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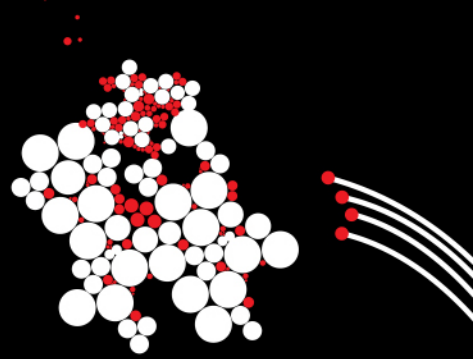
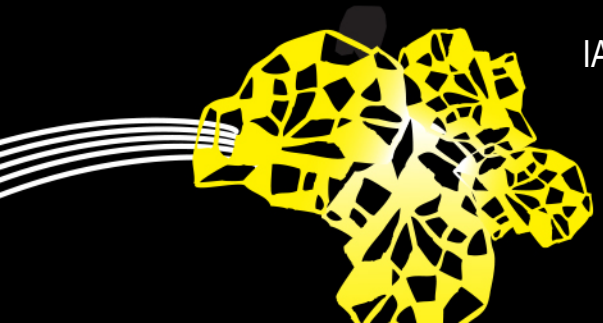


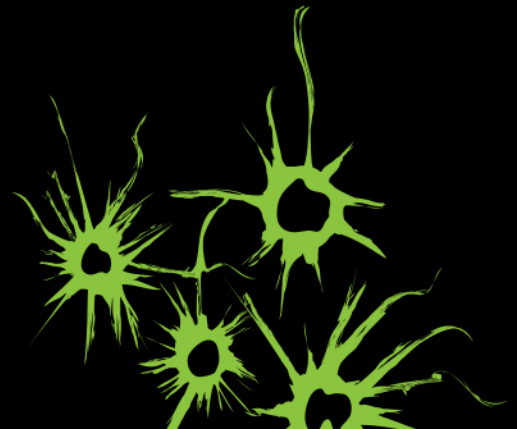
RETSI – A NEXT STEP IN DEVELOPING IAD FOR SYSTEMIC INTEGRATION

BY

BEAU WARBROEK & BUNYOD HOLMATOV



IAD WORKSHOP, 29TH OF JANUARY



OVERVIEW

- What is integration and why focus on integration?
- Examples of integration
- IAD state of art
- Towards integrative action situations

REGIONAL ENERGY TRANSITION AS SYSTEMIC INTEGRATION (RETSI)

- **RETSI's focus**: The regional energy transition as a systemic change: linking to other societal challenges → NWO MARET program on social aspects of energy transition
- **Key assumptions:**
  - **Scarcity of space:** Spatial integration of the energy transition in denseley populated areas is inescapable
  - **Accelerating energy transition:** enhancing social acceptance and expanding energy transition pathways
  - **Integration has added value**. Synergetic effects may occur. Added value is context bound – urban, rural, urban-rural
  - **Integration is insufficiently achieved in practice**

RETSI: OBJECTIVES AND SCOPE

- **Objectives:**
  - identify **factors influencing** energy transition integration potential in rural and urban contexts and their interface;
  - design new action perspectives for private and public actors for **exploiting synergies** of energy transition integration in different contexts.
- **Scope:**
- Institutional Analysis & Development framework as a basis
  - With a focus on designing integrative action situations

LACK OF INTEGRATION

- The Dutch national feed-in tariff (SDE+) stimulates business case optimalization, favouring large-scale solar PV farms on agricultural ground over solar PV on roofs.
  - Biodiversity, landscape values, soil are not accounted for
- Combining heat transition and climate adaptation in urban renovation projects is in its infancy.
  - Financial flows are not harmonized, responsibilities are fragmented

PAW Programma Aardgasvrije Wijken

SIGNS OF INTEGRATION

- A group of farmers implement a biogas grid, using manure of their livestock as a heat source.
- The renovation of a street in Enschede to alleviate water nuisance issues, included a water storage sewage, several rain water storage locations (also introducing green in the street), renewal of cables and pipes, and the installation of a heat grid

INTEGRATION

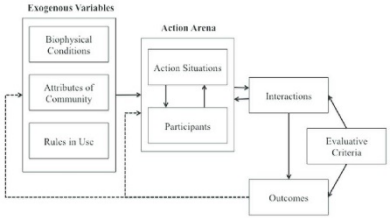
- What is integration?

Integration in our research refers to the integration of the very institutional arrangements that usually facilitate isolated project realization.

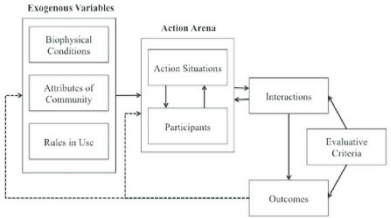
- How does isolated project realization look like from the IAD-perspective?

