



Architecture and Resilience

— on a Human Scale —



The
University
Of
Sheffield.

Cross-disciplinary Conference
Sheffield
10-12 September 2015

SSoA



Transition skills

rethinking the design atelier in the context of local energy transition



Co-authors



Clemens Bernardt
Research institute
Noorderruimte
www.noorderruimte.nl



Sandra van Assen
Research institute
Future Urban Regions
www.futureurbanregions.org



Alex van Spijk
Research institute
Noorderruimte
www.noorderruimte.nl



Transition skills



PROBLEM DEFINITION

RESEARCH QUESTIONS

THEORY

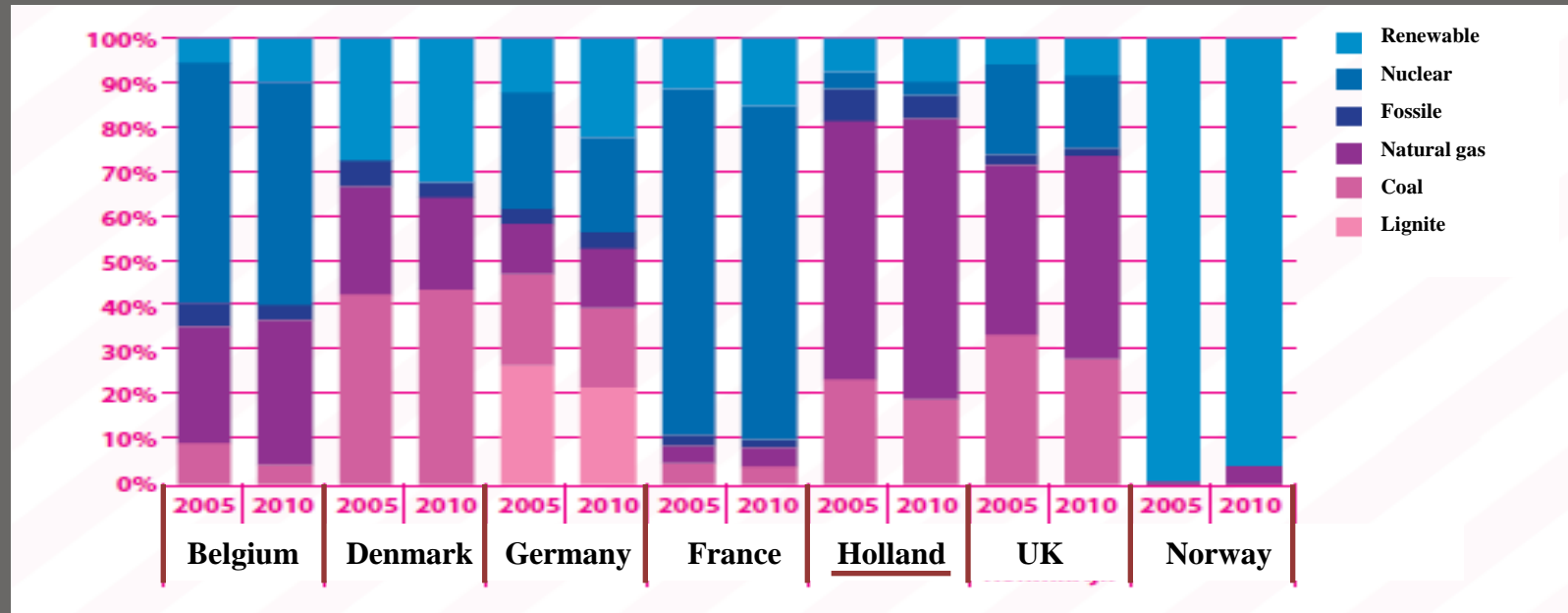
ANALYSIS

DISCUSSION

Problem definition



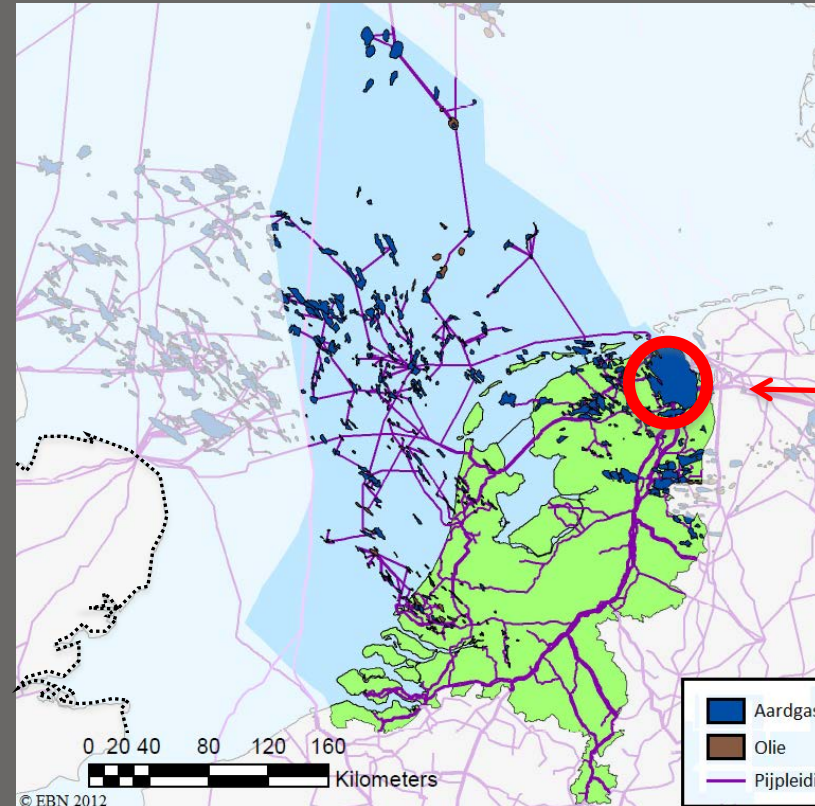
Architecture
and Resilience



Problem definition



Architecture
and Resilience



Groningen

Natural gas in Groningen

Problem definition

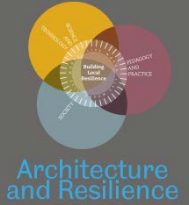


Photo: NRC 21 april 2015

**'Den Haag
comes to Groningen
to apologize for
Earthquakes'**

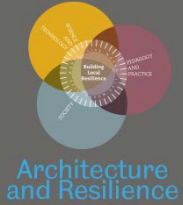
National news, 21 april 2015

Research questions:



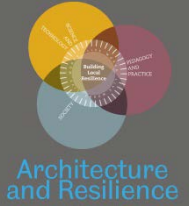
1. RESILIENT COMMUNITIES: What is the potential for energy transition to increase the adaptive capacity of local communities?

Research questions:



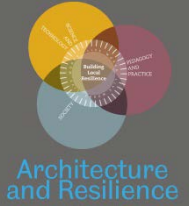
1. RESILIENT COMMUNITIES: What is the potential for energy transition to increase the adaptive capacity of local communities?
2. SKILLS: Which skills does the architect need to enable local communities to increase their adaptive capacity?

Research questions:



1. **RESILIENT COMMUNITIES:** What is the potential for energy transition to increase the adaptive capacity of local communities?
2. **SKILLS:** Which skills does the architect need to enable local communities to increase their adaptive capacity?
3. **PEDAGOGY:** How can we educate architects to achieve the necessary professional profile?

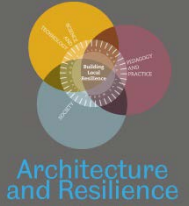
Resilient communities



Capacity to engage in multiple interwoven relationships.

Communities are a contingent whole:

Resilient communities

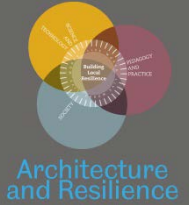


Capacity to engage in multiple interwoven relationships.

Communities are a contingent whole:

- arising from interactions between heterogeneous components

Resilient communities



Capacity to engage in multiple interwoven relationships.

