



NewBio Human Systems

August 2013 Update

Human Systems Background Data Collection

- Graduate Student Funding Begins Fall 2013
- Background Scoping: attitudes/
challenges/concerns of communities toward
bioenergy in Northeast; Policy Analysis
- Analysis of public discussions on bioenergy in local
newspapers in NY State
- NY State Policy Analysis on Bioenergy

Media Analysis

#	Counties of Interest	Newspapers
1	Cattaraugus County	Olean Times Herald (Olean) Villager (Ellicottville) Salamanca Press (Salamanca) Bona Venture (St. Bonaventure)
2	Cayuga County	Citizen (Auburn)
3	Chautauqua County	Post Journal (Jamestown) Sentinel News (Mayville) Observer (Dunkirk) Westfield Republican (Westfield)
4	Clinton County	Cardinal Points (Plattsburgh) Press Republican (Plattsburgh)
5	Essex County	Lake Placid News (Lake Placid)
6	Franklin County	Adirondack Daily Enterprise (Saranac Lake) Adirondack Explorer (Saranac Lake) Tupper Lake Free Press (Tupper Lake) Malone Telegram (Malone)
7	Herkimer County	Evening Telegram (Herkimer) Little Falls Evening Times (Little Falls) Adirondack Express (Old Forge)
8	Jefferson County	Watertown Daily Times (Watertown) Carthage Republican Tribune (Carthage)
9	Lewis County	The Lowville Journal and Republican (Lowville)
10	Livingston County	Genesee Valley Penny Saver (Avon) Lamron (Geneseo)
11	Oneida County	The Oneida Daily Dispatch (Oneida) Rome Observer (Rome) Rome Sentinel Clinton Courier (Clinton) Queen Central News (Camden)



Types of Articles Analyzed To Gauge Public Opinion on Bioenergy

news,
business,
press releases,
announcements,
editorials,
opinion pieces/letters to the editor,
readers comments

Search Terms:

biomass,
biofuel,
bioenergy,
switchgrass,
miscanthus,
willow,
BCAP,
cellulosic,
Mascoma,
Catalyst Renewables,
Double A Willow,
Celtic Energy.

Table 1. Categories of analysis.

Technical	Technical risk	Technical benefit
Economic	Economic risk	Economic benefit
Environmental	Environmental risk	Environmental benefit
Health/Safety	Health/Safety risk	Health/Safety benefit
Political/Legal	Political/Legal risk	Political/Legal benefit
Aesthetic	Aesthetic risk	Aesthetic benefit
Educational	Educational risk	Educational benefit
Other	Negative	Positive