INDIVIDUAL, SECTORAL ACTION SITUATIONS

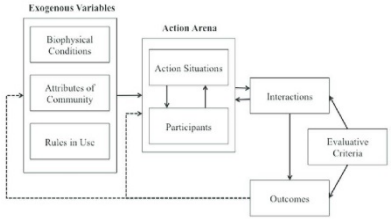
Municipality + farmer B



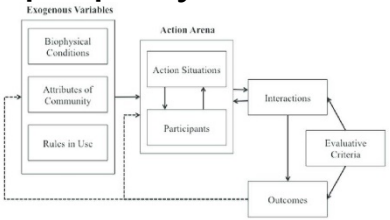
Province + firm A



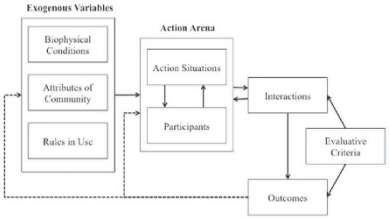
Citizen Initiative + energy firm



Waterboard + farmer A + property owners



Firm B + client



IAD – MULTIPLE ACTION SITUATIONS INTERACT

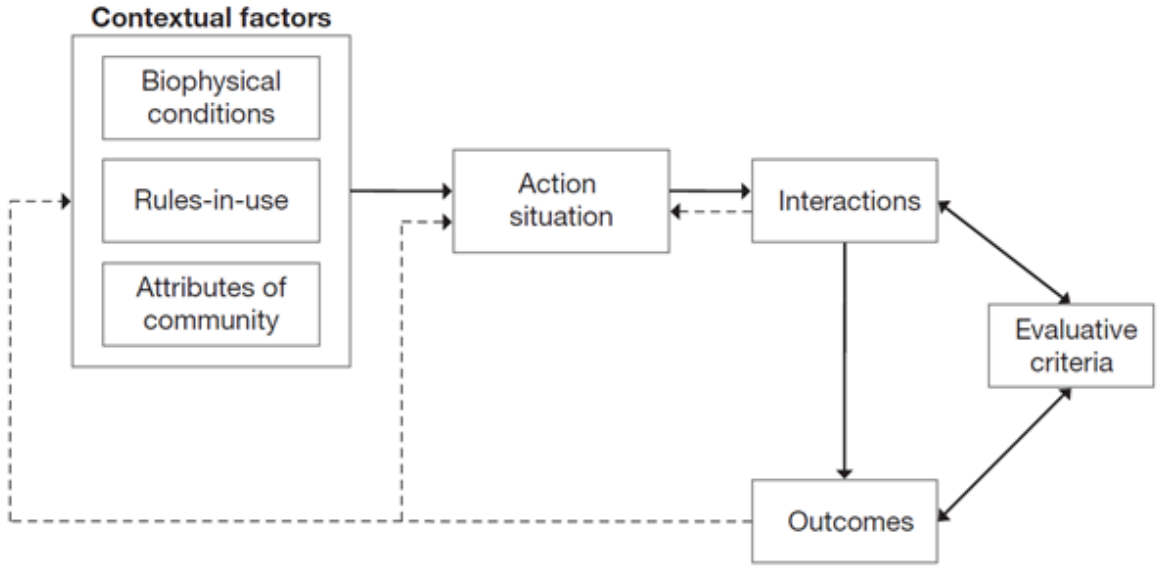


Figure 5.1 Institutional Analysis and Development (IAD) framework

Source: Adapted from Ostrom (2011: 10).

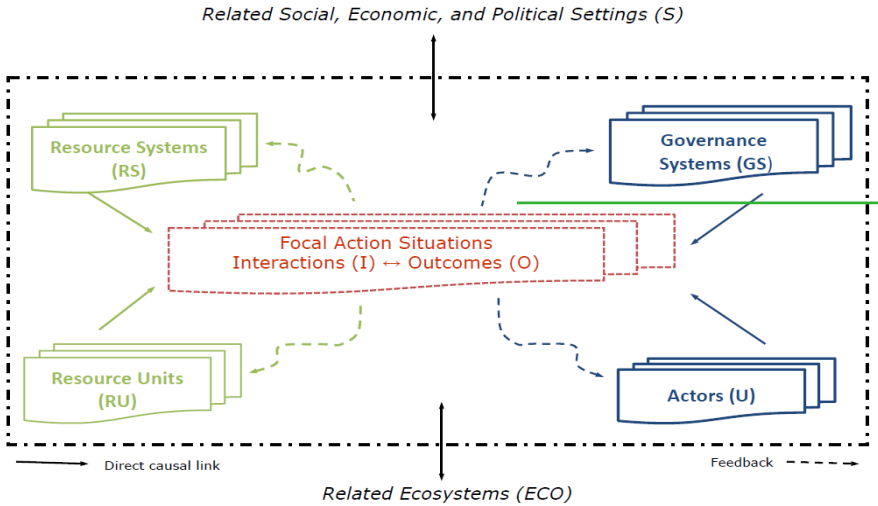
McGinnis, M. D. (2019). Connecting Commons and the IAD Framework. In B. Hudson, J. Rosenbloom, & D. Cole (Eds.), *Routledge Handbook of the Study of the Commons* (pp. 50-62). Routledge.