Communities are a contingent whole:

- arising from interactions between heterogeneous components
- articulated by emerging possibilities and constraints

Resilient communities

Capacity to engage in multiple interwoven relationships.

Communities are a contingent whole:

- arising from interactions between heterogeneous components
- articulated by emerging possibilities and constraints
- able to adjust to new circumstances by adopting unprecedented capacities

Skills

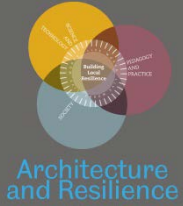


The architect's traditional domain is being deterritorialized under the influence of new challenges, such as the energy transition.

Following DeLanda, it is the search for new spatial tendencies or mechanisms that will redefine the architect's domain.

These mechanisms provide each separate design trajectory with direction.

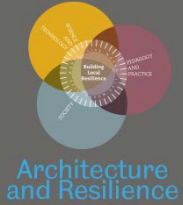
Skills:



Spatial issues within energy transition are complex and hard to conceive:

- understanding diverse socio-economic networks

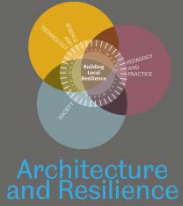
Skills:



Spatial issues within energy transition are complex and hard to conceive:

- understanding diverse socio-economic networks
- engaging within the interactions of diverse stakeholders

Skills:



Spatial issues within energy transition are complex and hard to conceive:

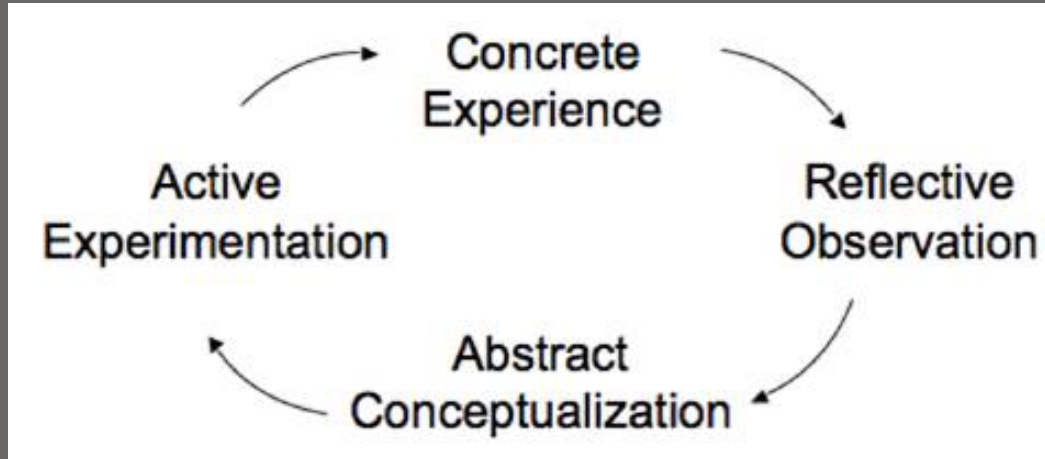
- understanding diverse socio-economic networks
- engaging within the interactions of diverse stakeholders
- contributing to protracted multi-disciplinary processes

Skills:

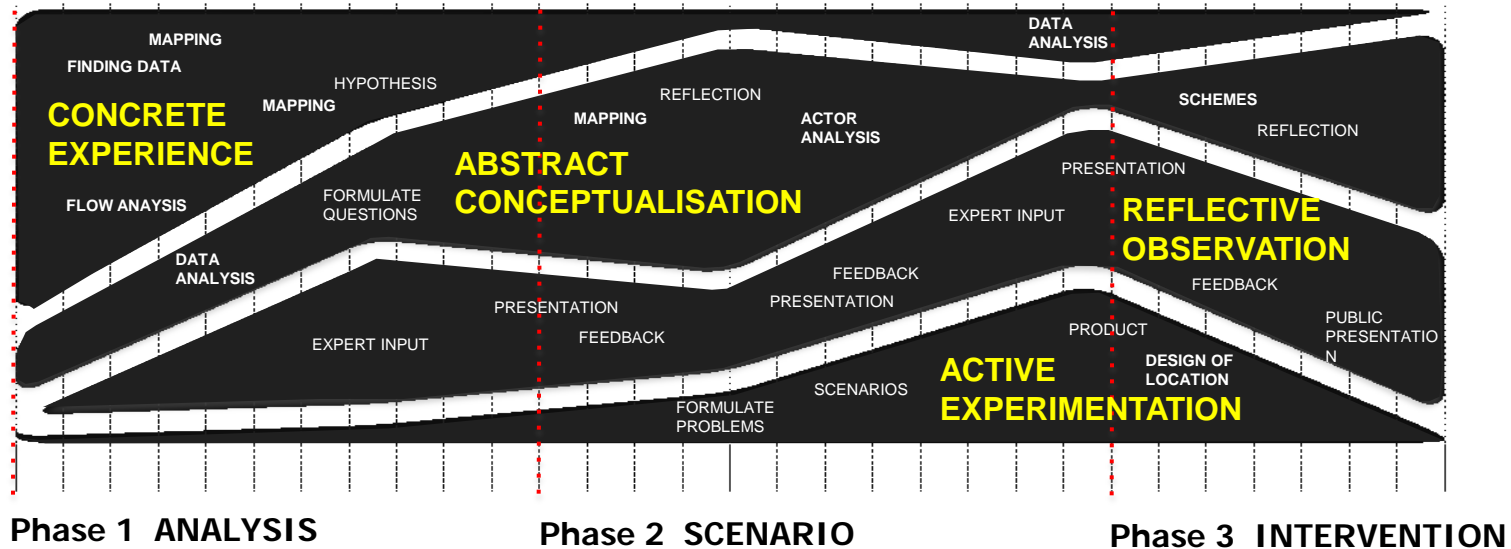
Shove and Walker (2007) caution professionals involved in long-term transitions to remain critical during the “[continuous] cycle of problem definition, intervention and response” (Shove and Walker, 2007: 767).



Pedagogy experiential learning



Pedagogy experiential learning

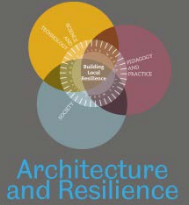


Pedagogy community of practice

Wenger, McDermott and Snijder (2002) define three integral factors that lie at the basis of a community of practice.

An urgent problem necessitates:

Pedagogy community of practice



Wenger, McDermott and Snijder (2002) define three integral factors that lie at the basis of a community of practice.

An urgent problem necessitates:

- the development of new domains of knowledge

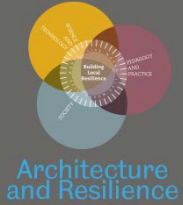
Pedagogy community of practice

Wenger, McDermott and Snijder (2002) define three integral factors that lie at the basis of a community of practice.

An urgent problem necessitates:

- the development of new domains of knowledge
- the formation of an experimental, living community

