

Steel in the Ground in Sarnia-Lambton

Transformation within a Hybrid Chemistry Cluster



Scaling Up 2017 Conference

November 29, 2017

A.J. (Sandy) Marshall – Bioindustrial Innovation Canada

Anne Waddell – BioAmber

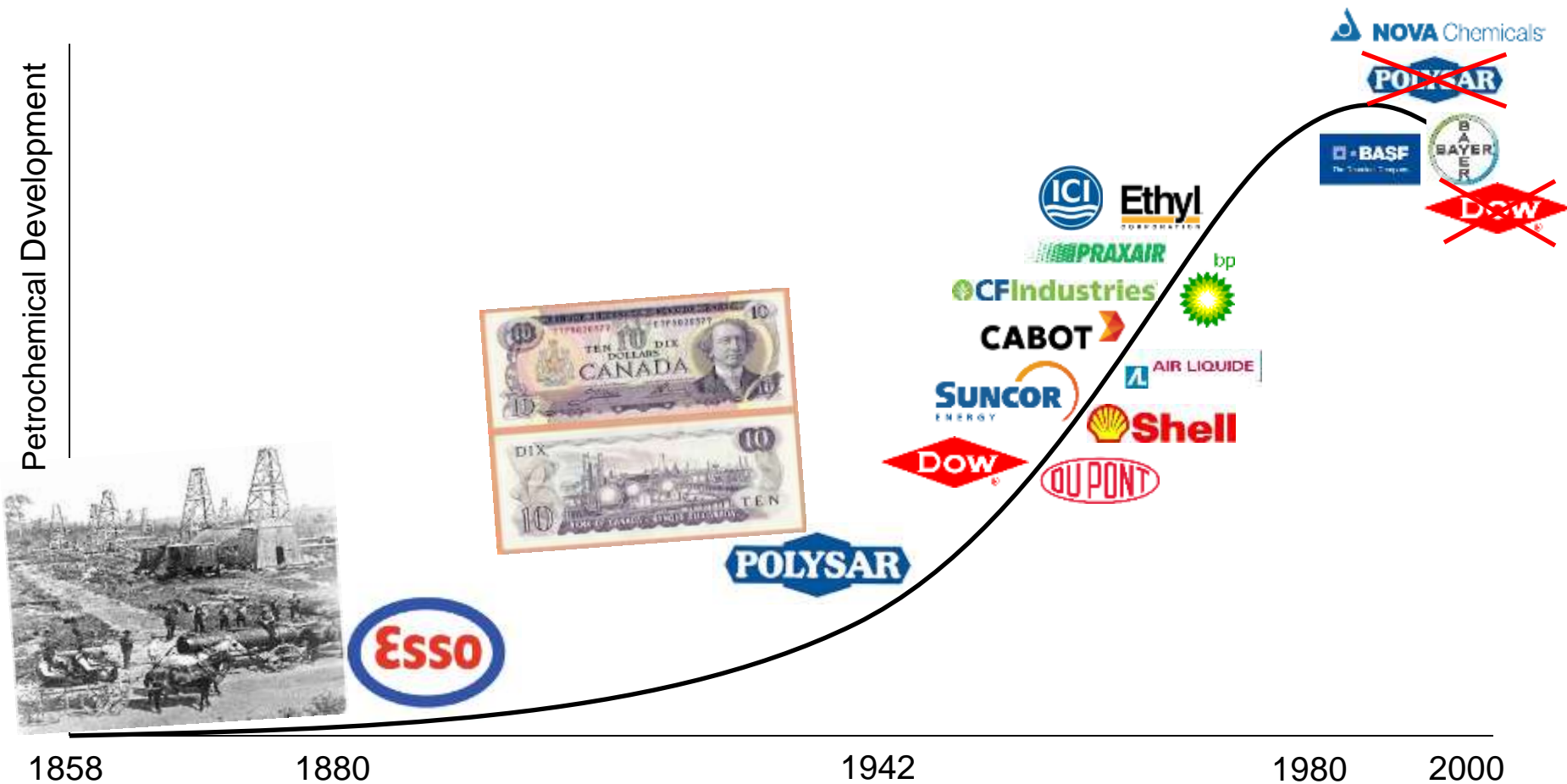