Multiple action situations;

Network of adjacent action situations (NAAS) *if they generate outcomes that define rule(s) in the central (focal) action situation*

SES: revealing dynamics of NAAS

- SES framework provides a common language that crosses social and ecological disciplines;
-

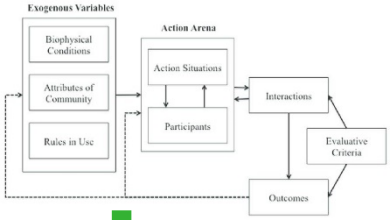


NAAS

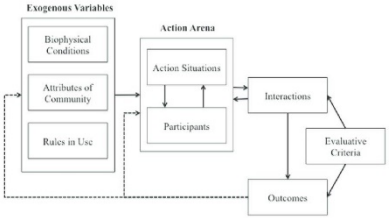
Source: McGinnis, M. (2010). Building a Program for Institutional Analysis of Social-Ecological Systems: A Review of Revisions of the SES Framework. Bloomington, IN: Workshop in Political Theory and Policy Analysis

NETWORKS OF ADJACENT ACTION SITUATIONS, A CONCEPTUALIZATION AT THE OPERATIONAL LEVEL

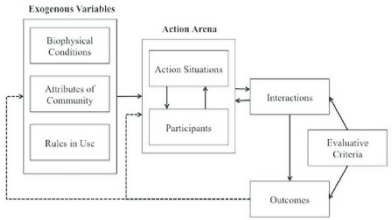
Municipality + firm A



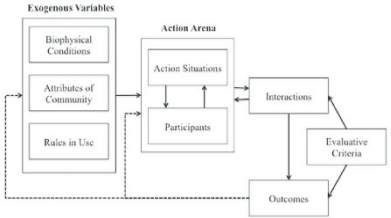
Waterboard + farmer B



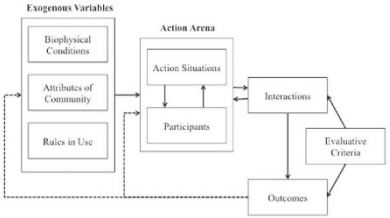
Citizen Initiative



Province + farmer A



Firm B + costumer



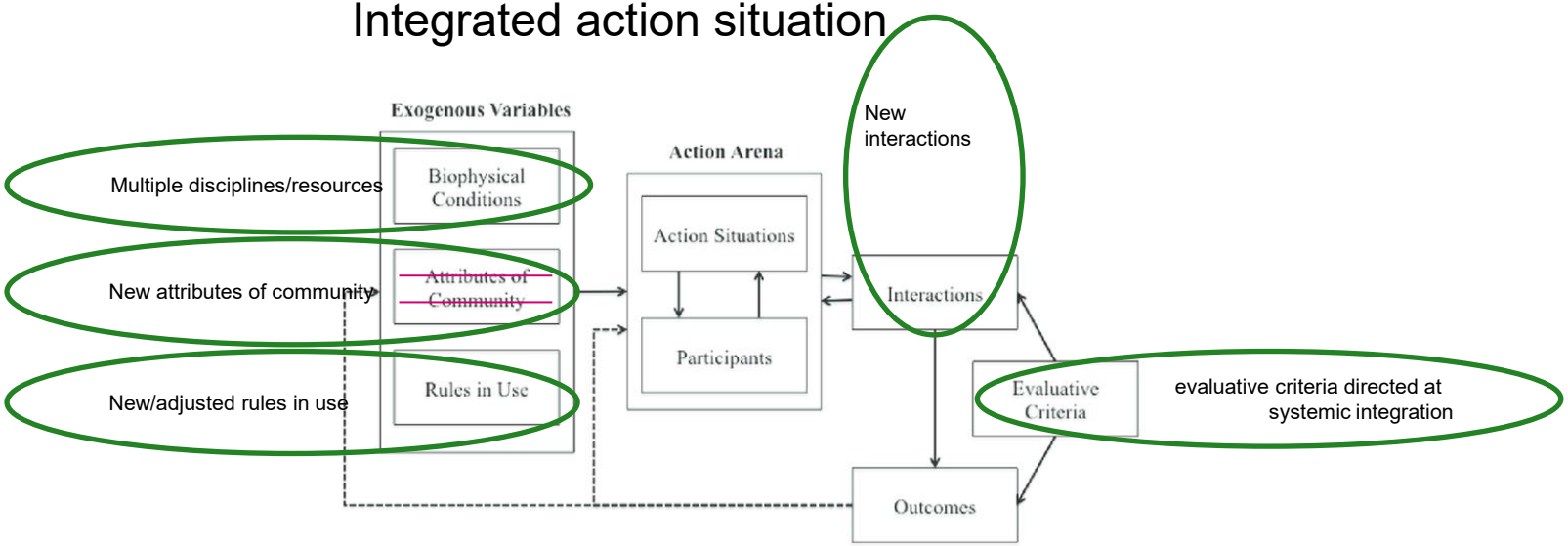
WAY FORWARD

- But….

We need to move from sectoral action situations (both vertical and horizontal) influencing each other (NAAS) towards integrative action situations that by design combine societal challenges (without necessarily increasing the transaction costs but rather reducing them).

HOW DO WE CREATE INTEGRATIVE ACTION SITUATIONS?

Integrated action situation



HOW TO ACHIEVE INTEGRATIVE ACTION SITUATIONS?

- One shared **vision**, that's not too specific (network management)
- **Learning**: lesson drawing, policy-oriented learning; (network management, ACF)
- Ability to form **coalitions**; (advocacy coalitions framework)
- Intermediairies; (SNM, innovation studies)
- Environmental Policy Integration
- Multiple streams (Kingdon)
- Adaptive governance (resilience, climate adaptation)
- Systems thinking;
- And…?

MAKING INTEGRATIVE ACTIONS SITUATIONS STICK

- Bottom-up and top-down!

