COHESIVE ACTIONS: to Avert Climate Change, Make Money, Power our State with Clean Energy, and Nurture Thriving Communities

white + burke

VERMONT DEVELOPMENT CONFERENCE

AGENDA

- 30 min information from the field:
 Bill, Eveline, and Chad
- 20 min break out session
- 15 min full group synthesis

What industry are you in?

- Developer
- Broker/Lender
- Architect/Engineer
- Attorney
- Environmental Scientist

- **Business Owner**
- Planner
- Government
- Local Stakeholder











New Mixed Use NZE 300,000 sf Neighborhood

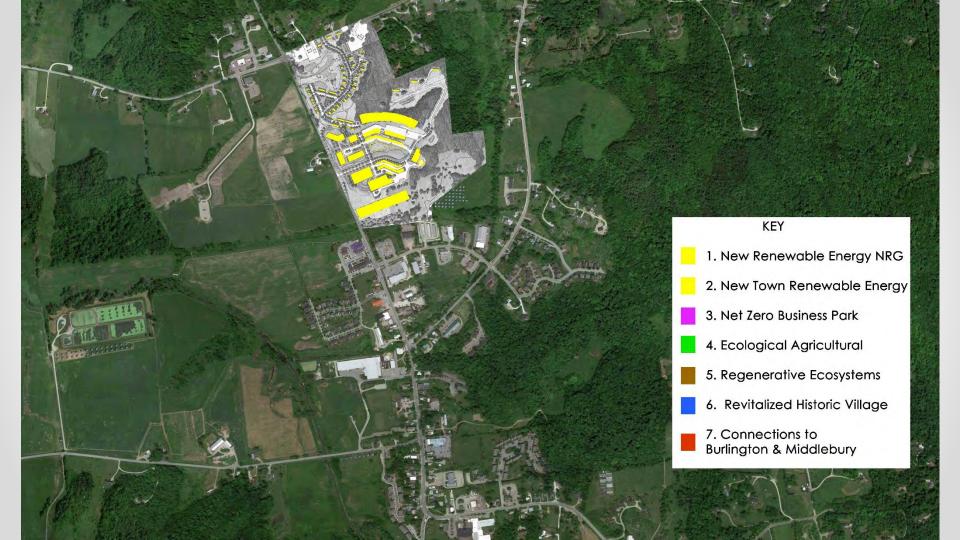


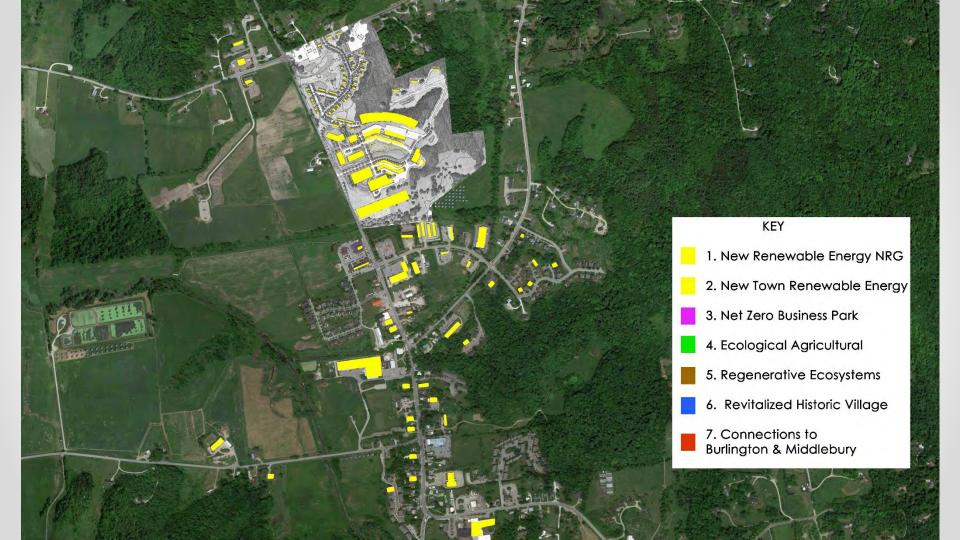


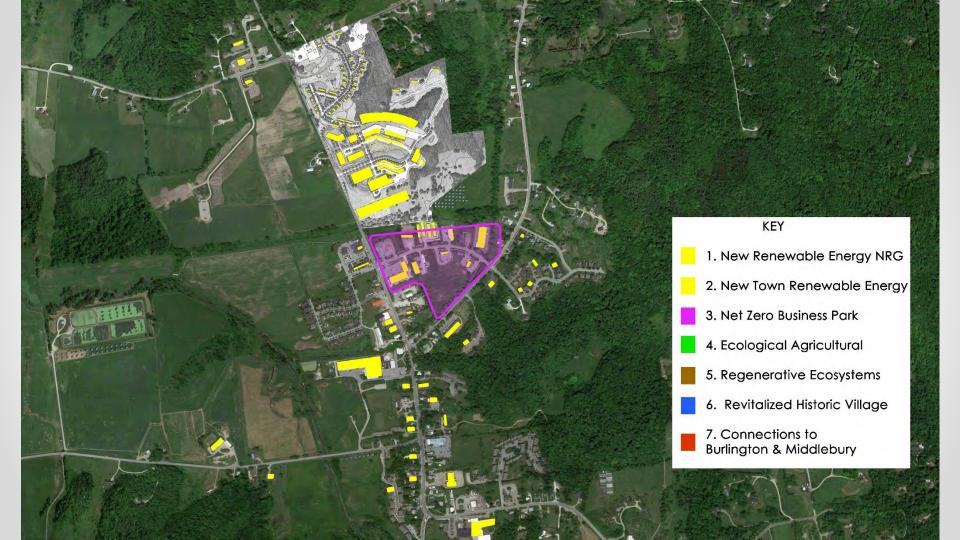


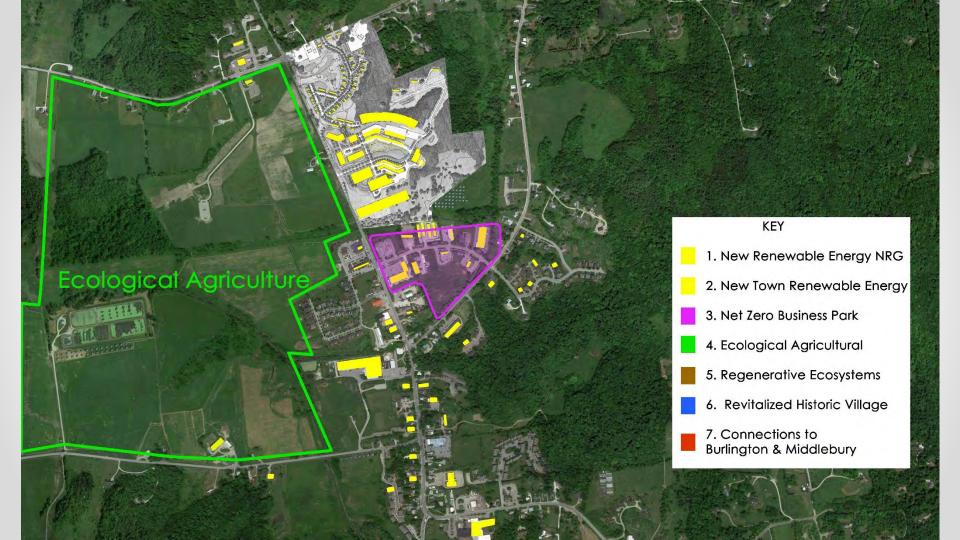


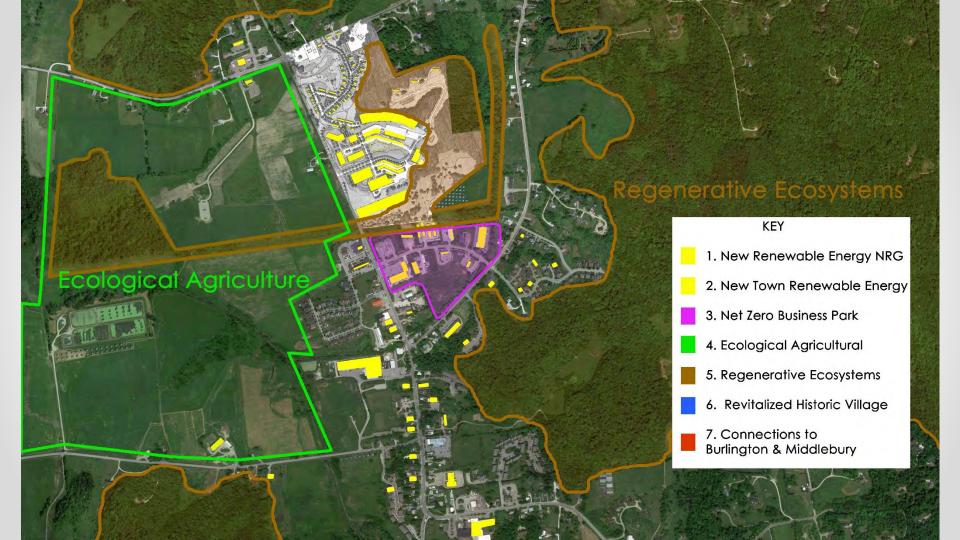


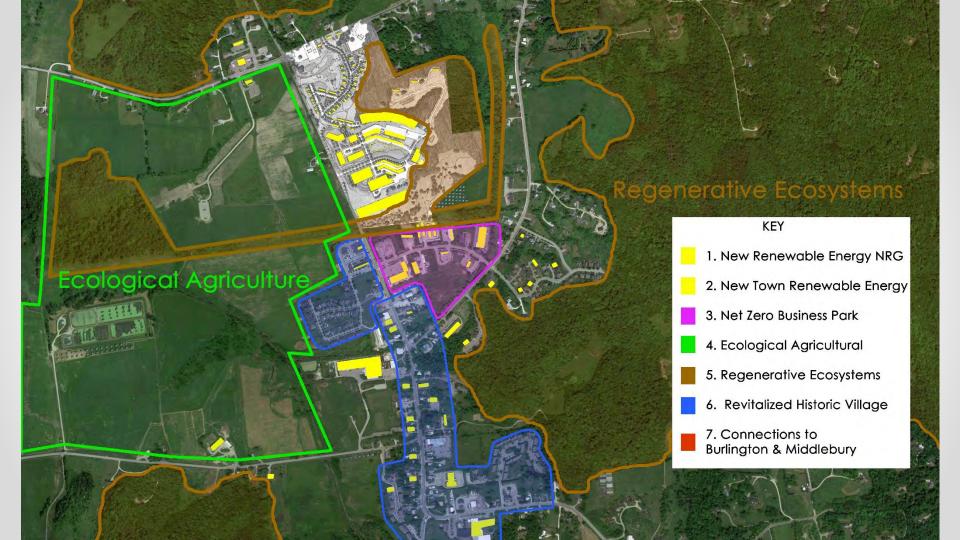


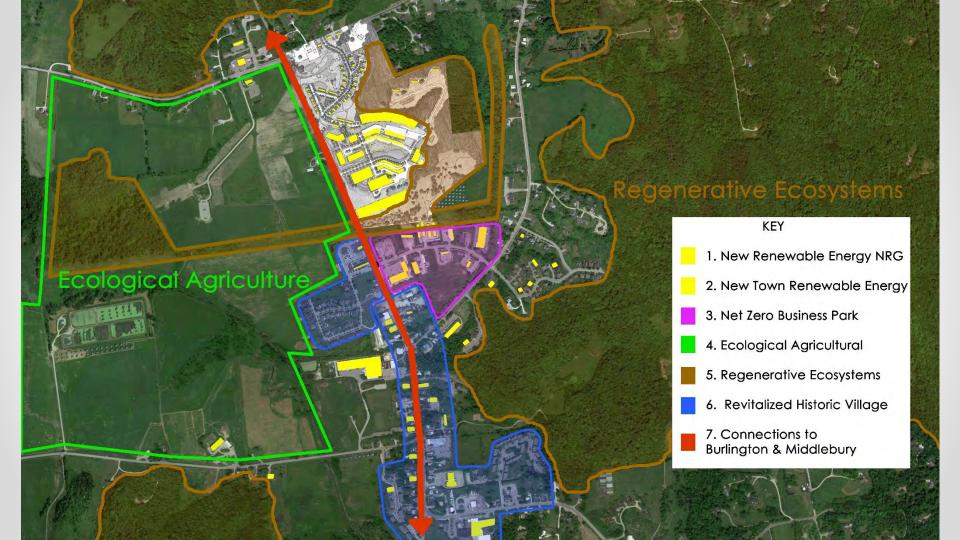
















The Vermont Global Warming Solutions Act

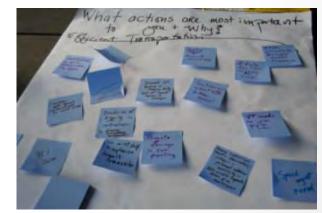




Vermont Climate Council





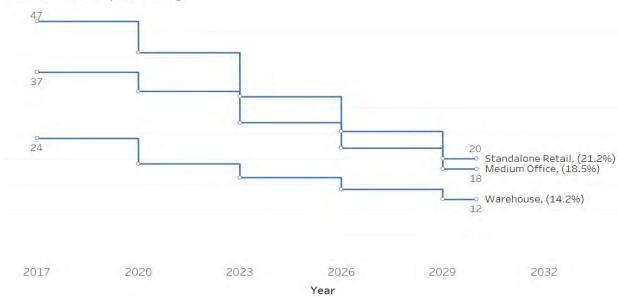




