

Durable Behavior and Climate Resilience

An AUNE Conservation Psychology webinar

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Durable Behavior and Climate Resilience

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ANTIOCH UNIVERSITY NEW ENGLAND
**Conservation
Psychology Institute**

- Overview & Introductions
- Presentation
- Q&A

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Presenter **Dr Raymond De Young**

Dr. Raymond De Young is an Associate Professor of Environmental Psychology and Planning in the School for Environment and Sustainability at the University of Michigan. His research focuses on the process of re-localization, behavior change, and stewardship motivation

DURABLE BEHAVIOR AND CLIMATE RESILIENCE

Envisioning and prospecting for the new biophysical reality

Agenda

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2. Envisioning
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13. Resilience centers
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LocalizationPapers.org



1. Premise

Durable change is very hard to create: If what we previously thought would work to create durable behavior change actually worked as we need it to, we would not be meeting today. Sadly, new work is needed. Thankfully, you're here to take up the task.

Energy descent: To survive on this finite planet, we must endure a drawn-out yet persistent decline in surplus energy (i.e., energy available to society after accounting for energy needed to acquire, process and deliver it).

1. Global negotiations are responding to accelerating climate crisis, yet a disturbing silence about declining surplus energy
2. Biophysical economics makes it clear that the economy is an energy system, not a financial system. Yet the relentless decline in surplus energy required for running techno-industrial society has received insufficient attention
3. Consequence of this new reality is inevitable. It is not altered by debate or market forces, nor will denial make it vanish
4. What is not inevitable, however, is the nature of our response. But must acknowledge this new challenge being faced:
 - a) Clearly, underlying cause of this situation is that social-economic system we have created requires perpetual growth
 - b) Thus, we must re-frame all human enterprise into smaller communities which can thrive without growth and well within biophysical limits (carrying capacity). This is and will remain a very hard process
5. Fortunately, this re-framing has begun, often hidden in plain sight. And despite the pessimism that this situation could create, I believe that we can respond in ways that increase individual and community well-being

Citations: Tim Morgan (Surplus Energy Economics) at surplusenergyeconomics.wordpress.com

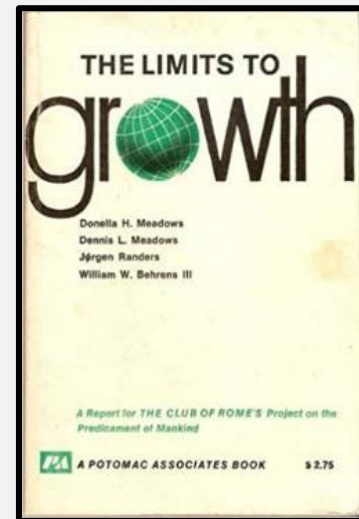
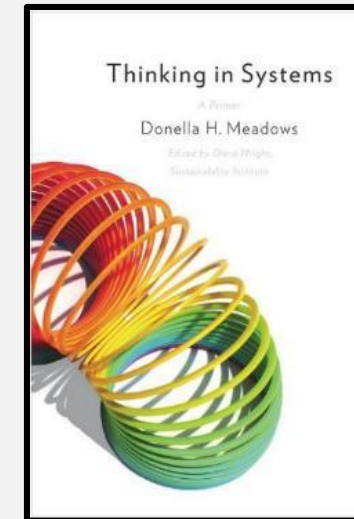
Ted Trainer at www.resilience.org/stories/2021-10-18/small-farm-future-why-some-anticipated-problems-will-not-arise

LocalizationPapers.org

2. Envisioning

Envisioning → problem-solving → implementation

1. Visioning
 2. Vision sharing
 3. Problem definition
 4. Problem solution
 5. Solution implementation
 6. Solution adaptation
- } Envisioning skills |
- } Critical thinking skills
- } Intervention skills



Meadows, Donella (1994) **Envisioning a sustainable world**. Presented at the *Third Biennial Meeting of the International Society for Ecological Economics*, October 24-28, 1994, San Jose, Costa Rica.