Specifically,

- Bottom-up: forming a community, network management, reinforcing learning and experiences
- Top-down: grants, pilots, living labs, integration expert that assesses project proposals at provincial level

RECAP

- Moving from isolated action situations to integrative is inescapable;
- Utilize knowledge of the NAAS and other theories to achieve integration;
- Entrench systemic integration through top-down and bottom-up activities

RECAP

- @How to achieve integration, and looking for relevant literature: I think that the literature on the Food-Energy-Water (FEW)-Nexus might be interesting

- Also literature on the role of imaginaries, visions - discourse coalitions is helpful here (more than ACF, I would suggest)

- bottom up and top down:

  Are you focusing on "local action situations", integration from the bottom up --> like the example of farmers in the Overijssel you mentioned in the beginning?

  And if yes, what do you think needs to change at the provincial and national policy level? You mentioned grants, pilots, living labs, etc., which sound like bottom-up tools.

  What policies need to change to incentivize the integration of e.g. financial flows?

- Could think about looking into the subsidiarity principle / test about when to coordinate at higer level or do it at lower level governance

- In the Netherlands, what kind of integration at the infrastructure level is already obligatory or at least practised? (e.g. in Austria, when an electric utility plans new cables, they reach out to the municipality, the telecom provider, etc. to ask for their plans and to harmonize activities where construction work is needed)

‘ILTIAD’ as Empirico-legal and Socio-Legal Modelling for CPR Analysis & Design Towards a Just Energy Transition

‘a reasoned chronology’

Prof.dr. Michiel A. Heldeweg LLM

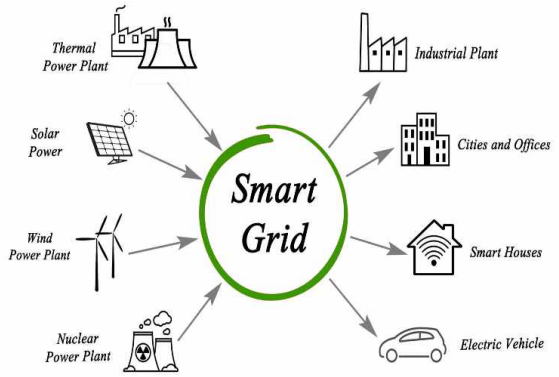
> University of Twente <

(Based also upon past work with Imke Lammers and Séverine Saintier)

First challenge: smart grid regulation

- Aging energy grid infrastructure →
- smart energy systems (SES)

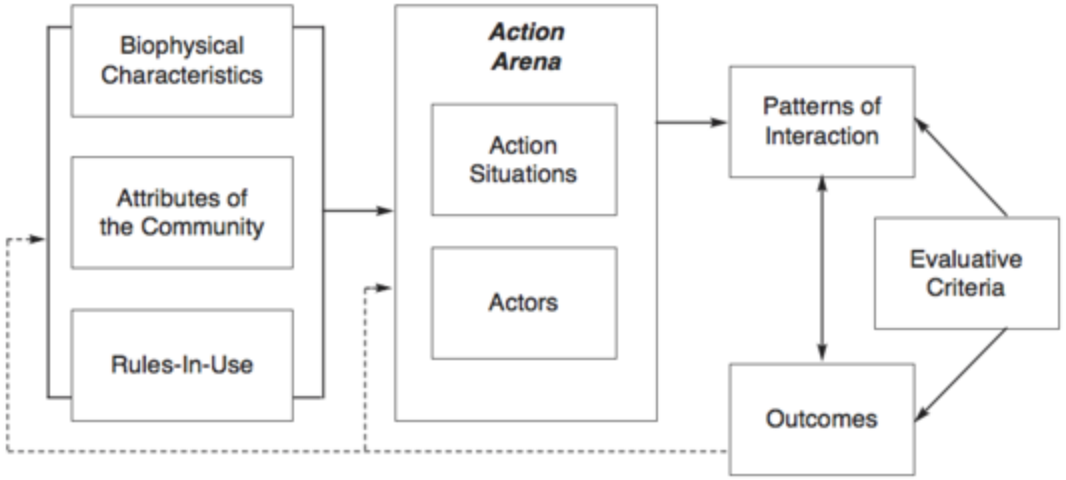
  polycentric energy grid Initiatives

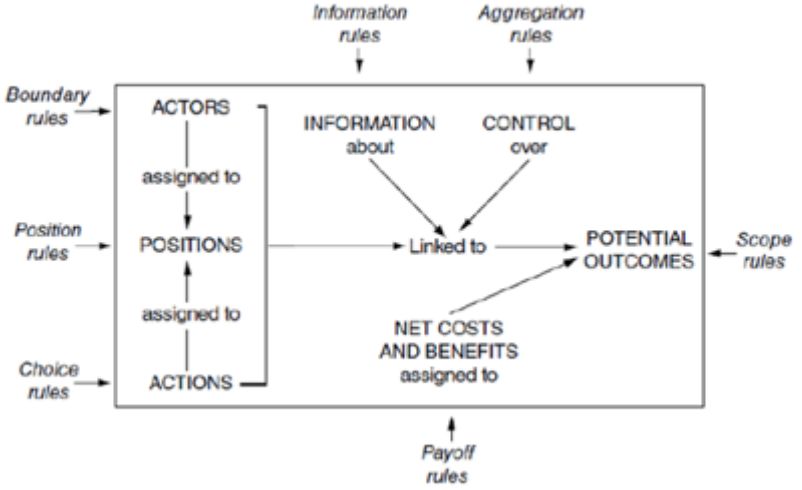


- Current gap between *desired* rules-in-use and *existing* rules-in-form
  - *regulatory disconnect* between regulation and innovation

- Need for new *rules of the game* for design and functioning of SES

What rules & regulations?





