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# System transformation

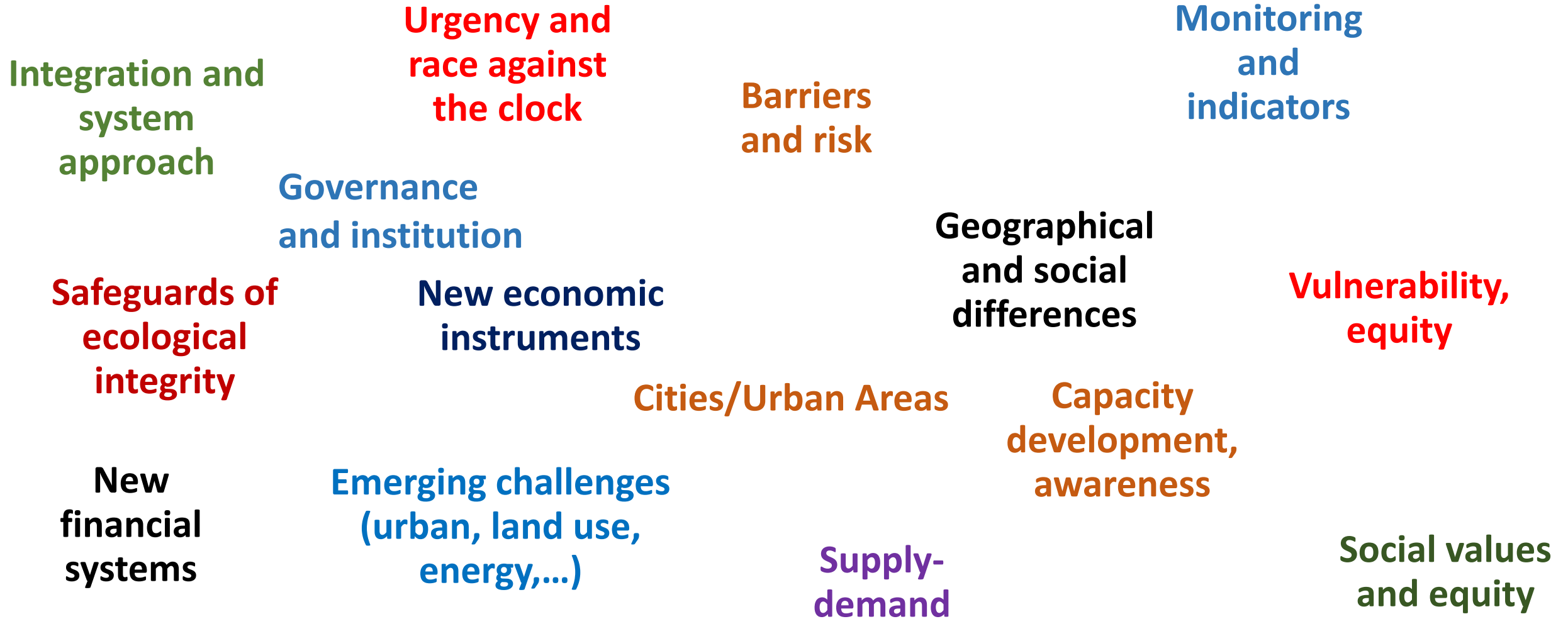


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# System transformation: Highlights

- Central organising principle is *how* you get to 1.5C.
  - We will have to transform one way or another
    - Better to plan and monitor
  - Same systems as 2C, but accelerated and acknowledging development imperatives. Acceleration implies timeframes and urgency.
  - What are the levers (narratives) for 1.5C
    - Need to understand their working, co-benefits and inner causalities
    - Need to problematise them in terms of 1.5C, what are the barriers to these virtuous cycles. Won't can't you do as part of system change. Interplay the vulnerabilities.
1. Governance of finance, capital and natural capital.
  2. Land use, agriculture, negative emissions, water, food.
  3. Urbanisation – cities and city-regions
  4. Energy systems
  5. Equity – poverty, gender, consumption, share economy, behaviour change
  6. Socio-institutional innovation, multi-national partnerships, multi-scale interventions
- Regionally specific pathways, differential impacts but not old “winners and losers”
  - Monitoring the implications of accelerating, SDGs allow you to manage the trade-offs.