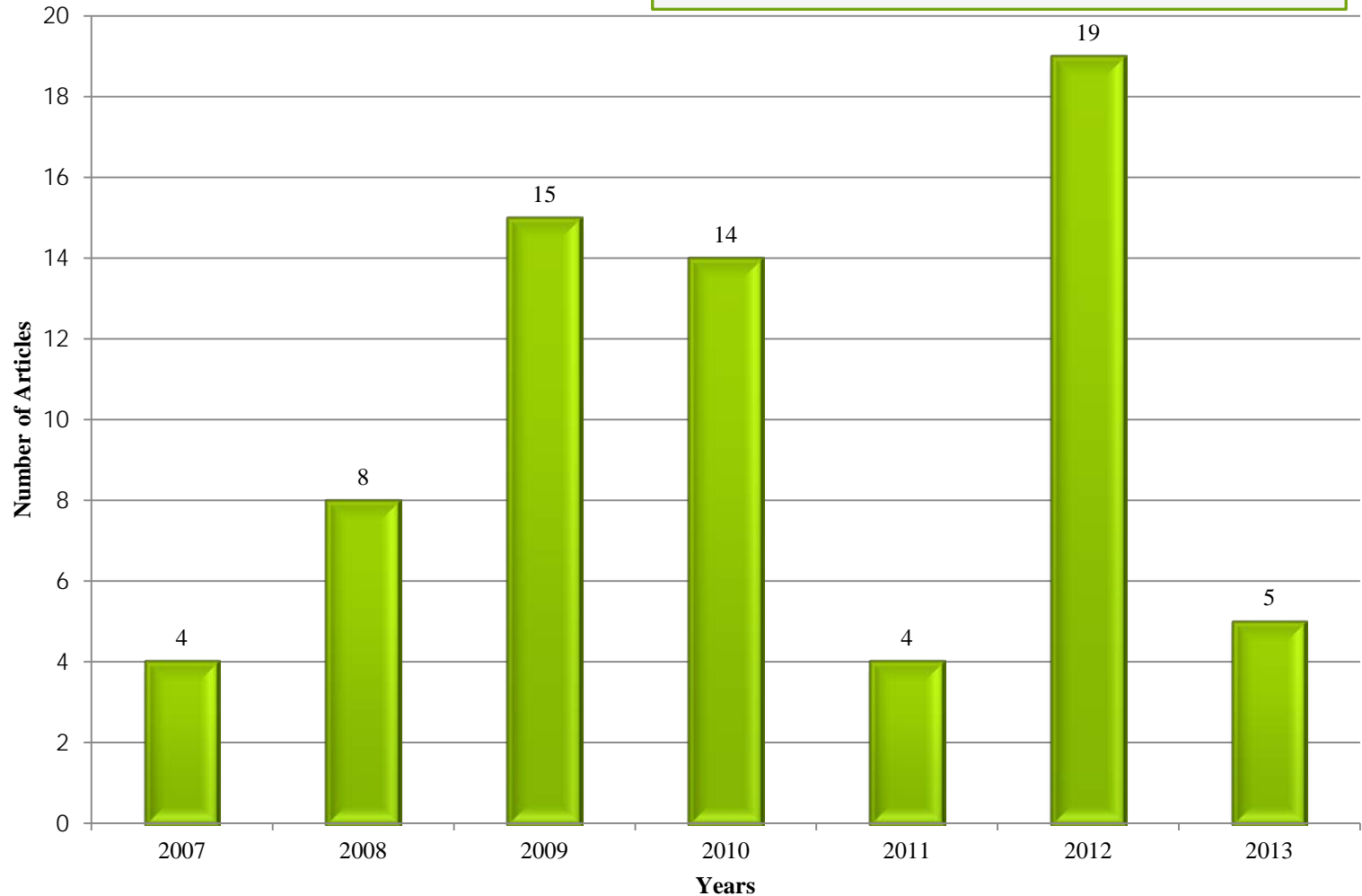


Figure 2. Number of articles reporting on bioenergy/biomass from 2007 to 2013, N=69