MIND THE GAP

Existing (ADICO) *rules-in-form* hinder desired *rules-in-use*

Esp. 'regulated market' rules: DSOs; vertical integration

Assumption: actors want to act lawfully

ADICO

How to adjust legal rules-in-form to (re-)structure the (desired) arena?

Research question

'How can institutional legal governance settings for smart energy systems (grids & communities) be analysed and designed, and which consequences does this have in terms of renewable energy expansion and energy democracy?'

- Focus: legally facilitated experimentation for SES (Netherlands)
- Approach: add legal governance* dimension to IAD Framework

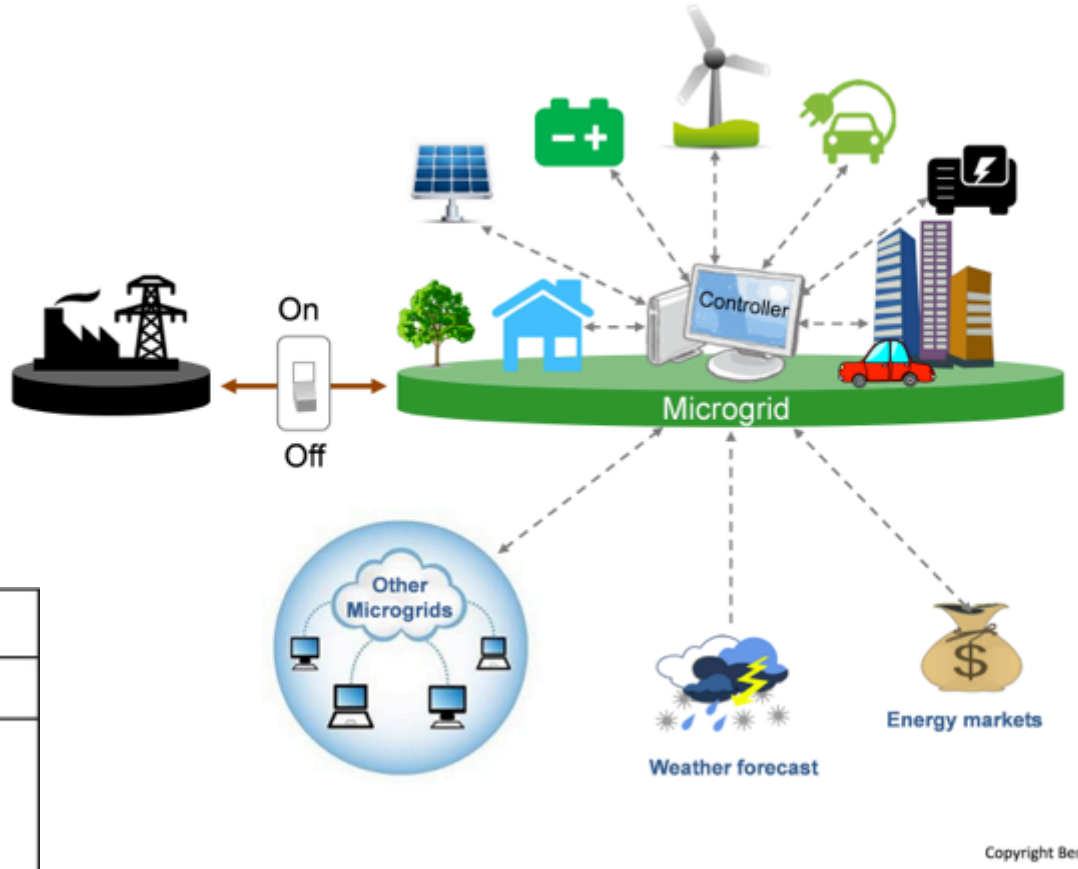
  IAD Framework + Institutional Legal Theory (ILT)

  → ILTIAD Framework

* Legal shape/shaping of the organization of collective decision-making

Case: community microgrids as CPR systems

- variety of distributed energy sources
- can run independently from the main power grid



	Subtractability		
		Low	*High*
Excludability	*Difficult*	Public goods	Common-pool resources
	Easy	Toll goods	Private goods

Source: Ostrom et al. (1994, 7).

ADICO: Rules & Rules; what to adjust?