Pedagogy community of practice

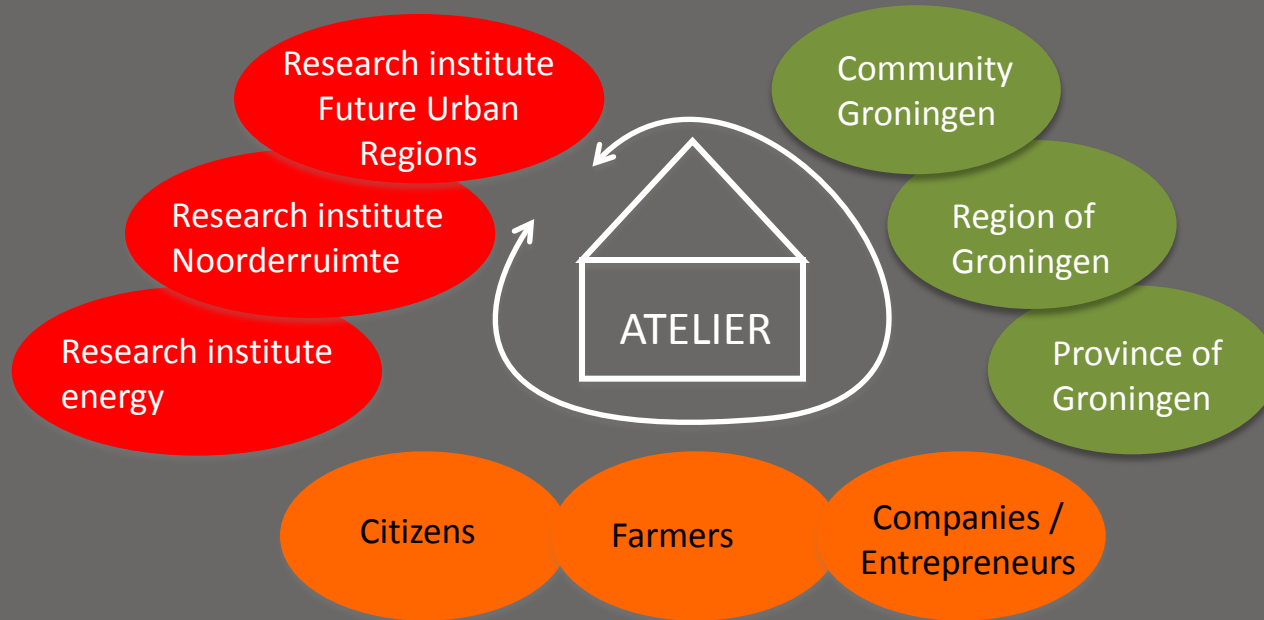


Wenger, McDermott and Snijder (2002) define three integral factors that lie at the basis of a community of practice.

An urgent problem necessitates:

- the development of new domains of knowledge
- the formation of an experimental, living community
- the development of new practices

Pedagogy community of practice

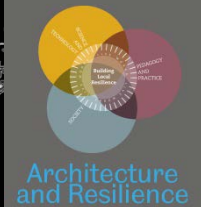


Pedagogy community of practice



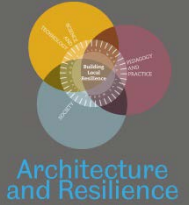
photo's: Sandra van Assen

Pedagogy community of practice



Pedagogy community of practice

Following DeLanda (2006) the development of a community of practice is accomplished in two dimensions:



Pedagogy community of practice

Following DeLanda (2006) the development of a community of practice is accomplished in two dimensions:

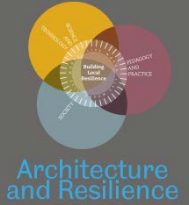
1. Relationship between content and expression
 - **content**; the integration of new experiences and insights into a shared body of knowledge

Pedagogy community of practice

Following DeLanda (2006) the development of a community of practice is accomplished in two dimensions:

1. Relationship between content and expression
 - **content**; the integration of new experiences and insights into a shared body of knowledge
 - **expression**; innovative practices are the expression of this integration

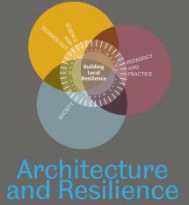
Pedagogy community of practice



2. Tension within territorialization and deterritorialization

- **territorialization**; the articulation and demarcation of the knowledge domain

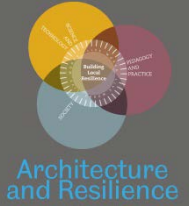
Pedagogy community of practice



2. Tension within territorialization and deterritorialization

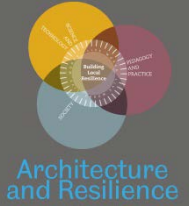
- **territorialization**; the articulation and demarcation of the knowledge domain
- **deterritorialization**; the expansion or transformation of this domain by new influences and ideas

Research method



- observation (exchange moments, presentations etc)
- reflection (community of practice)
- interviews (stakeholders, students and staff)