Principles of effective envisioning

1. Focus on what one really wants, not what will settle for:

Really want:

Self-esteem

Serenity

Community well-being

Well-fed neighbors

Settle for:

New phone

Drugs

GDP growth

Cheap food

2. Vision judged by clarity of its goals, not efficiency of its implementation

3. Responsible visions must acknowledge, but not be crushed by, constraints
(e.g., biophysical, psychological, social, economic)

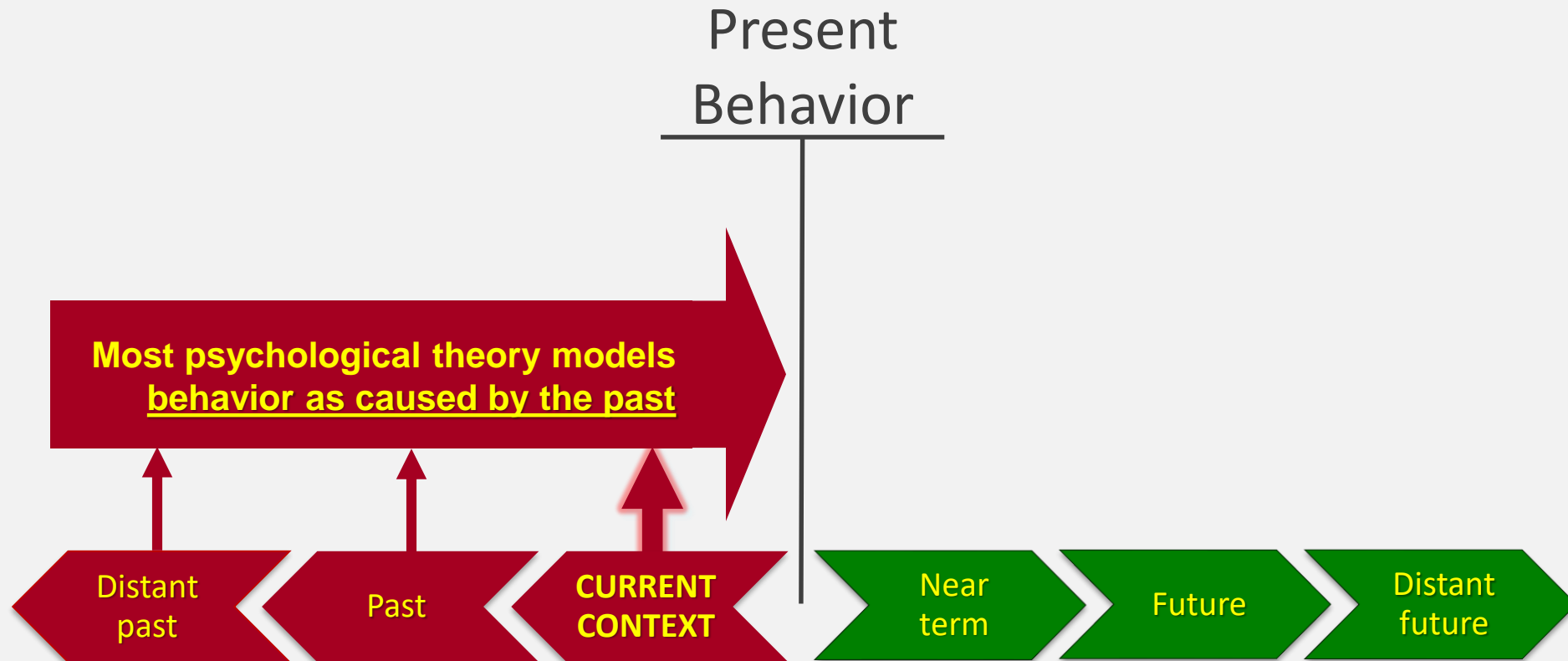
4. Responsible visions must be shared

5. Visions must be flexible and evolving; process is as important as vision itself |

Meadows, D. (1996) Envisioning a sustainable world. In R. Costanza, O. Segura, and J. Martinez [eds.] *Getting Down to Earth: Practical Applications of Ecological Economics*. (Pp. 117-126). Washington, D.C.: Island Press.