- Legal *rules-in-form* are *ex ante prescriptive upon legal validity*!
  - Rules-in-Use as possible actors' response following general acceptance as (lawful) causal effect of rules-in-form - to next be practiced in their interactions

ADICO regulative rules in IAD	v.	ADICO 1st order rules In ILT
Required ▽ Forbidden Permission		Command ✕ Prohibition Permission Dispensation

* No IAD distinction between 1st rules-of-conduct and 2nd rules-of-power

* In ILT 2nd rules-of-power key to valid rules-of-conduct….. 'legal can'

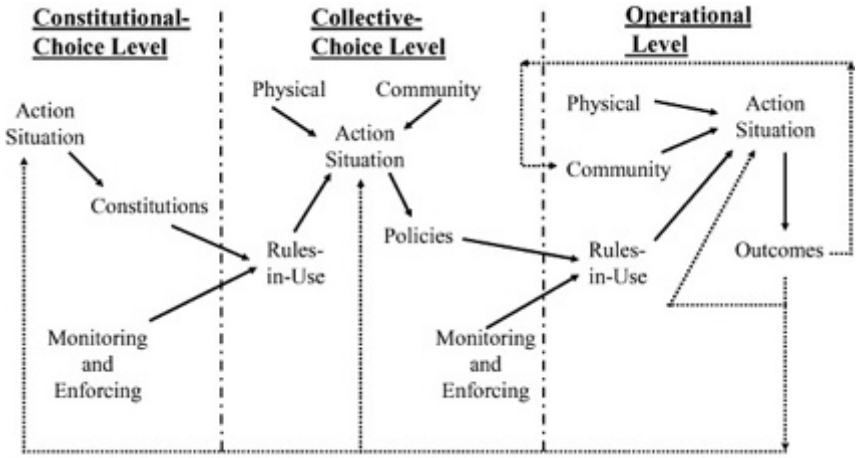
Rules & Levels; how to adjust?

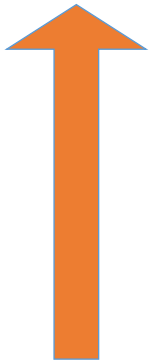
- Rules of Power are key to…

  introducing - changing - terminating

  rules-of conduct. Power-2-Conduct

- Legal system applied to IAD-levels:





1. Operational level	**Factual lawful acts within rules-of-conduct (towards service)**
2. Collective choice level	**Establish valid rules-of-conduct (towards operational practice)** (Legal acts upon powers from 3.)
3. Constitutional choice level	**Establish valid rules-of-power (towards making rules-of-conduct)** (Legal acts upon systemic validity from 4.)
4. Meta-constitutional level	**Establish (a) rule(s) of recognition (to underpin the legal system)** (Constitution building from 'informality')

Rules & Rules; what to adjust?

RiU as regulative rule (institution)

following *accepted* practice

RiF as rule of conduct (institution)

following *valid* prescription

following a Rule of Power

following Rules of Recognition

Rules & Levels; how to experiment?

- Change through experimentation (AS=Action Situation)

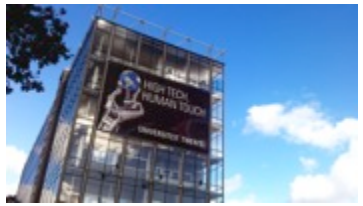
  - by derogation from standard rules (by exception to rules)
  - lawfully starting at Constitutional level, information gathering upon outcomes, to evaluate and conclude at Constitutional level

Operational level	**Standard AS** Utility practice	**Experimental AS** Microgrid practice	**➔ different outcomes** ↓
Collective choice level	**Standard AS** ↑ Set Utility conduct	**Experimental AS** ↑ Set Microgrid conduct	**Information from experiment** ↓
Constitutional choice level	**Standard AS** ↑ Enable Utility rules	**Experimental AS** ↑ Enable derogation	**Evaluate and change(?) to new Standard AS rules**

Beyond mere rules; legal institutions (1)

In changing rules consider that rules come in clusters
- describing standard relational patterns of behaviour

contracts, property, organizations



- known as ‘legal institutions’; shaped by 3 types of rules

- institutive/generative
- consequential/regulative
- terminative

conceptualize – instantiate - operate

Beyond mere rules; legal institutions (2)

Three orders (so far) of Legal Institutions

- legal patterns of behaviour consistent across ADICO rules

1st order	**Attributes persons/objects**		**Relations**			
	Legal quality adulthood	**Legal status nat.cons.area**	**P2P contract, permit**	**P2O ownership**	**O2O easement**	
2nd order	**Legal persons**			**Legal objects**		
	Assoc.	**Found.**	**Corpor.**	**Private ownership**	**Trad. allowances**	
3rd order	**Institutional Environments**					
	Public hierarchies State, municipality		**Civil networks Energy communities**		**Competitive markets Energy market**	

ILTIAD; heuristic tool – analysis and design (1)

- Heuristic tool for analysis (existing) or experimental design (new/changed) of institutionalized patterns of behaviour

- Particularly normative consistency (of legal abilities & liberties)

1- of a given legal institution within a given Action Situation

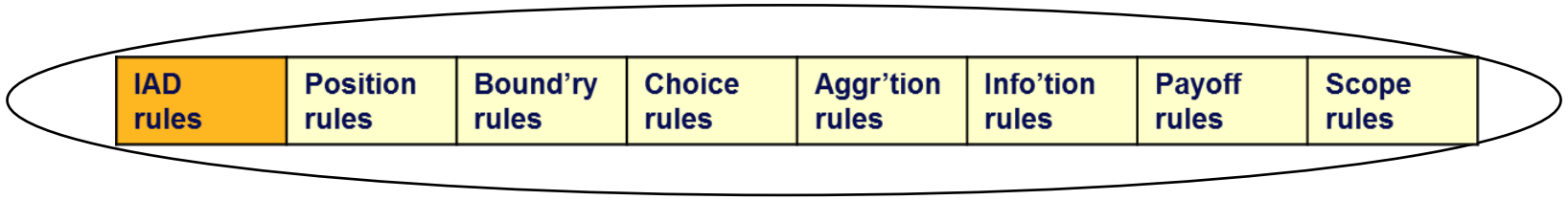
2- of various legal institutions related within a given Action Situation