Analysis

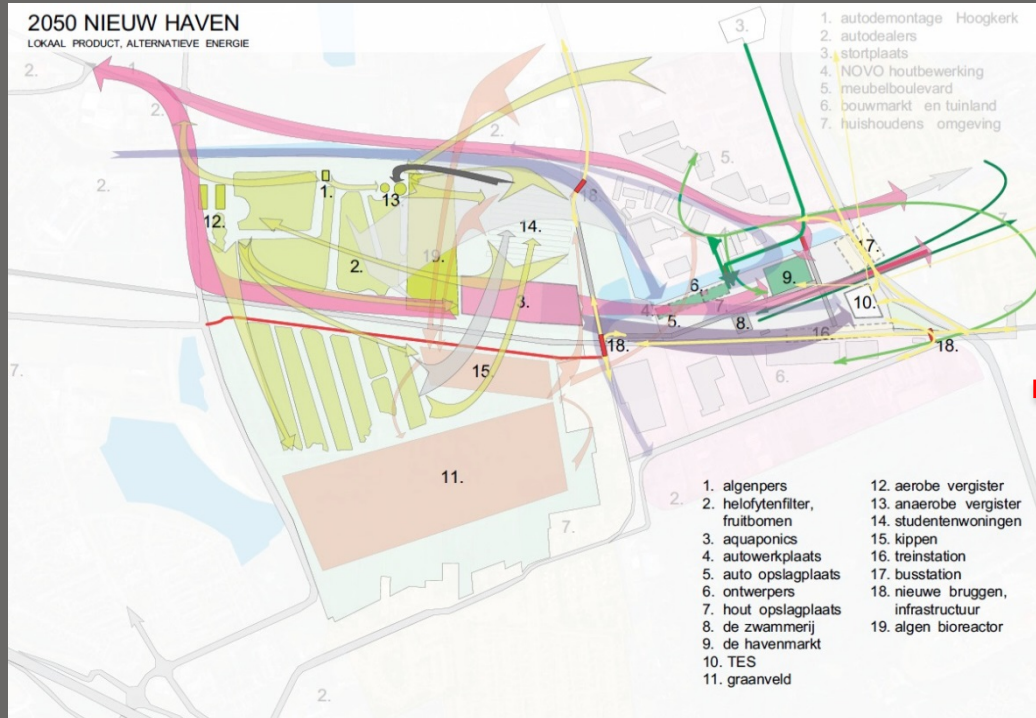


The analysis focuses upon three key moments that:

- provided unexpected and transformative ideas
- raised questions amongst the students in respect to their own (project) process
- and placed them in a position to learn to move within new assemblages.