Mark Kirby – S2G Biochemicals

Stephen Galowitz – Origin Materials

Bioindustrial 
Innovation Canada
A Sustainable Chemistry Alliance

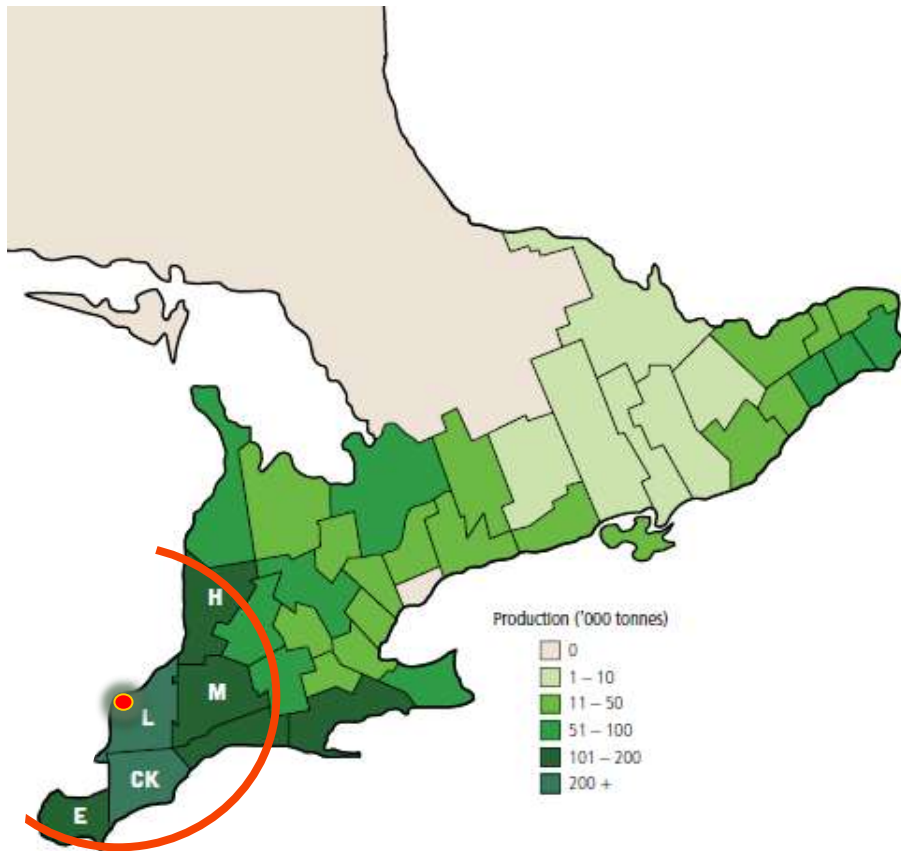
Industrial History of Sarnia-Lambton [1858 – 1998]