3- of ditto across Action Situations at various institutional levels

Transcending local legal doctrines (*tertium comparationes*)

To (also) address issues of fit between objectives and legal context

ILTIAD; heuristic tool – analysis and design (2)



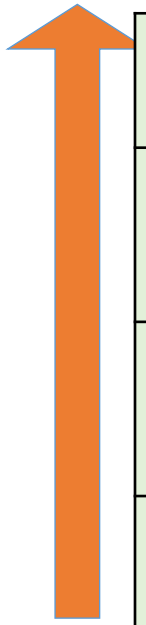
Consistency across IAD-rules & Legal Institutions (LIs)					
IAD-rules	OS-level (operate)	CCS (instantiate)	CS-level (conceptualize	MCS-level (proto-legal)	Order (types)
7	7IAD	7IAD	7IAD		1 (5)
7	7IAD	7IAD	7IAD	7IAD	2 (2)
7	7IAD	7IAD	7IAD		3 (3)

Consistency: a. LIs across levels
b. IAD-rules within each LI 7IAD
c. between different LIs & particular IAD-rules

Matching legal institutions & levels (1)

Legal Institutions system applied to IAD-levels

- Functioning requires consistency across levels (NB need for multiplication)
- Action situations at L1-3 may be structured as or by Legal Institutions (e.g. Firm)



1. Operational level	**Factual lawful acts within rules-of-conduct** (Following consequential rules typical to an instantiated legal institution)
2. Collective choice level	**Instantiate incidents of legal institutions** (Legal or factual acts whereby a tailored incident comes about)
3. Constitutional choice level	**Conceptualise Legal Institutions** (Legal acts to decide on 3 types of rules that shape legal institutions)
4. Meta-constitutional level	**Establish the legal system** (Constitution building from 'informality')

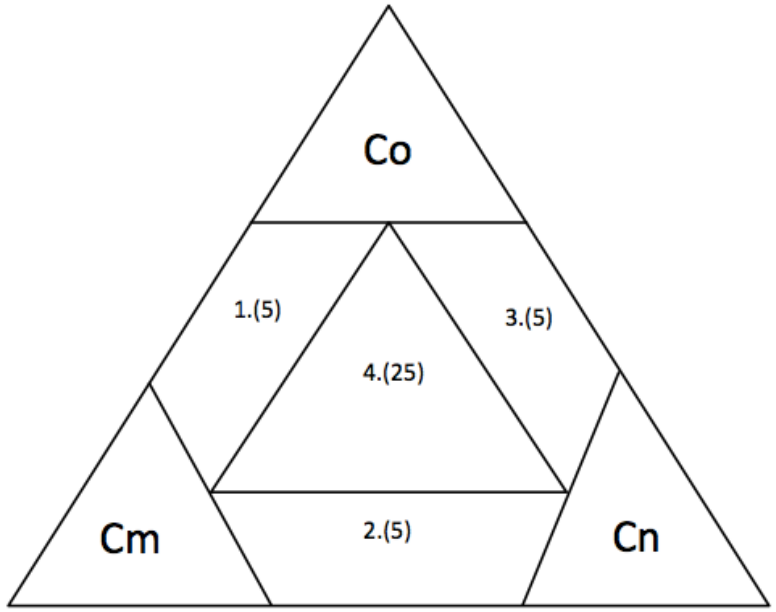
Matching legal institutions & levels (2)

Constitutional level

- institutional environments
- relation x interest types

3rd order legal institutions

- 3 ideal-types & 4 hybrid groups



Matching legal institutions & levels (3)

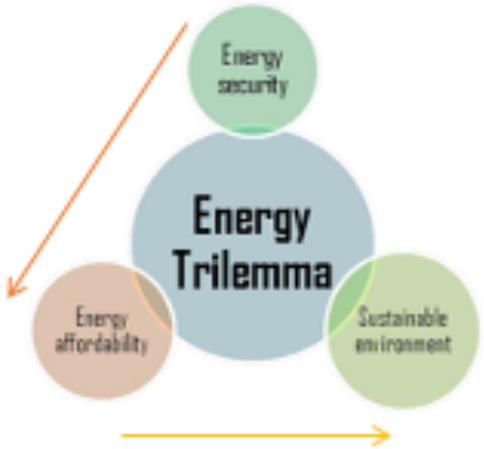
- 3rd order Institutional Environments – 3 pure types / many hybrids

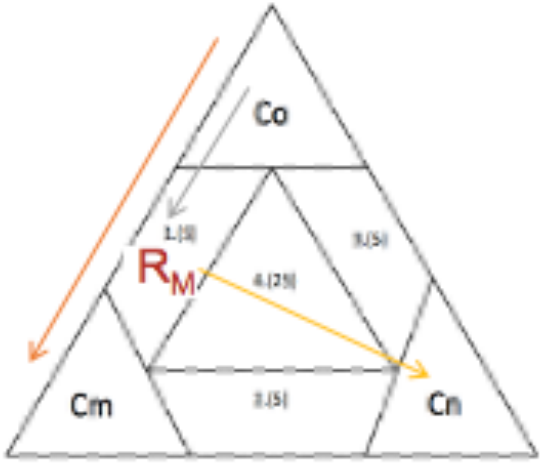
Public hierarchy (Ph)	Competitive markets (Cm)	Civil networks (Cn)
Command	Exchange	Co-operate
Public interest	Private interest	Community interest
Voice/distributive	Exit/commutative	Loyalty/community
Constitutional / administrative law	Competition / consumer law	Law of association and societal enterprise
Possibilities of hybrids: e.g. regulated market (between Ph and Cn)		

- typology of key relations & interests as legal Institutions work across levels and influence the scope for 1st and 2nd order legal institutions

Second Challenge: towards civil energy networks?