2020 Commercial Building Energy Standards

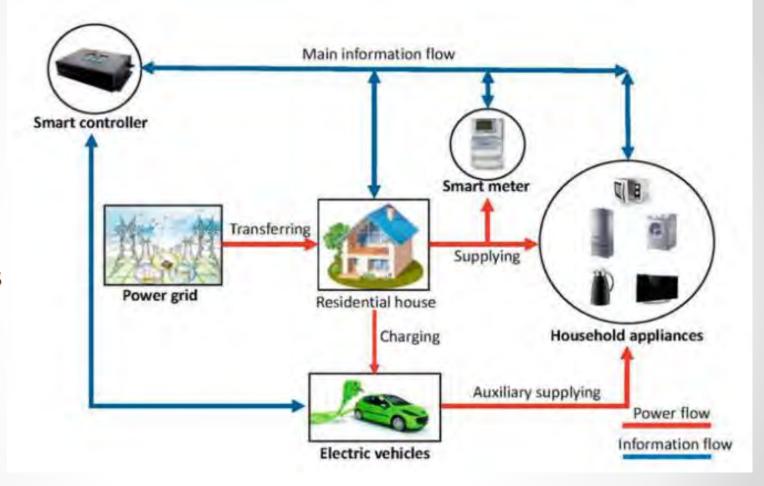
Site EUI (kBtu/sf) targets to reach a zero energy code in 2029

2020: 5% Better than 90.1-2016 2020-2029: Constant percent savings









New Clean
Energy
Opportunities

Lessons Learned















Encore's 5 MW Brattleboro ,VT landfill solar project

Big Picture Ahead for Energy

- Disruption!
 - Continued decreasing price points for RE
 - Increasing fossil fuel pricing (eg.
 Current natural gas market)
 - Peak fossil fuel 2019?
- Electrification 2-3X + increased electric load
- Storage Load shifting
- More transmission required
- Focus on reliability and resiliency
- Capital markets are engaged





Forward thinking for a changing world

- Electrification of EverythingElectrification IS efficiency
- Additionality is required for climate
- DERs required for grid stability
- Interface between transmission and distribution networks
- Storage market evolution
- Look forward 10, 15 years and plan today!