3. Prospecion

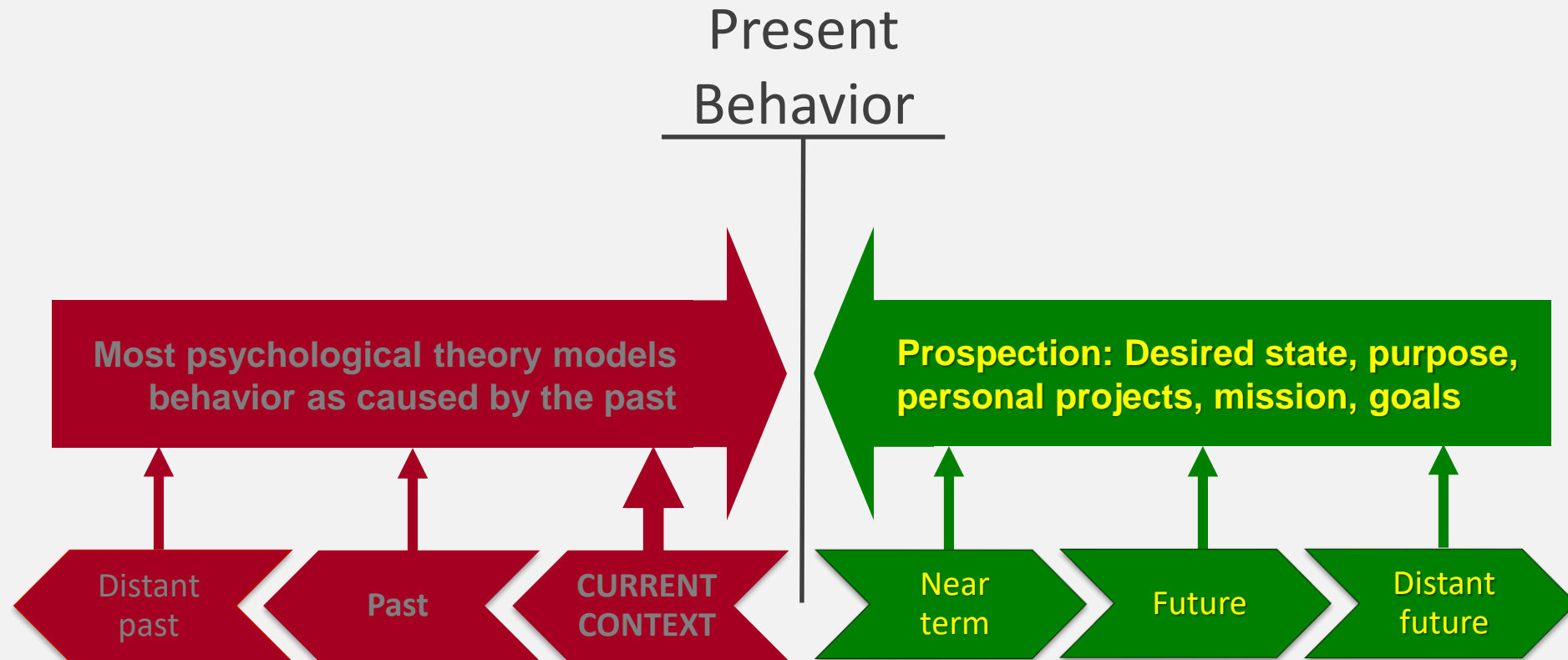
Most behavior change techniques model human behavior as caused by something in the past or in the current behavior setting |



Behavior as an instrument for navigating into the future

Thinking is designed for doing - William James

Intentionality: Selecting patterns of behavior in the present that help to achieve desired yet distant outcomes, to fulfill our deeper purposes, and to bring about our shared visions |



4. Steps of prospection

How to pursue a reality-based, purpose-driven life:

1. **ENVISION** a desired future, that will be the outcome of our many current behaviors
2. **PROSPECT** behavioral, institutional, and policy paths connecting that future state back to the present
3. **SELECT** behavior patterns we need to adopt now in order to move along one or more of those paths
4. **DEVELOP** competencies needed to carry out those behavior patterns, given the current and emerging biophysical context |

5. A²Zero Climate Action Plan

- Need to prepare for impacts caused by past behavior, both:
 - Those impacts that are already here, **and**
 - Those projected even if quickly achieve carbon neutrality
- Average Ann Arbor **annual temperature** increasing
- Average **annual precipitation** increasing
- Precipitation **type** changing
- Extreme events increasing:
 - Extreme temperature events increasing
 - Number of **extreme rainfall events** increasing
 - Total rain volume in extreme events increasing
 - Trends **projected to** increase |



November 2019 – City Council passed Resolution 19-2103: *A Resolution in Support of Creating a Plan to Achieve Ann Arbor Community-Wide Climate Neutrality by 2030*

Winter 2020 – City’s Office of Sustainability and Innovation (OSI) conducted a participatory design process that created a *Climate Action Plan* (released 3-30-20). Now in Version 4.0 (8-1-21)

