



ECONOMY  
ENERGY  
ENVIRONMENT

# North Carolina E3 Experience

Anna Mangum  
E3 North Carolina Lead  
NCSU Industrial Extension Service  
NC MEP

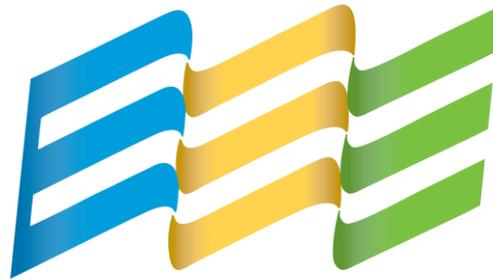
# E3: Strengthening Manufacturing in North Carolina

## Through Sustainable, Best Business Practices



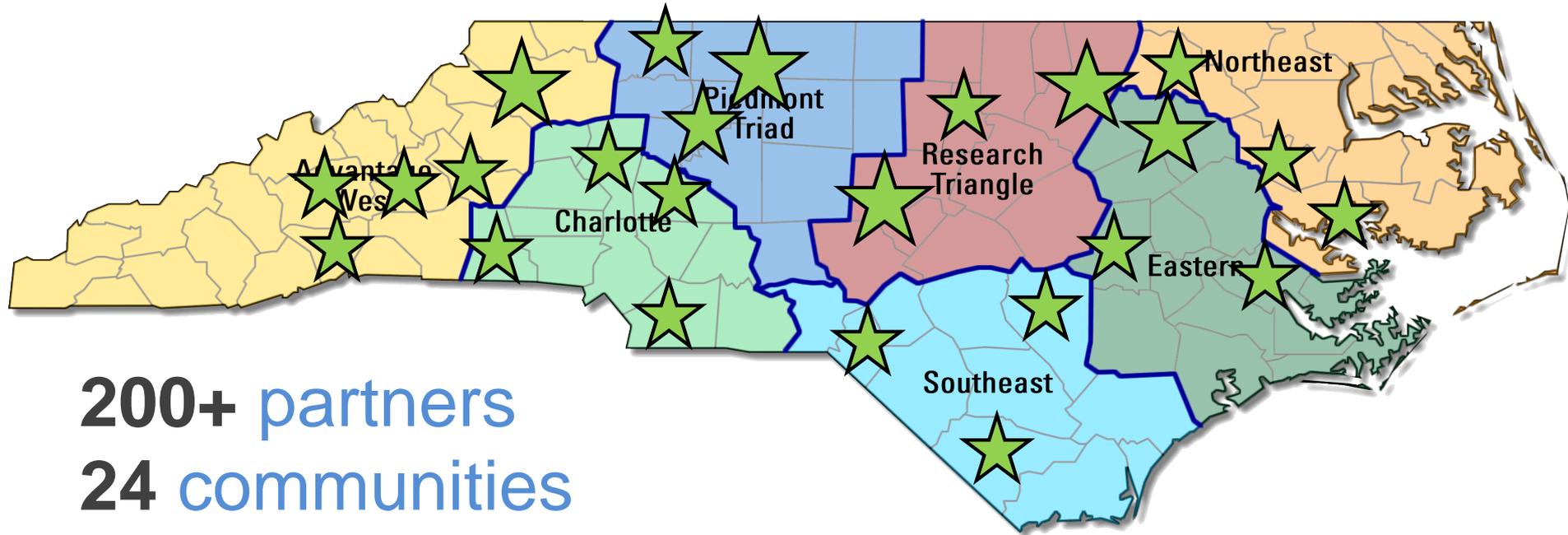
# E3: Economy, Energy, and the Environment

**E3 is an innovative, community-based effort to establish self-sustaining initiatives that simultaneously increase the sustainable practices and profitability of manufacturers.**



ECONOMY  
ENERGY  
ENVIRONMENT

# E3: Strengthening Manufacturing in North Carolina



**200+** partners

**24** communities

**48** manufacturers

**200+** technical assessments

**350+** workers trained



# Real Impact

---

**Survey roughly 20% of clients**

**170 North Carolina jobs**

**\$9.3 million in realized savings**

**\$23+ million in economic impact**



# E3 Framework



**E3: ECONOMY - ENERGY - ENVIRONMENT**  
SUPPORTING MANUFACTURING LEADERSHIP THROUGH SUSTAINABILITY

Program  
Management

Partner  
Engagement

Technical  
Delivery

Impact  
Assessment

Program  
Sustainment

# Program Management

- One driver – unbiased – equal respect and trust
- Clear vision and goals
- What does the process/experience look like
- Stop planning start doing
- Sharable project management dashboard