# Constellation of requirements for transformation towards 1.5 C





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# Underlining principles

- **Transformation will happen anyway** : Better to plan and monitor change
- **Radical system changes are needed at various scales**, and different context
- **Recognize the magnitude of the task** and the level of ambition
- **The resources needed** for the overshoot is much larger than the current resources used to address climate challenges
- **Address all set of barriers** to enable changes
- **What risks, which system, What thresholds** is or will be affected and where
- **3D transformation**: Social-technical-institutional pace
- **Use system approach**—simultaneous—while addressing specific sectorial challenges



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# Transformation for 1.5 is similar to those for 2C but needs to be accelerated

- Short term and quick wins options
- Long term easy or complex challenges
- Implication of relevant actions to 1.5 C:
  - *Systematic review* for good and service delivery, change in diet, circular economy, green economy, supply and demand etc.
- Explore decoupling economic growth with carbon footprint
- Extensive understanding of the social and political dynamics of transformation.
- Understand how much social change can really deliver the energy transformation needed, and how that may differ between countries and cultures...



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# Synergy, co-benefit and tradeoffs

- **Co-benefits and synergies** work out for various transformations
- **The barriers** to virtuous cycles (technical, financial, social, institutional political...)
- **Socio-ecological vulnerabilities** that influence transformation
- **Socio-economic impacts of mitigation options** and how to offset, compensate for losses
- **Reduce or avoid risks** related to environmental and social changes
- **Scale up actionable practices** by context and context specificities



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# Governance and finance (enablers)

- **Acknowledge failure of financial system** to address transformation for 1.5C
- **Social constraints on governmental action** and inversely
- **Make the 1.5 C compatible with various form of governance**
- **What are the risks barriers and limits associated to governance and financial underpinnings of mitigation and adaptation**
- **What are the institutional fit and implications for collaborative consumption or shared economy, circular economy, and Circular economy and post ownership societies to shared economy as nascent social transformations**
- **Socio-institutional changes** to match the requirements for 1.5 c



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# Land use, agriculture, negative emissions, water, food

- **Safeguard natural capital**, ecosystem integrity and land health. Managing rapid change on terrestrial processes as a feedback of climate and human activities requires urgent measures both for mitigation and adaptation of social-ecological systems
- **Be aware of the diversity of barriers to address significant transformation in agriculture**
- **Non CO2 GES (full budgeting)** mostly in agriculture are important to consider
- **Identify transformation that compete with land use** mostly in developing countries and address food security against these transformations
- **Holistic approaches** : avoid step wise and chattered interventions, landscape approaches





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# Urbanisation – cities and city-regions

- The reconfiguration of the urban systems and opportunities offered to limit GES emission
- More people less emission: many reasons to believe on that. Current picture in emerging economies are less demographic growth more emissions
- New technologies and deployment of existing good practices
- New generation of building
- New generation of cities
- New urban citizen



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# Key actions spaces

- **Energy systems**: intensity, new energy demand, renewables, demand for building cities and demand for maintaining cities...  
Urbanization era
- **Cities** and land systems (connected to rural)
- **Land use** game changers (biofuel, food/feed)
- **Food systems**
  - *While addressing challenges through technical element, we must articulate those more strongly with beliefs, mindsets, values, expectation, development-adaptation needs*
  - *Understand the role of society and changes in social norms*

# Equity – poverty, gender, consumption, share economy, behavior change

- **Gender** dimension of change (geography of gender segregation)
- **Inequality** and social exclusion
- **Formal and informal** sector differences
- **Influence of ethnicity**
- **Multi-national partnerships,**
- **Multi-scale interventions and consistent transformation pathways**



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# Geographical and contextual requirements

- Regionally specific pathways, differential impacts but not old “winners and losers”
- Country specificities that limit their ability to implement regional agenda (national priority, policy context or resource availability)
- Urban-Rural connectivity (integrated geographical assessment)

# Monitoring the implications of accelerating, SDGs allow you to manage the trade-offs.

- Differentiated monitoring requirements for mitigation as compared to adaptation
- Time perspective in monitoring
- Adaptive management of desired transformation