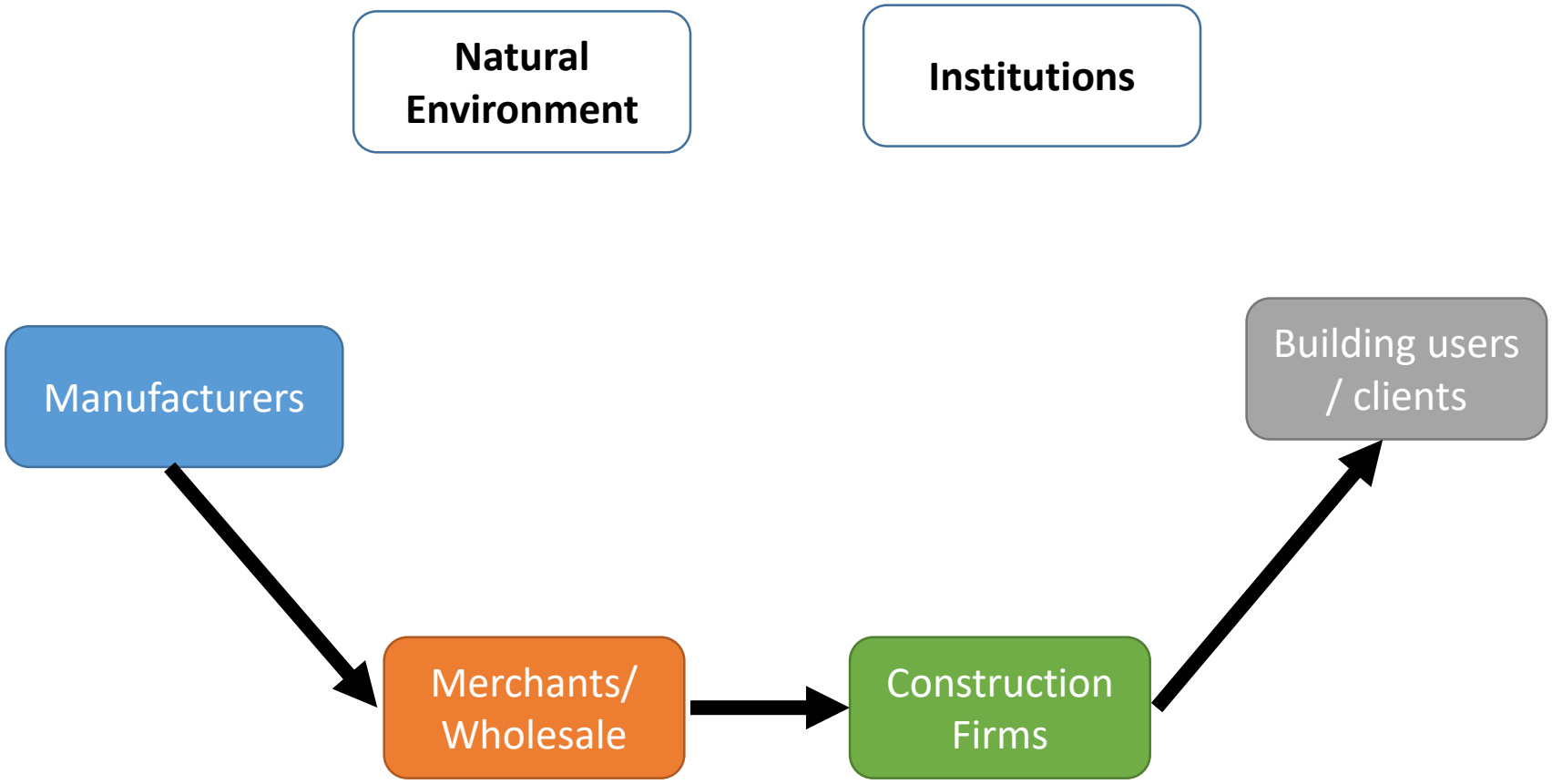
Construction Firms
Building users / clients


Natural Environment
Institutions
Manufacturers
Merchants/ Wholesale
Construction Firms
Building users / clients