6. Ann Arbor's ambitious goal

- Ann Arbor plan (2020):
 - Net zero by 2030
 - 2018 baseline
- IPCC goals (2018):
 - 45% reduction by 2030 (net zero by 2050)
 - 2010 baseline
- Requires dramatic, durable, and growing change to infrastructure, facilities, policies, **behaviors, and expectations**
- Using iterative design and implementation process:
 - Social science engagement and participatory design methods
 - Transparent and grounded in equity and justice
 - Develop broad community support
 - Pragmatic: Can in fact be implemented
- Using same process to increase neighborhood resilience
 - Settlements across Michigan are using a similar civic engagement process to increase **community resilience** (*Planning for Community Resilience in Michigan: www.resilientmichigan.org/handbook.asp*) |

7. Follows long-forgotten principle of democracy

- City staff, researchers, and consultants must work with residents as equals
- Insists the plan should not pre-identify citizen's needs
 - Not be expert-driven, top-down, or a piece of academic research
 - Each neighborhood's needs are better defined by the residents themselves, not by:
 - Distant experts (e.g., FEMA)
 - National institutions, federal or state agencies (e.g., Ready.gov)
 - Academic researchers (e.g., U-M)
- This principle, one of **citizen-based problem solving**, is a foundational principle of democratic society
 - Undeniably, community residents are most familiar with the day-to-day needs that they and their neighbors face
 - There is a role for experts, but their expertise is never to be used as a substitute for local knowledge |

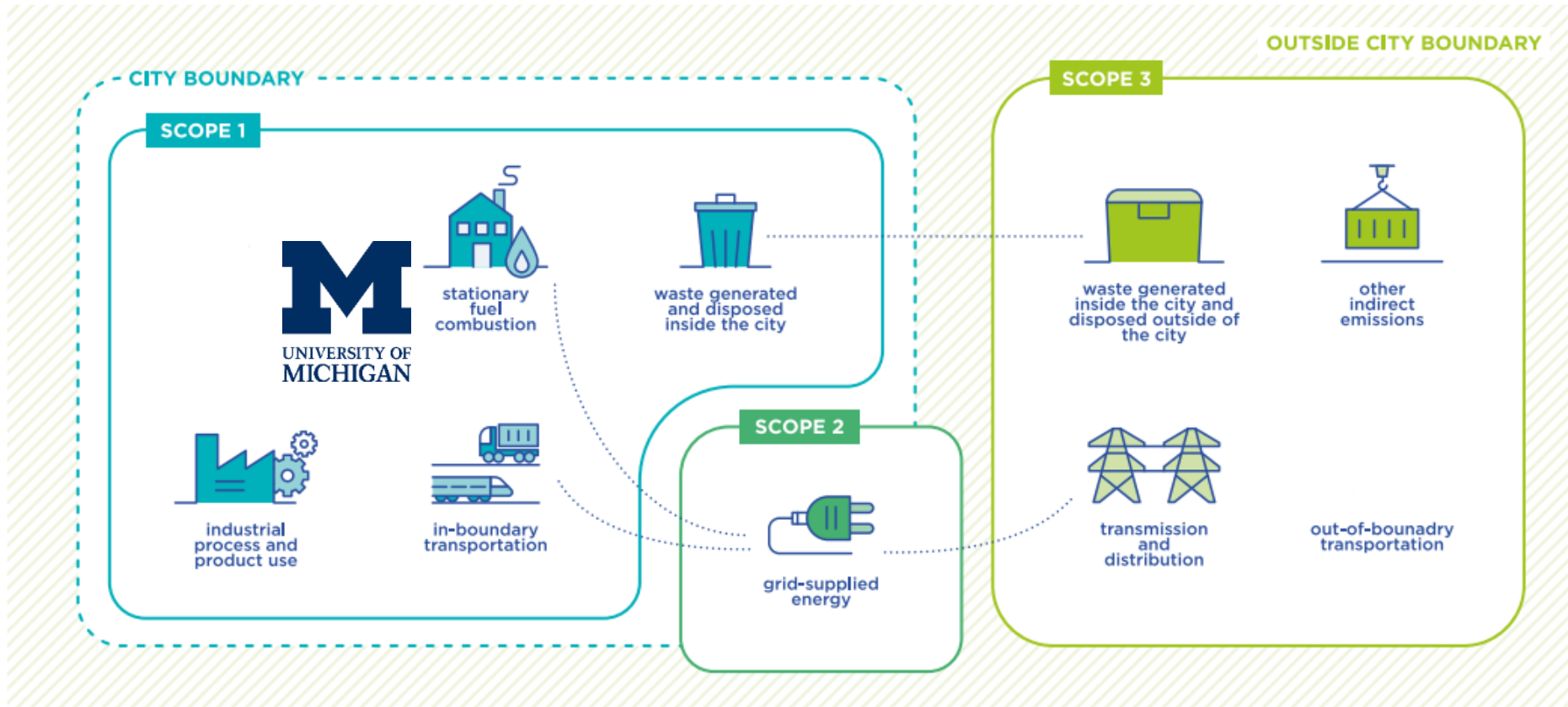
8. A²Zero goals for 2030

A²Zero plan is centered around 7 overarching strategies:

1. Powering A² electrical grid with 100% renewable energy
2. Switching A² appliances and vehicles from gasoline, diesel, propane, coal, and natural gas to electric
3. Significantly improving energy efficiency of A² homes, businesses, schools, recreation and government facilities
4. Reducing miles traveled in vehicles by at least 50%
5. Changing use, reuse, and dispose of materials
6. Enhancing resilience of people and place
7. Cross-cutting initiatives such as equity, engagement, and reporting |

9. Broad scope of plan

- A²Zero includes all residents, enterprises, and activities, including UM
- A²Zero includes Scope 1, 2, and some Scope 3 emissions |



10. Neighborhoods on their own

- Climate crisis and responding to energy descent may overwhelm public and private institutions, forcing citizens to respond unaided for extended periods
 - Neighborhoods must prepare to cope with events that gravely reduce ability of city, county, and state from helping
 - Not long ago, this scenario would be rejected as unrealistic:
 - However, for residents of San Jose, California, it is a new reality; PG&E cut power to nearly 800,000 citizens in Northern California starting October 9, 2019, and expects to do this repeatedly during next decade
 - Mayor of San Jose told residents to *prepare to be without power for as long as seven days*, while another official asked citizens to "*Prepare yourself, prepare your family, and help your neighbors*" (CNN 2019)
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- This situation is astounding; intermittency of essential services and uncertainty about duration of outages are almost unheard of in modern techno-industrial society
- Although now plausible nationwide, this new reality is very difficult for many people to accept. Households and neighborhoods remain unprepared |

11. Resilience

- Emerged simultaneously in psychology and ecology in 1970s with study of complex systems. Definitions share core features:
 - First, resilience in human and natural systems is associated with sustainability in the face of constant change
 - Second, resilience involves two possible responses:
 - Adaptation - survival of system by helping it withstand change and then either staying in or returning to essentially the same state
 - Transformation - However, if initial state becomes/was always unsustainable, then system can undergo transformational change to a different stable state
 - Thus, resilience is not always “*bouncing back*” to normal; sometimes it is “*bouncing forward*” to a new reality (i.e., A²Zero Plan)
- *Bouncing forward* is adaptation in a classic sense: to change our behavior into new patterns that better fit the new reality
 - Such adaptation does not necessarily eliminate the challenge but rather accommodates the new reality |

12. A²Zero plan enhances household and neighborhood resilience

- Plan includes numerous strategies to help households and neighborhoods prepare for major, drawn-out, debilitating, transformative events
- All involve **pre-familiarizing** and **pre-figuring** response to events so as not to be caught unprepared. These include:
 - **Neighborhood and youth ambassador programs**
 - **Ambassadors provided knowledge, tools, and resources needed to discuss climate change and specific actions their neighborhood can begin implementing**
 - **Household emergency planning and kits**
 - **Safe gathering points in neighborhoods during disasters, extreme events, extended power outages, etc. Activating some homes as a nearby refuge**
 - **Resilience centers** |

13. Resilience centers

- Buildings from which neighborhood resilience activities are conducted
- Small in geographic scope (e.g., 20-minute walkable neighborhood)
- Neighborhoods, a unit of social structure historically ignored in higher-level planning and funding efforts, are focus of these new efforts
- Hosts year-round events that pre-familiarize neighbors with its existence, function, and potential, and conducts training to enhance resilience
 - **Berkeley Community Resilience Centers (CRC)** – existing community organizations become CRCs, manage training, emergency communications, equipment, and supplies. Operations are continuous, hosting regular neighborhood meetings, creating an emergency plan, and maintaining “cache” of equipment/supplies
 - **Baltimore Resiliency Hubs** – for vulnerable populations, gathering places that provide emergency supplies, resources, and meeting space. Serve as education and training centers for technical skills, such as emergency response training weatherization, solar installation, as well as a place to get to know neighbors
 - **Seattle Community Emergency Hubs** – designated areas for neighbors to gather in times of distress, accessing information and resources, including volunteers trained to assist with community needs and neighborhood resilience |