Challenges

- Nascent industry with evolving, new technologies
- Dependence on state and federal policy
- In the US: 50 market industry
- Utility engagement / grid condition
- Dated regulatory approval processes
- Project siting tensions
- Next recession in '25 or '26





Opportunities

- Need for energy security TX, CA, LA examples
- Increasing cost competitiveness of RE vs. fossil fuels
- Abundant capital
- Increasing focus on carbon risk in financial markets
- Demographics / public will





BIF and Build Back Better Bills







Thank you!

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(During Construction)



Restraining Constraints

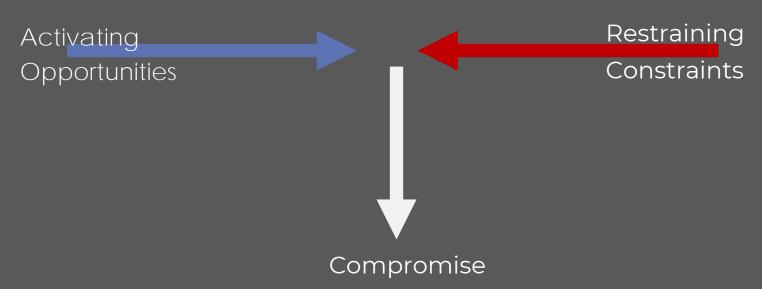
Restraining Constraints

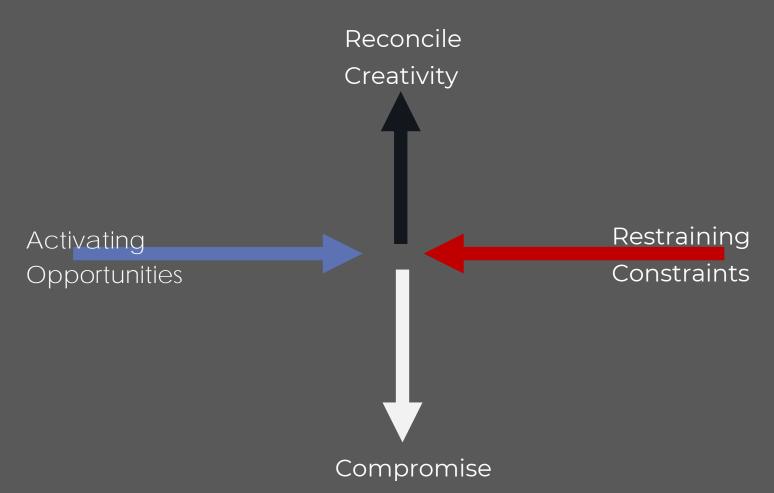
- Expensive construction materials
- Code enforcement
- Energy project siting tensions

Activating Restraining Opportunities Constraints

Activating Restraining Opportunities Constraints

- Carbon storing buildings/materials available now
- VT Global Warming Solutions Act
- Biden infrastructure plan
- Renewable cost competitiveness







Go to:

www.menti.com

Use the code:

4872 7273

What are the challenges/constraints you see in Vermont?



Mentimeter

What are the potential/opportunities you see in Vermont?