Construction Retrofit Network

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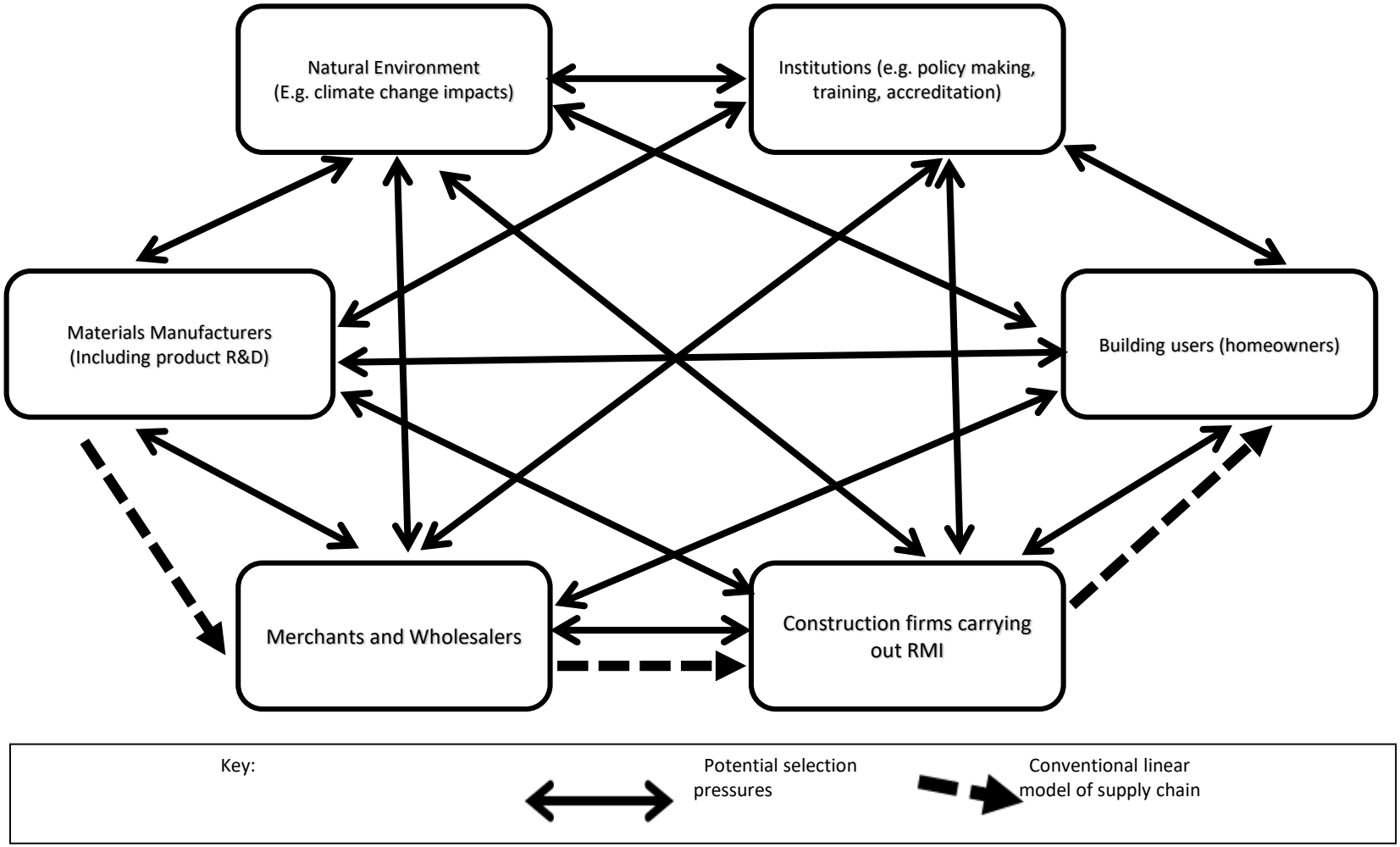

Owen et al, 2017 eceee

Construction Retrofit Network?