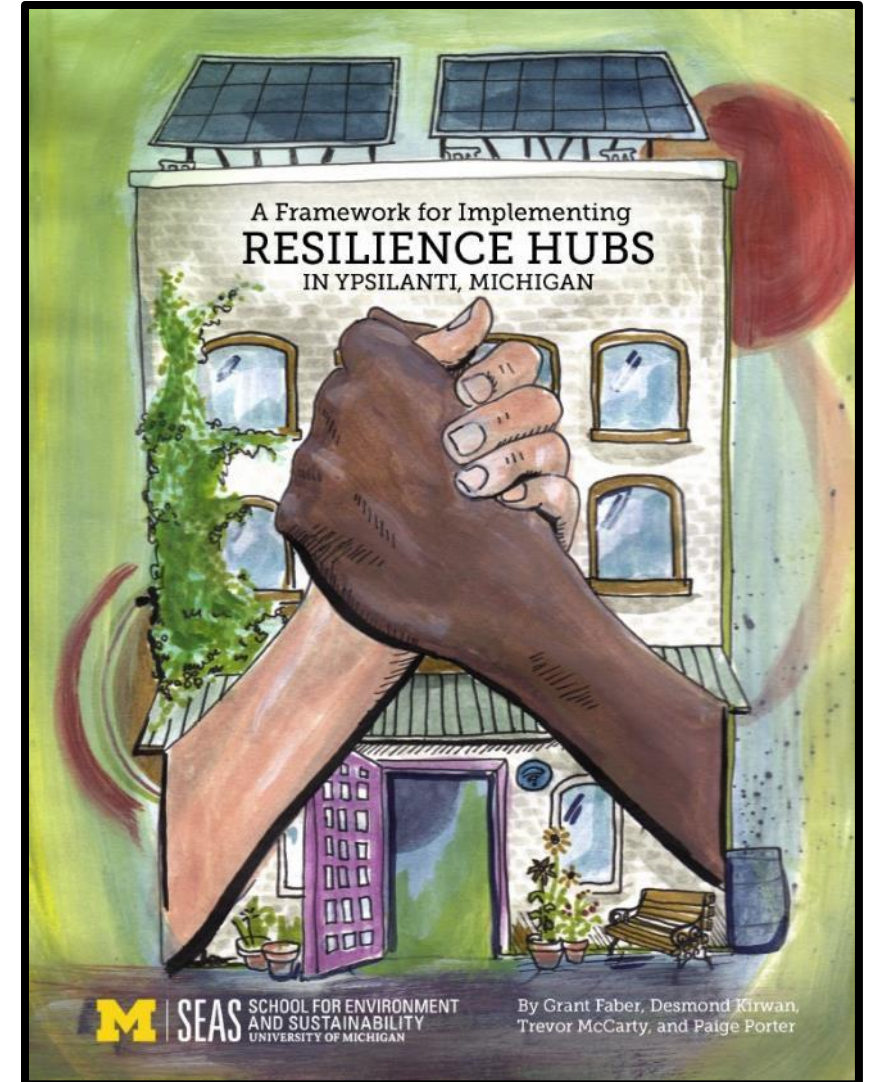
14. A²Zero resilience centers

- Civic resilience:
 - Creating physical centers in several neighborhoods
 - In other areas, will be accomplished in others ways, identified by neighbors
- There is a refreshing aspect to these efforts:
 - **Past work** used a top-down, expert-driven framework that often concentrated on telling citizens about issues being faced and identifying their needs
 - Rarely have efforts enhanced a neighborhood's own capacity to respond unaided. And even less often have projects supported neighbors envisioning a future situations and then self-identifying their specific needs
 - **In contrast**, A²Zero plan has neighborhoods determine their local needs and then supports a participatory design effort to fill those needs
 - Such engagement increases connectivity and trust, both outcomes essential for enhancing civic resilience |



15. Ypsilanti Michigan resilience center

- Report recommends the City of Ypsilanti continue work on establishing *Parkridge Community Center* as the city's first resilience center
- Many programs and services that can be included in a center are already present in that space, such as opportunities for recreation and youth education
- The site also has the capacity to expand to include more resources, such as renewable energy and storage, by utilizing the funding opportunities outlined in report (at dx.doi.org/10.7302/891) ||





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We are here for you!

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