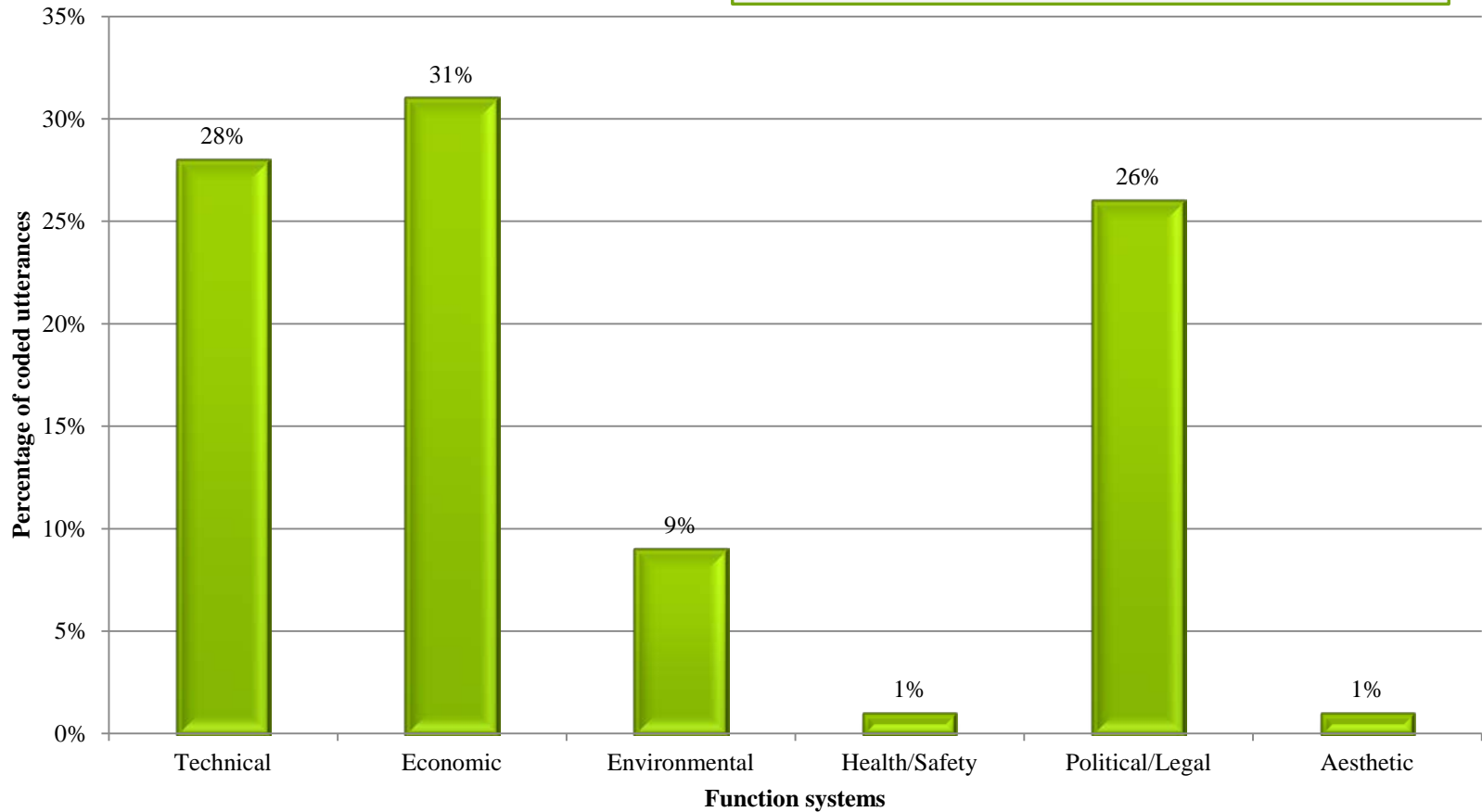


Figure 5. Distribution of Themes, N=69

Code	Interpretation	Example sentences from the articles
Technological Benefit (TB)	Technology ¹ is believed to be successful; belief in technology, in its potential.	Solar panels, windmills, micro-hydro and biomass applications are viable renewable energy sources with potentially powerful results in Madison County (Traynor 2010). So far, switchgrass as a bioenergy feedstock seems promising overall in the U.S, she [Mayton] said, with some varieties showing more strength in this area than others (Collier 2009). “As New York state looks to upgrade and improve its energy infrastructure, renewable energy will play an even greater role in providing power that is more reliable, efficient and environmentally sustainable” Cuomo said (Will 2012).
	Technology takes advantage of existing resources.	And unlike biofuels such as corn ethanol, the powdered fuel can be made from plant material that would otherwise remain on the forest floor or farmer’s field – not from plants that can feed people or animals (Morelli 2009).
	Technology makes use of idle/abandoned/marginal land.	“On many farms, there is a field that is too wet or too far away and not used to its fullest potential,” he said. “We can give them a way to make good use of that land and keep it from growing up into brush.” (Linhorst 2009). That's because they [willows] require less energy to grow and can be grown on marginal farmland unsuited for other crops, Volk said (Knauss 2007).
	Technology successfully functioning.	Currently, the RPS program has 54 large-scale renewable energy generators that provide enough clean power for more than 650,000 homes per year (Will 2012). “We just want to show ourselves and other people that this works, that it is possible,” Pumilio said (Linhorst 2009).
	Technology takes advantage of existing infrastructure.	The company, which took control of the former coal plant on 2nd Street Southwest in March 2012, has spent the past year getting the site ready for use (Block 2013).
	Technology has advantages over conventional energy sources.	The [bio]powder has some advantages over petroleum-based fuels (Morelli 2009).
Technological Risk (TR)	Technology may not work; suspicion of the effectiveness of the technology.	No new green projects have ever been successful to date (Comment to Groom 2012). Let's get fracking instead. No more biomass fuels to screw up

¹ The word “Technology” is used throughout the document in the meaning of bioenergy/biomass technologies.