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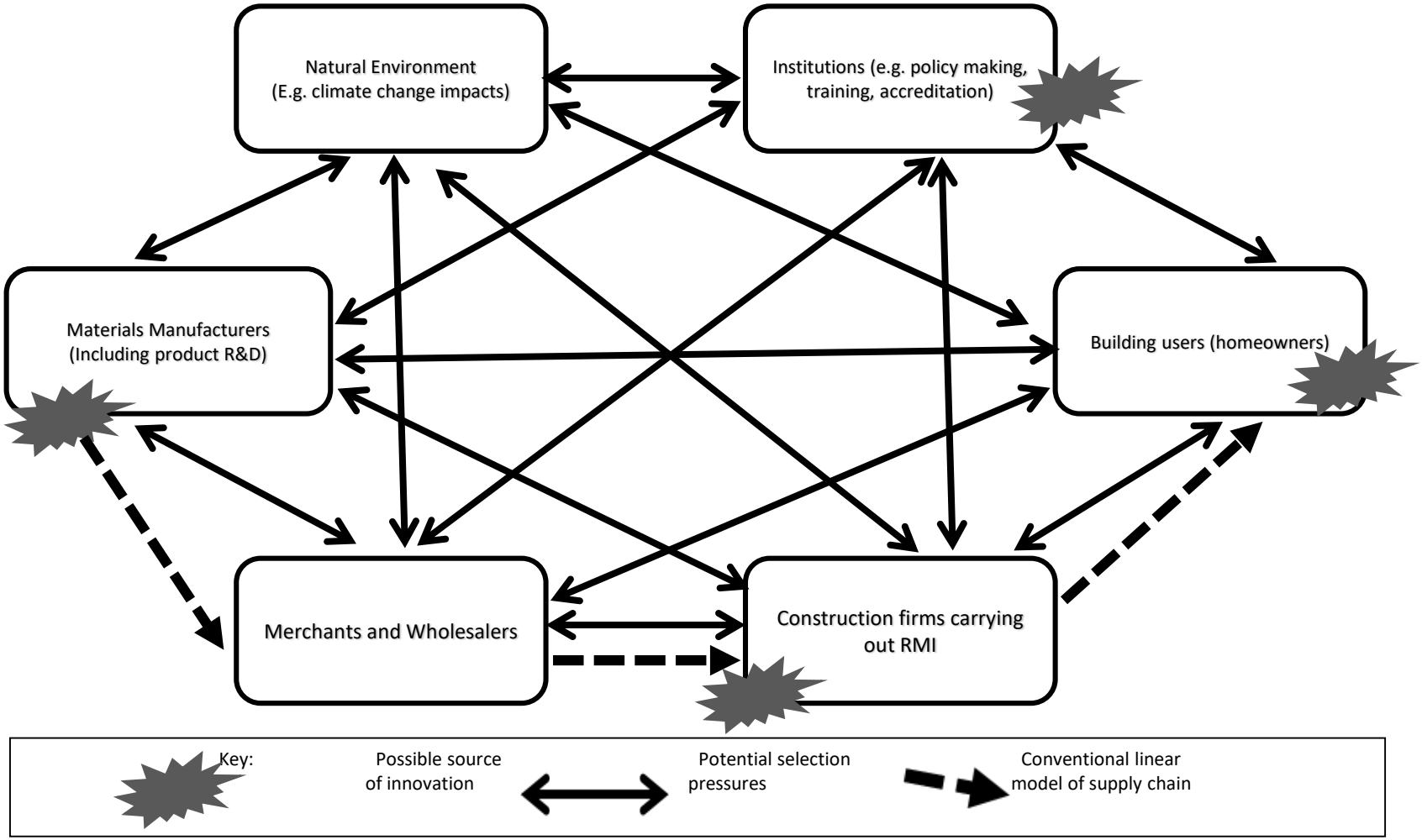
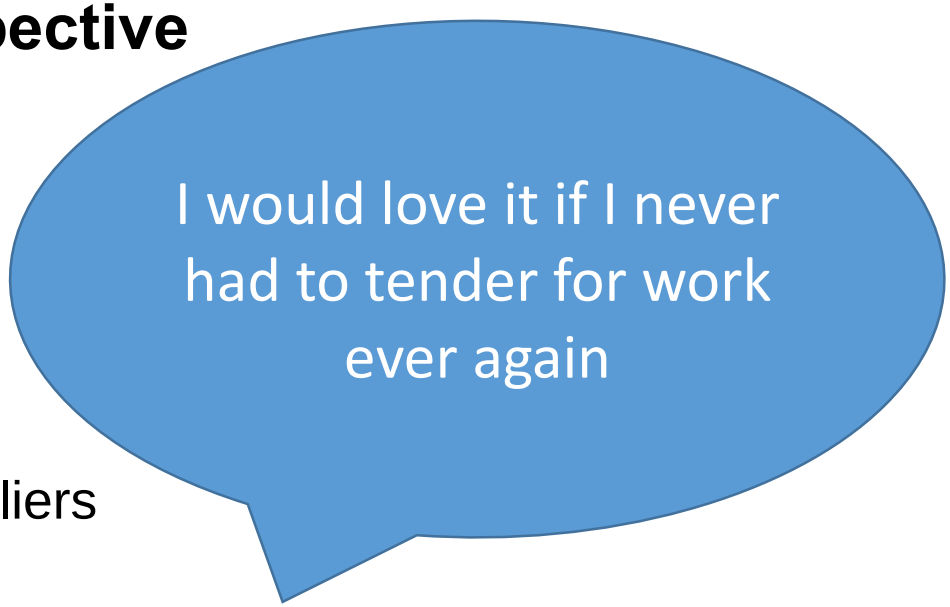


The builder/installer's perspective



- Reputation is (almost) everything
- Trust – with clients and with suppliers
- Accreditation is a cost
- Regulation sets a level playing field
- Quality has to be visible
- Value is assumed to be linked to cost

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The manufacturer's perspective

- Product impact does not include performance
- Merchant and installer understanding is a limit on product adoption
- Installer capability (quality, consistency) is a limit on product performance
- Perhaps 1 in 25, or 1 in 50, innovative ideas make it through to new products

The merchant's perspective

- Want clients to be successful
- Select stock held based on local conditions
- Personal values and beliefs can drive product selection
- There's no feedback loop that tells suppliers how products perform after a project
- There is an immediate feedback loop on product buildability

For effective building energy retrofit, the supply chain cannot be ignored

Policy and action should work with the grain of the industry

- Recognise local relationships, knowledge and trust
- Do not expect committed clients to do all the work
- Do not expect design and technology to be adopted because the economics seem to work
- Regulate for outcomes, not process
- Make sure there's a feedback loop from actual performance to future decisions and practice