# Deploying E3 in a Community

## E3: Economy, Energy, and the Environment



	Assess	Transform	Sustain
Community Partnerships	<ul style="list-style-type: none"> <li>• Engaging leadership</li> <li>• Identifying community needs</li> <li>• Assessing sustainability initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Linking community leadership with manufacturers</li> <li>• Generating economic impact</li> <li>• Developing E3 leadership</li> </ul>	<ul style="list-style-type: none"> <li>• Establishing E3 councils</li> <li>• Maintaining leadership support</li> </ul>
Manufacturers	<ul style="list-style-type: none"> <li>• Identifying E3 technical resource needs:               <ul style="list-style-type: none"> <li>- Lean and green review</li> <li>- Energy assessment</li> <li>- Greenhouse gas evaluation</li> <li>- Promoting business excellence assessment</li> <li>- Worker safety review</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Implementing improvement projects</li> <li>• Providing solutions to workforce development needs</li> <li>• Connecting to financial assistance</li> <li>• Setting long-term goals and programs</li> </ul>	<ul style="list-style-type: none"> <li>• Participating in E3 councils</li> <li>• Sharing best practices</li> <li>• Meeting long-term goals</li> </ul>
Technical Partnerships	<ul style="list-style-type: none"> <li>• Recognizing strengths</li> <li>• Defining roles and responsibilities</li> <li>• Confirming availability</li> </ul>	<ul style="list-style-type: none"> <li>• Integrating activities</li> <li>• Providing comprehensive services</li> <li>• Enhancing collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining advocacy network</li> <li>• Strengthening program stability through continued funding</li> </ul>

# Program Management Dashboard



	A	B	C	D	E	F	G	H	I
1	E3 Community	ED Region	Status	#	Manufacturers	Energy Provider	Client Con	Technical work completed	Next Steps
39	Buncombe County	AdvWest	One Scholarship Manufacturer	6	Thermo Fisher Scientific - Scholarship Recipient	Progress Energy	Tim Hamel	ALL	Implementation Project
40	Buncombe County	AdvWest	One Self Sustaining Manufacturer	7	Farnam - Fall 2011 - Self sustaining model	Progress Energy ?	Mike Armstro	ALL	Implementation Project
41									
42	Blue Ridge	AdvWest	Two 1/2 scholarship Manufacturers	8	RPM Wood Finishes Group - 1/2 Scholarship	Blue Ridge Electric	Gordy Hyde	ALL	Implementation Project
43	Blue Ridge	AdvWest	Both receiving BlueRidge Electric sub:	9	American Emergency Vehicle - 1/2 Scholarship	Blue Ridge Electric	Jessie Davis	ALL	Implementation Project
44									
45	Sampson County	Southeast	Completing Technical Assessments	23	Hog Slat - Scholarship Recipient	Progress	Kim Henry	ALL	Implementation Project
46	Sampson County	Southeast		24	Schindler Elevator Corp - Scholarship Recipient	Progress	Chuck Spell	ALL	Implementation Project
47									
48	Rowan County	Charlotte	Completing Technical Assessments	26	Ei (Harmony Labs) - Scholarship Recipient	Duke Energy (Unassigned)	Dave Parker	ALL	Schedule close out meeting
49	Rowan County	Charlotte	Implementation projects underway	31	Mueller Systems - Scholarship Recipient	Duke Energy (Unassigned)		ALL	Implementation Project
50	Rowan County	Charlotte			Norandal - Interested in Scholarship	Duke Energy (John Millard)			
51	Rowan County	Charlotte			Henkle - Future Interest				
52									
53	Durham County	RTRP	Implementation projects underway	22	Valassis Communication - Scholarship Recipient	Duke Energy (Ashley Eanes)	Jill Dickens	ALL	Implementation Project
54	Durham County	RTRP	Implementation projects underway	33	SCM Metal Products - Scholarship Recipient	Duke Energy (Dwight Moore)	Jill Spaulding	ALL	Implementation Project
55									
56	Rockingham/Stokes	PTRP	Completing Technical Assessments	27	Weiland Copper - Scholarship Recipient	Duke Energy (Ashley Eanes)	David Gregon	ALL - other safety needs?	Implementation Project
57	Rockingham/Stokes	PTRP		34	Envision Plastics - Scholarship Recipient	Duke Energy (Donnell Corbett)	Khosrow	Energy, LGC, Probe	Schedule close out meeting
58									
59	Henderson County	AdvWest	Implementation projects underway	28	Manual Wood Workers - Scholarship Recipient	Duke Energy (Paula Clark)		GHG, LGC, Energy, Safety	Implementation Project
60	Henderson County	AdvWest	Implementation projects underway	30	Cane Creek Cycling - Self funded	Duke Energy (Unassigned)		Energy, LGC, GHG, Probe	Implementation Project
61	Henderson County	AdvWest	Implementation projects underway	29	Clement Pappas - Scholarship Recipient	Duke Energy (Paula Clark)		LGC, Energy, Probe	Implementation Project
62									
63	Edgecombe/Nash County	East	Completing Technical Assessments	34	Nomaco - Edgecombe - Scholarship Recipient			ALL	Implementation Project
64	Edgecombe/Nash County	East		44	Draka - Nash - Scholarship Recipient			ALL	Implementation Project
65	Edgecombe/Nash County	East		47	ASC - Scholarship Recipient				Probe, LGC, Energy, GHG
66									
67	Halifax County	Northeast	Completing Technical Assessments	36	Flambeu - Scholarship Recipient			LGC, Safety, energy	Schedule PROBE & close out
68	Halifax County	Northeast		37	Safe Light - Scholarship Recipient			Safety, GHG, LGC	Schedule PROBE & close out
69	Halifax County	Northeast		38	Weldon Steel - Scholarship Recipient			LGC, GHG, safety, energy	Schedule PROBE & close out
70									
71	Surry County	PTRP	scheduling assessments	40	Nester Hoisery - Scholarship Recipient	Duke Energy		Energy, GHG, Safety	LGC, Probe,
72				45	United Plastics - Scholarship Recipient	Duke Energy		Energy, LGC, Safety, GHG	Probe,
73									
74	South Iredell	Charlotte	Scheduling assessments	41	GMI - Scholarship Recipient	Duke Energy		Probe, LGC, Energy, safety, GHG	Schedule close out meeting
75									
76									
77	Warren County	RTRP	Partner meeting scheduling	46	Glen-Raven - Scholarship Recipient	Duke-Progress		Energy, GHG	LGC, Probe, Safety,