Technological Benefit

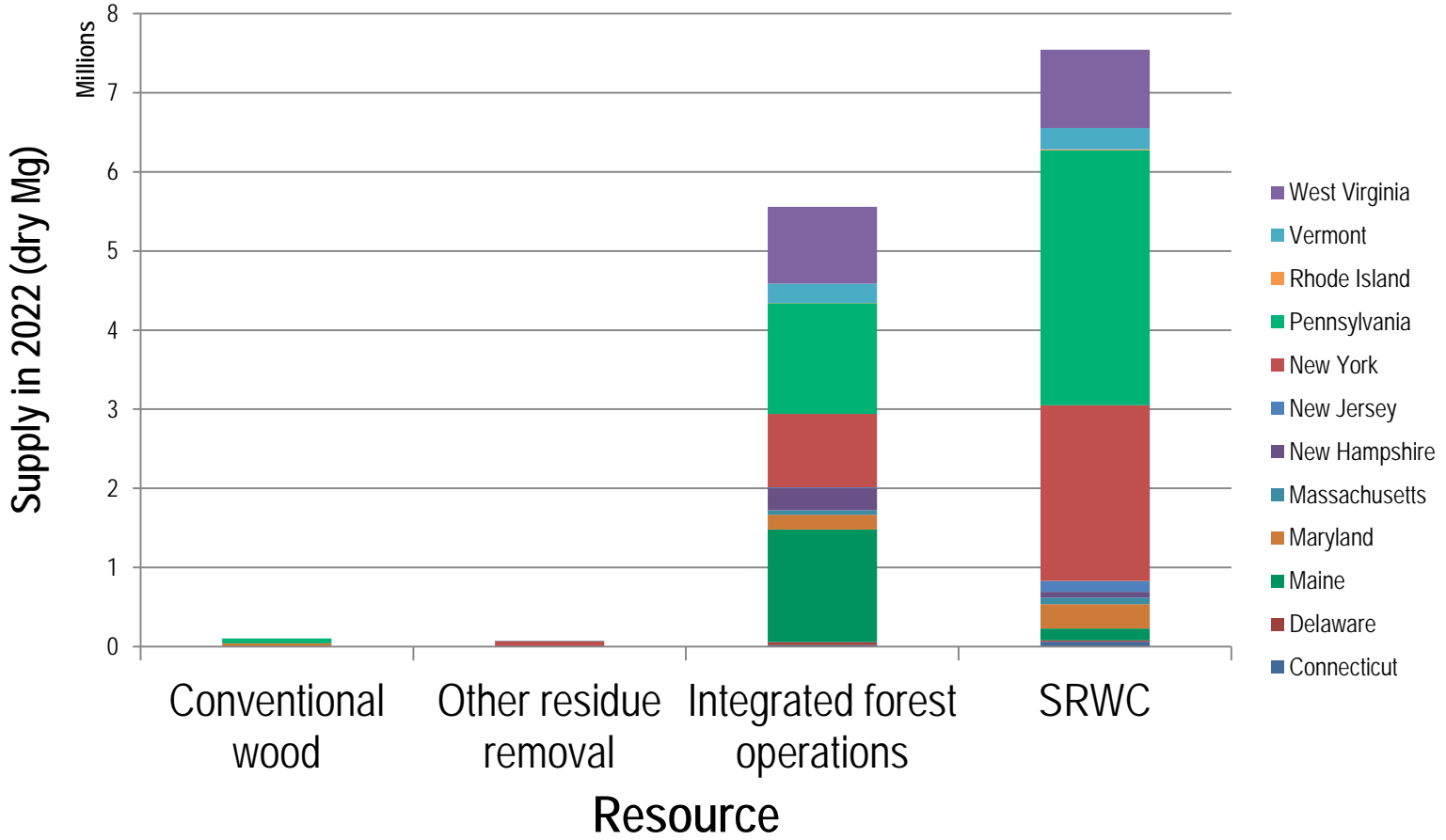
Technological Risk

Human Systems Future Data Collection, 2013-2014

- Complete Policy and Media analysis to identify role of policies, and public attitudes/knowledge/concerns about bioenergy
- Using policy and media analysis, develop interview questions
- Interviews with land owners and community members to understand barriers and challenges to expansion of local bioenergy industry

Results- NE

Woody biomass feedstocks projected in 2022, assuming a farmgate price of \$60 dry ton⁻¹ in twelve Northeast states.



Biomass Resource Assessment

1. Enhancements

- a) Developed stochastic version of POLYSYS.
- b) Added algae module.
- c) Spatially-explicit (parcel-level) realizations.

2. Wei Jiang's research:

- a) Incorporate reclaimed mined lands and other land uses into POLYSYS.
- b) Run POLYSYS with emphasis on NE feedstocks on marginal lands.
- c) Quantify economically marginal lands for demonstration sites
 - Profit Analysis/GIS Analysis
- d) Examine socioeconomic factors driving farmers to use marginal lands
 - Survey using Discrete Choice Model

