



ZERO EMISSIONS BYRON



Community Energy Congress 2017

Target: Zero greenhouse gas emissions for region Ten years (2015-2025)



Project Objectives/Motivation

- **Primary goal: Climate change abatement**
 - **Unprecedented environmental, social and economic crisis**
- **Major benefits to region– social, environmental and economic**
 - **Economic diversification; job creation; localisation of jobs**
 - **Improved biodiversity e.g. revegetation**
 - **Improved sustainable practices e.g. sustainable building design**
- **Coal Seam Gas mining– direct threat from fossil fuel industry**
 - **Mobilised renewables movement in region**
 - **Create the alternative**

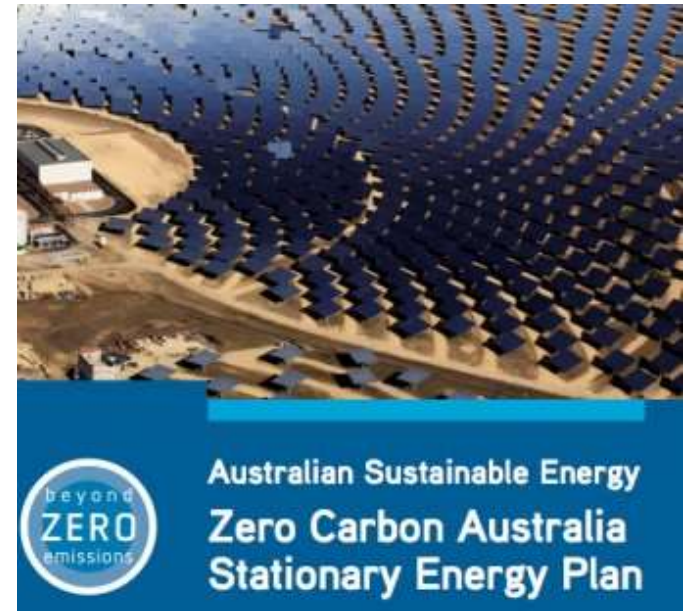
Byron Shire region

- **Regional area**
 - Pop ~33,000
 - Low population density (0.58 people/ hectare)
 - 44 towns, 567 km²
- **Largest industry = tourism**
- **Reputation as innovative and environmental area**
- **Many existing businesses and initiatives in RE**



National Context

- **Zero Emissions Byron Project**
 - **Regional scale for Beyond Zero Emissions transition blueprints**
 - **Model for other regions**
 - **Holistic**
 - **Grassroots/community led**



International context

- COP21 Climate Change Conference 2015
- Compact of Mayors
 - Global agreement on emissions reduction
 - 596 cities
 - Representing 6.13% global population
- International Council for Local Environmental Initiatives (ICLEI) membership



Mayor Simon Richardson at 100% RE Cities and Regions workshop, Paris COP21

Project Structure Collaboration



- Community
- Byron Shire Council
- Project partners
- Newly incorporated organisation
 - Board of Directors
 - Advisory Group



Energy
Communications



Waste



Transport



Land Use



Buildings



ZEB Project Strategy

INITIAL: Develop organisational capacity & community involvement

FIRST GOAL: Calculate greenhouse gas emissions baseline for Byron Shire region & assess current situation for each sector

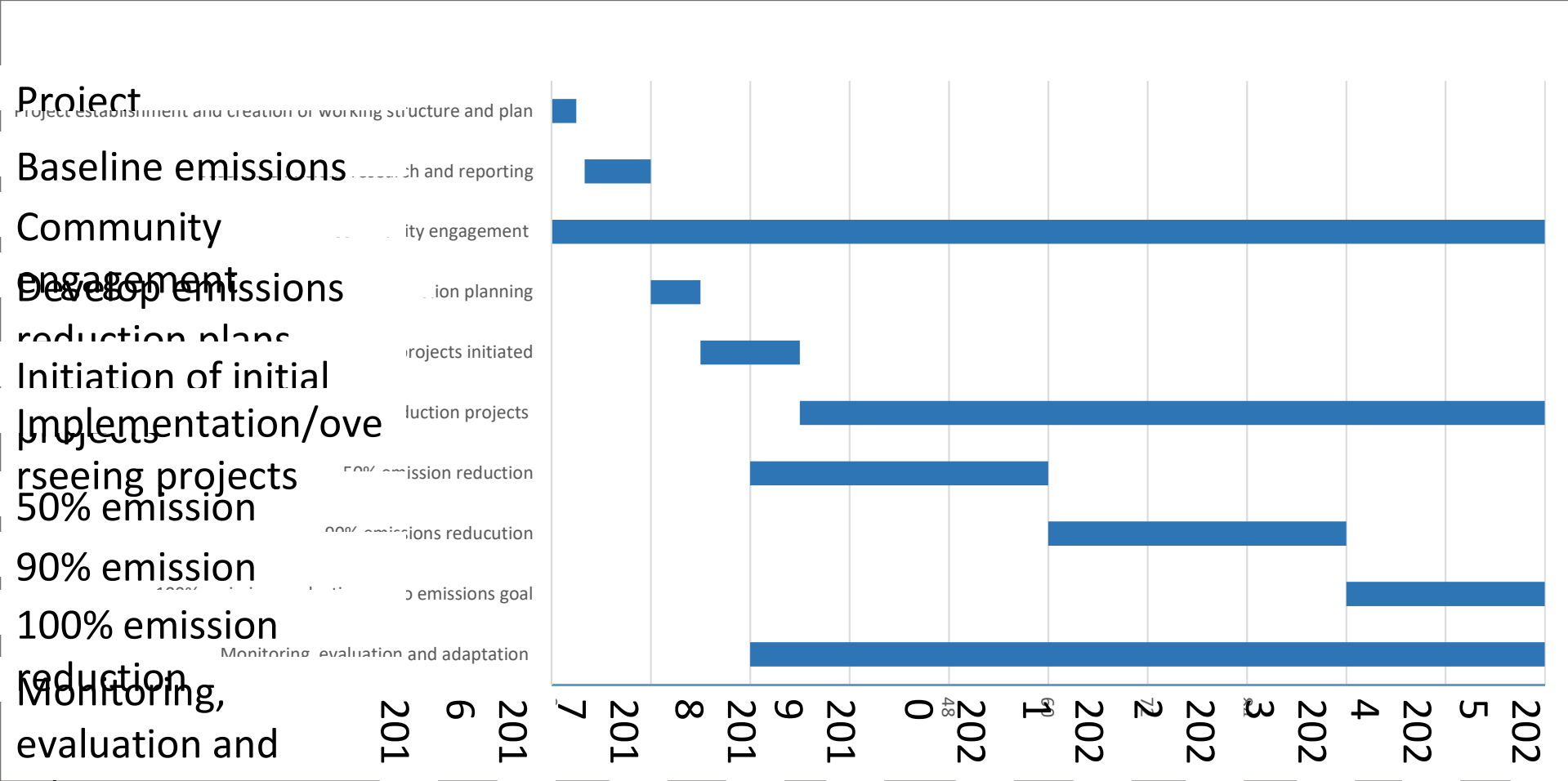
NOW: Develop emissions reduction plans for all sectors