Challenges

- · WORK FORCE
- O GREAT RESIGNATION
- OCHANGE CULTURE / THINKING
 RELUCTANCE TO CHANGE
- . TRANSPORTATION LACK OF PUBLIC ELEC INFRASTRUCTURE = OLD!
- · HOUSING (AFFORDABLE)
- O CODE ENFORCEMENT OF ENERGY CODE
- * POLITICS = VOLATILE, STAGNATION-LACK OF MOVING FORWARD

 = LACK OF LEADER OHIP (FOCAL BOARDS)
- · SOLAR (NIMBY) AND WIND PERCEPTION
- · TRANSMISSION (ELEC) CONSTRAINTS
- · INCENTIVES FINANCIAL

Opportunities

- * INCENTIVIZE TALENT FROM CITIES /
- A TECHNICAL ED.
- O EMBRACING VT. HISTORICAL CULTURE WHILE EMBRACING "HEW" RESIDENTS WHO BRING TALENT, EDUCATION,
- TO RAISE FAMILY COVID CLIMATE CHANGE
- TOVID HAS ALLOWED US TO MEET WO DRIVING
- " S. BURLINGTON EXAMPLE OF MIXED USE HEIGHBORHEUS
- 1 IS FORWARD THINKING ZONING = KET ZERO ?>
- A STRENGTHENING (FURTHER) ENERGY CORE
- POLITICAL LANDSCAPE/LEGISLATION IS BETTER
 THAN NATIONAL DEMONSTRATION OF WHAT
 IS POSSIBLE
- · ACCESS TO FUNDS / IN CENTIVES

. LISTENING · LEGULATION · REGS THAT PRIMOTE WHAT WE WANT - ALIGN INGENTIVES POLITICAL WILL A 15 HARI) LCOE BBB - CASH OPTION time

Chalenges

· ANTIONATED PERMITTING PROLESS
· OLD THINKING ABOUT COSTS
· CARBOR ACCOUNTING TENSIENS
· CONTRACTOR * TRAINING / KNOWLEDGE

INCUMBENTS US. UPSTARTS

· SUSPICION

A IS HARD

Challenges COST- WELL INCONTIVES EXISTING STOCK/CHANGE CODES INCREASING COST BOI / PAYBACH Equication impact
POLICY . RATES/CHANGING Net Metering Policy /allocations TECHNOLOGY - FUTURE PLAY GOALS-ACHEIVABLE?

Opportunities FUNDING - FEO + STATE LOW COST LONGS PARTHERSHIPS INTEGRATION OF COMPONENTS Éducation Policy Mexible Load Management elvoking technology Code
By - parale, ted,
By - parale, ted,
COVID Flac & cities

CULTURE - HOW TO REIMAGINE CURRENT USE OWNERSHIP 3 DON'T CHU CAU'T INVEST FEAR OF CHANGE (DON'T FIX WHAT'S NOT BROKEN

T NERASTRUCTURE - TRANSPORTATION GRID UPGRADES INTERNET EV CHARGING

Opportunities

MELDING OF HISTORIC ENEW W/ IMPROVEMENTS

LARGE STOCK OF EXISTING ABRADOND BUILDINGS

WILLINGNESS TO EVALUATE DON-ENERGY BELIEFITS RE: POIL -EXPANDING DEFINITION OF ROIT -

VERMONT FOCUS ON THIS SUBJECT

MONATIZE PROGRESS DECARB

RESHAPING RELATIONSHIPS BETWEEN SECTIONS. (NON-SILO). BUSINESSES / WHILITES / RESIDENTIAL SWORKING TOGETHER SHARING RESOURCES HAVE TECH TO DO THIS LOST EFFECTIVELY

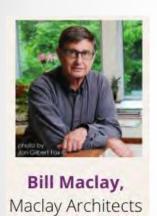
REPOSITION OUR ECONOMY LOW IMPACT (TECH) ECONOMY REMAKE

E-COMMERCE & VIRTUAL COMMUNICATION REPURPOSE BUS. SPACES

I FADERSHIP

AUTOMATED EFF : PROCESSES CONTROL - SMART MIETERING

THANK YOU



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