Analysis key moment 1

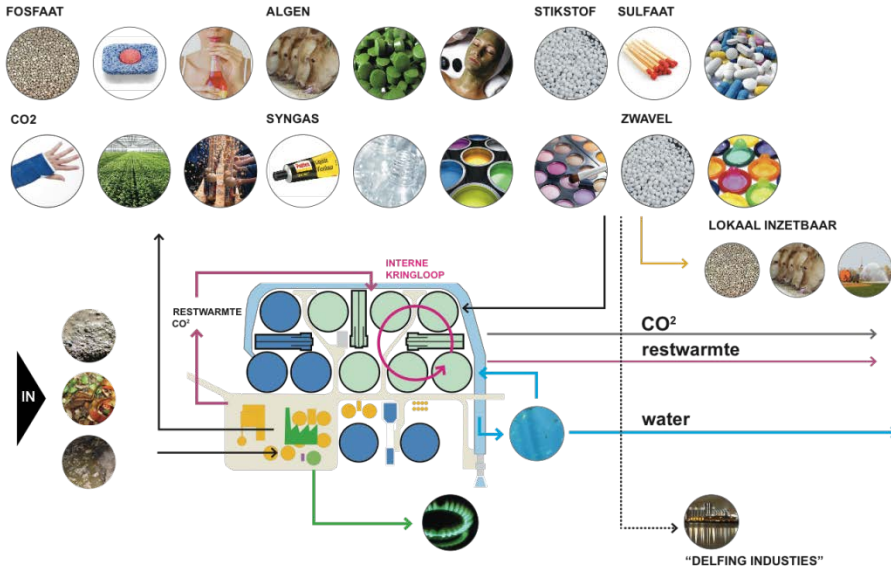
Testing local energy potential



Analysis key moment 2

Reconnect flows of energy, waste and water

WASTE & ENERGY FACTORY





Analysis key moment 3

Intervene in daily routines



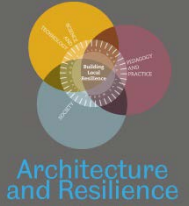
Analysis key moment 3

Intervene in daily routines



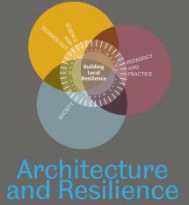
Students: Omar Smits, Ronald Brunsting

Discussion



Attempting to save energy within a spatial context, as the first step of energy transition, lead some students to connect this with the parallel need to close material cycles within local communities.

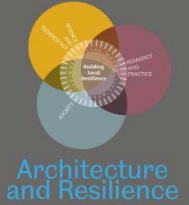
Discussion



Attempting to save energy within a spatial context, as the first step of energy transition, lead some students to connect this with the parallel need to close material cycles within local communities.

New connections between material cycles and everyday practices could contribute potentially significant increases within the adaptive capacity of local communities.

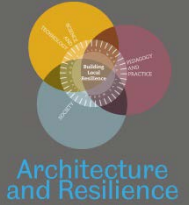
Discussion



Guiding mechanisms:

- the needs, routine and practices within communities
- cycles and flows of energy, waste, water, food and mobility
- energy potential

Discussion



We derive from these mechanisms that the architect's new skills consist of:

- learning to distinguish between the different needs and ambitions within local communities

Discussion

We derive from these mechanisms that the architect's new skills consist of:

- learning to distinguish between the different needs and ambitions within local communities
- critically and sensitively intervening within existing routines and practices

Discussion

We derive from these mechanisms that the architect's new skills consist of:

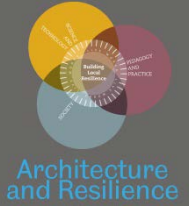
- learning to distinguish between the different needs and ambitions within local communities
- critically and sensitively intervening within existing routines and practices
- innovatively connecting and manipulating cycles and flows

Discussion

We derive from these mechanisms that the architect's new skills consist of:

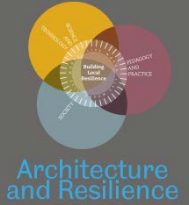
- learning to distinguish between the different needs and ambitions within local communities
- critically and sensitively intervening within existing routines and practices
- innovatively connecting and manipulating cycles and flows
- testing local energy potential

Discussion



Differentiating between three guiding mechanisms we derive skills required by an architect if he or she is to contribute positively to transitions within local communities.

Discussion

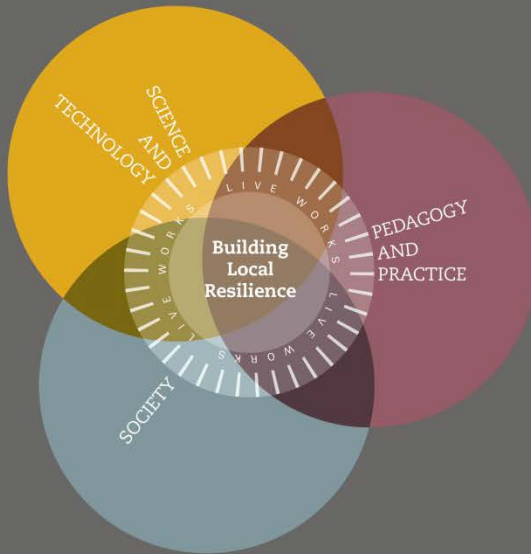


Differentiating three guiding mechanisms we derive skills required by an architect if he or she is to contribute positively to transitions within local communities.

These skills, we argue, can only be developed with the interaction of stakeholders, in a (self)critical, investigative and experiential learning environment.

To be continued





Architecture and Resilience

— on a Human Scale —



The
University
Of
Sheffield.

Cross-disciplinary Conference
Sheffield
10-12 September 2015

SSoA