Energy Transition = Governance Shift → changed energy Justice



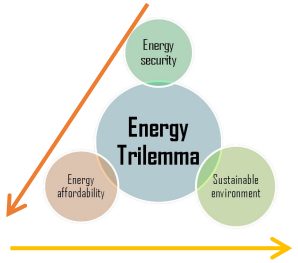


<u>Constitutional order ... Competitive Market ... Civil networks</u>

Regulated energy market (REM) ⇔ Civil energy networks (CEN)

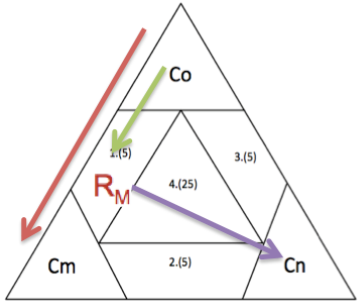
Institutional environments & justice: same concepts – different conceptualisations

Governance mode➔ ↓Type of justice	Constitutional order	Competitive market	Civil society
Recognition	**government & citizen**	**firms (shareholders) & Consumers(' orgs)**	**Communities & Members**
Procedural	democratic **majority vote** '1 citizen, 1 vote'	B2C/B2B competitive **exchange agreement** '1 share, 1 vote'	Community **consensus** '1 member, 1 vote'
Substantive	**Distributive** égalité devant les charges /services publics	**Corrective/Commutative** reciprocity of benefits / burdens	**Collective** by sharing of benefits and burdens



Energy transitions ➔ Governance shifts ➔ Justice reset

Expansion ➔ Democratisation
(NIMBY↓) ➔ ('community voice&benefit'↑)



Towards Civil Energy Networks?

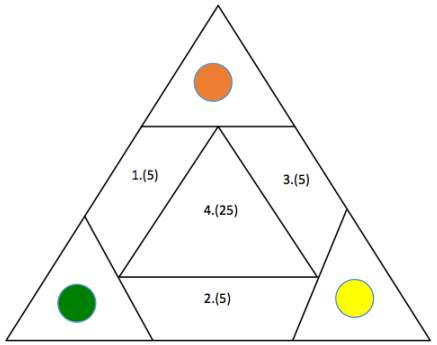
- Relevance to microgrids: relevant to renewable energy objectives: expansion (energy market) or democratization (energy networks)

Expansion	Hybrid/Both	Democratization
Participation and sharing only in as much as efficient towards expansion*	Only input or only output legitimacy (as value in itself)	Input & output legitimacy (as value in itself): procedural and substantive justice is key
(regulated) energy market?	Overarching hybrid or Market with niches?	(regulated) civil energy network?
* involve communities only to reduce NIMBY-ism		

- Also consider justice of recognition: communities?

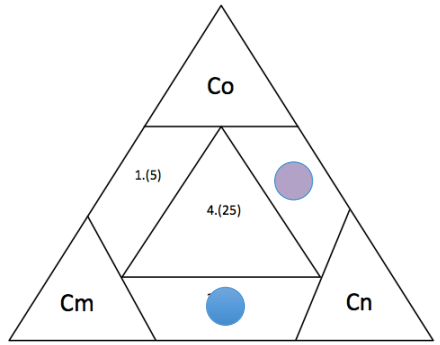
Normative alignment of organisations

Legal Persons			
3 requirements for personality			
Organisation	**Competence**	**Accountability**	
internal decision-making	to influence external pp.	to be influenced by external pp.	
3 basic types & 2 hybrids (private and public variety)			
Association	**Corporation**	**Foundation**	
membership	shareholders	purposive fund	
	Co-operative	**Trust?**	
	owner-members	trustee/beneficiaries	



normative alignment?

NB when misalignment…
incompetence/unlawfulness



Normative alignment of organisations

Categorizing Energy communities Bottom-Up					
Inst. Envir➔	**Comp. En. Market**	Hybrid CEM-CEN	**Civ. En. Network**	Hybrid CEN-CEO	**Constit. En. Order**
Form ➔	'Firm'	?	?	?	'Publ. office'
Function ➔ / **Dimension ↓**	**Private Expansion**	⇔	**Energy democratisation**	⇔	**Public Expansion**
Mission / **Purpose**	*Profit (only)*	Mix? (How?)	*Community task* (place⇔interest)	Mix? (How?)	*Public task*
Control / **Own&Org**	*Shareholder & investors*		*Members (vol/prof)*		*Public authority*
Response / **Embeddedness**	*Competitive advantage*		*Community interest*		*Public good*

Consider (un)desired organizational (vertical) configurations and design fitting Inst. environment

FIN!

Questions?