- Model solutions and technology
- Implementation strategy: costs; regulations; uptake etc.

NEXT: Implement/oversee emissions reduction strategies & projects

COMMUNITY ENGAGEMENT AND COLLABORATION IS KEY

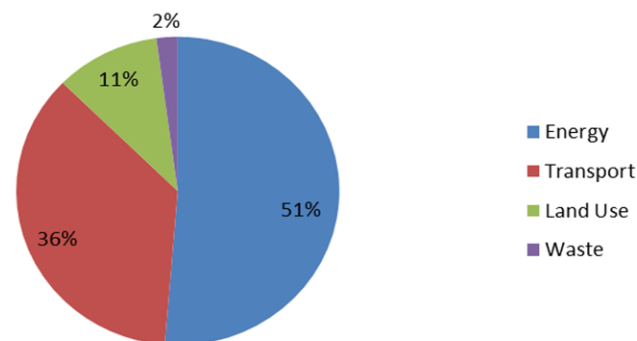
ZEB Project 10 year timeline



Greenhouse Gas Emissions Inventory

- ~Half of emissions are from stationary energy (electricity use)
- Majority (75%) energy emissions from residential buildings
 - Energy efficiency → ↓ emissions
- Equivalent ~8 tonnes CO₂e per person (~half of national average)

Greenhouse Gas Emissions for Byron Shire



Tonnes CO₂e

Energy	134,967
Transport	95,004
Land Use	27,637
Buildings	100,695
Waste	5,591
TOTAL	263,199

Energy Sector in Byron Shire

Many existing projects, businesses and initiatives

- Community Owned Renewable Energy Mullumbimby (COREM)
- Enova
- 100 go solar
- Byron Shire Council – Low Carbon Strategy; energy audits; biomass study; virtual net metering trial
- Energy efficiency businesses
- Solar companies

Renewable Energy

- Installed Solar PV
 - 11442 kW installed capacity (mostly small scale <10kW)
 - ~27% dwellings have solar PV

Electricity from grid – 156,000 MWh

Energy Emissions Reduction Plan

Two parts:

1. Modelling least cost way to achieve zero emissions/100% RE

- Technology/solutions most applicable to region
- Modelling scenarios e.g. 70% of houses with solar PV; 20% reduction in demand through energy efficiency measures; 0.5MW bioenergy facility

2. Policies, programs to achieve this – uptake/implementation

- Regulations; barriers; state and federal frameworks and RET; incentives
- Community consultation and engagement on proposed solutions
 - Energy stakeholder meeting November 2016
 - Community forum

Implementation of plans

- **2017** Implementation of key initial projects
 - Individual emissions auditing and solutions
 - Energy efficiency
 - Solar PV
 - Schools project
- Partnering/collaboration for large projects
- Attraction and management of resources/funds
- Overseeing of projects and resources
- Monitoring & evaluation – adaptive management

Key Lessons

CHALLENGES

- New – figuring out process along way
 - Need for clarity
 - E.g. data collection
- Lack of resources
 - Finances
 - Capacity & time

OPPORTUNITIES & POSITIVES

- Key 'champions'
 - Council
 - Community
- Resources – people
 - Dedicated volunteers
 - Pro bono support
- Grassroots – bottom up approach
- Collaboration



Contacts and more information

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Beyond Zero Emissions: bze.org.au/zcc



Centre for Social Change: www.centreforsocialchange.com.au