# Partner Engagement

- Community Partners vs. Technical Partners vs. Manufacturing Partners
- Engagement isn't always equal, neither is the \$
- Clear message and marketing – selling apple pie!
- Success builds on success – videos, stories, etc.
- Lead generation channels through partners w/ goals

# Technical Delivery

- What does the service package look like?
- Who can do what for how much and when?
- Competition vs. Collaboration
- Expectation management
- What's the end product/deliverable?
- What information can be shared across partners?

# Time and Personnel Commitment

Assessment	# of days	# of Participants	Participant Type	Prep Work Required
<b>Business Excellence Assessment</b>	Day 1: 1 hr for personal assessment Day 2: 2 hrs for group assessment Day 3: 4 hrs for facilitated assessment	5 - 7 people	Cross Section of company: 1-2 top managers, 2-3 middle mgmt, 2-3 associates	Company Profile
<b>Lean and Green Review</b>	2- 3 days (depending on size and complexity of the process chosen)	3 – 10 people	People involved in the process to be Value Stream Mapped are needed. Others may include top management, department heads, associates from area, etc.	E3 Pre-Assessment Survey
<b>Energy Systems Assessment</b>	1 - 2 days (depending on size of the facility)	1 person	Person knowledgeable in the facility systems to escort energy assessor	Energy Data
<b>Greenhouse Gas Evaluation</b>	0.5 - 1 day	1 – 6 people	Personnel trained in the use of the Greenhouse Gas Tool	Energy Data
<b>Worker Safety Review</b>	1 day	1 person	Escort for safety assessor	NC OSH request form

# Impact Assessment

- Metrics and reporting overload
- Who wants what data when?
- Make it easy on the client!
- Create a feedback process to partners
- Quantitative vs. Qualitative

# Program Sustainment

- Partnerships evolve, grow and change
- Stay engaged online and in-person
- Create opportunities for recognition
- Allow partners to tell their success story
  
- Build a self-sustaining financial model

**Economic Ripple  
Effect**

**E3 Project  
Implementation**

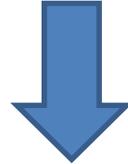
**E3**

**Strengthened  
Retention, Expansion,  
& Marketing Strategy**

**Improved  
Engagement, Efficiencies,  
Productivity & Profitability**

**Best Practice Sharing  
& Sustainability Council**





# E3 Framework



**E3: ECONOMY - ENERGY - ENVIRONMENT**  
SUPPORTING MANUFACTURING LEADERSHIP THROUGH SUSTAINABILITY

Program  
Management

Partner  
Engagement

Technical  
Delivery

Impact  
Assessment

Program  
Sustainment

# E3 NC Contact - <http://e3.ies.ncsu.edu/>

---

**Anna Mangum**

Lead, E3 North Carolina

NC State University  
Industrial Extension Service  
919-210-6050

[anna\\_mangum@ncsu.edu](mailto:anna_mangum@ncsu.edu)