Emergence of the Sarnia Chemistry Cluster over 140 years



Transitioning to a Low Carbon Economy

Sarnia-Lambton has abundant agricultural feedstocks

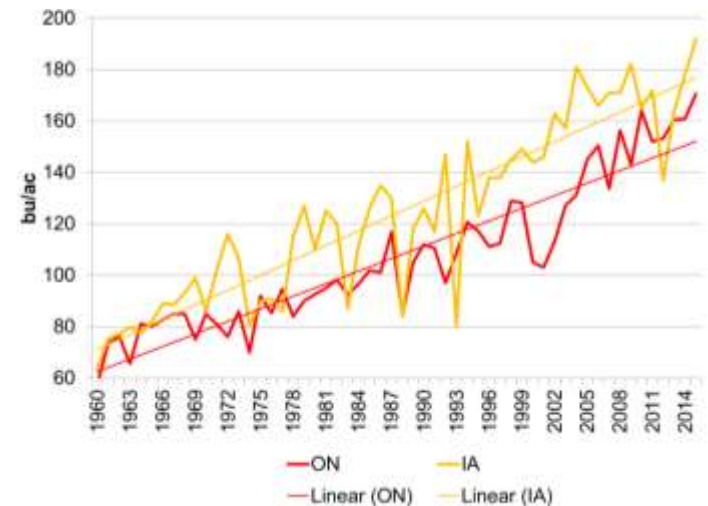


Located within Ontario's Agricultural Heartland

- 45% of soybeans and corn within 100km

Five County Region around Sarnia

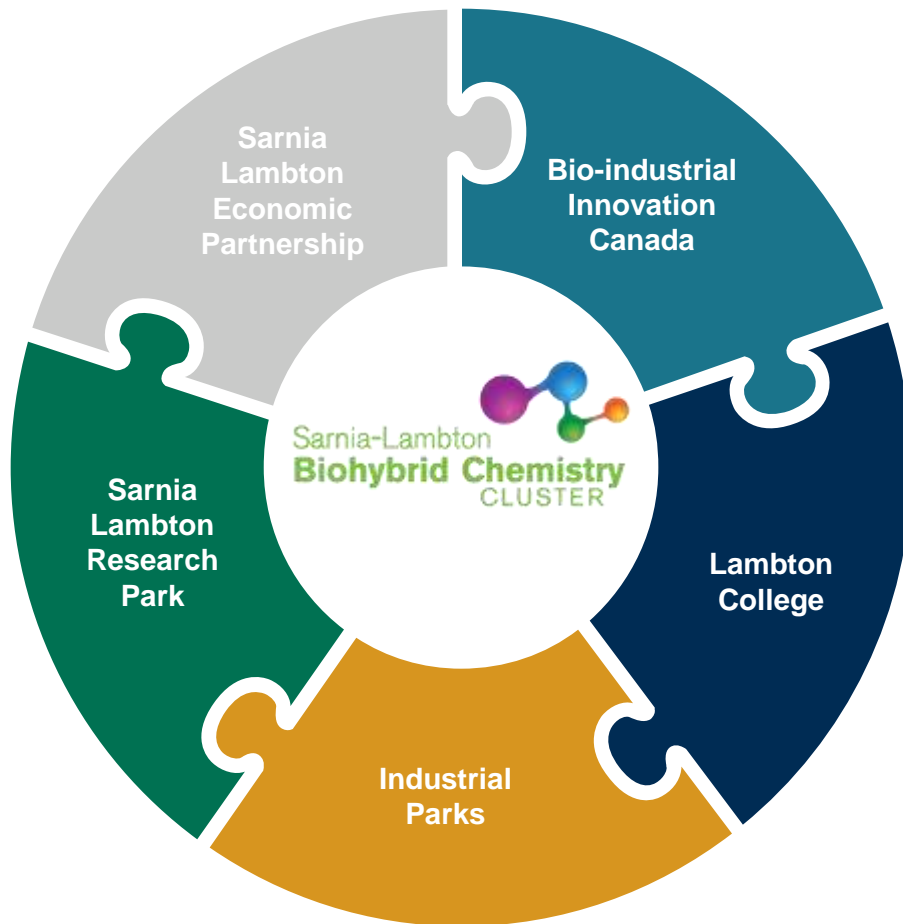
- corn yields comparable to Iowa
- more than 1 million bone-dry tonnes sustainably harvestable corn stover available (2009)



Source: Statistics Canada, USDA, NASS

Sarnia-Lambton Hybrid Chemistry Cluster

Supported through a collaborative ecosystem



Sarnia-Lambton Economic Partnership:

Community and municipality economic driver providing local contact

Sarnia-Lambton Research Park:

Providing assets (laboratory and pilot plant space) for business incubation

Lambton College:

Providing access to applied research capability and highly qualified people

Bioindustrial Innovation Canada:

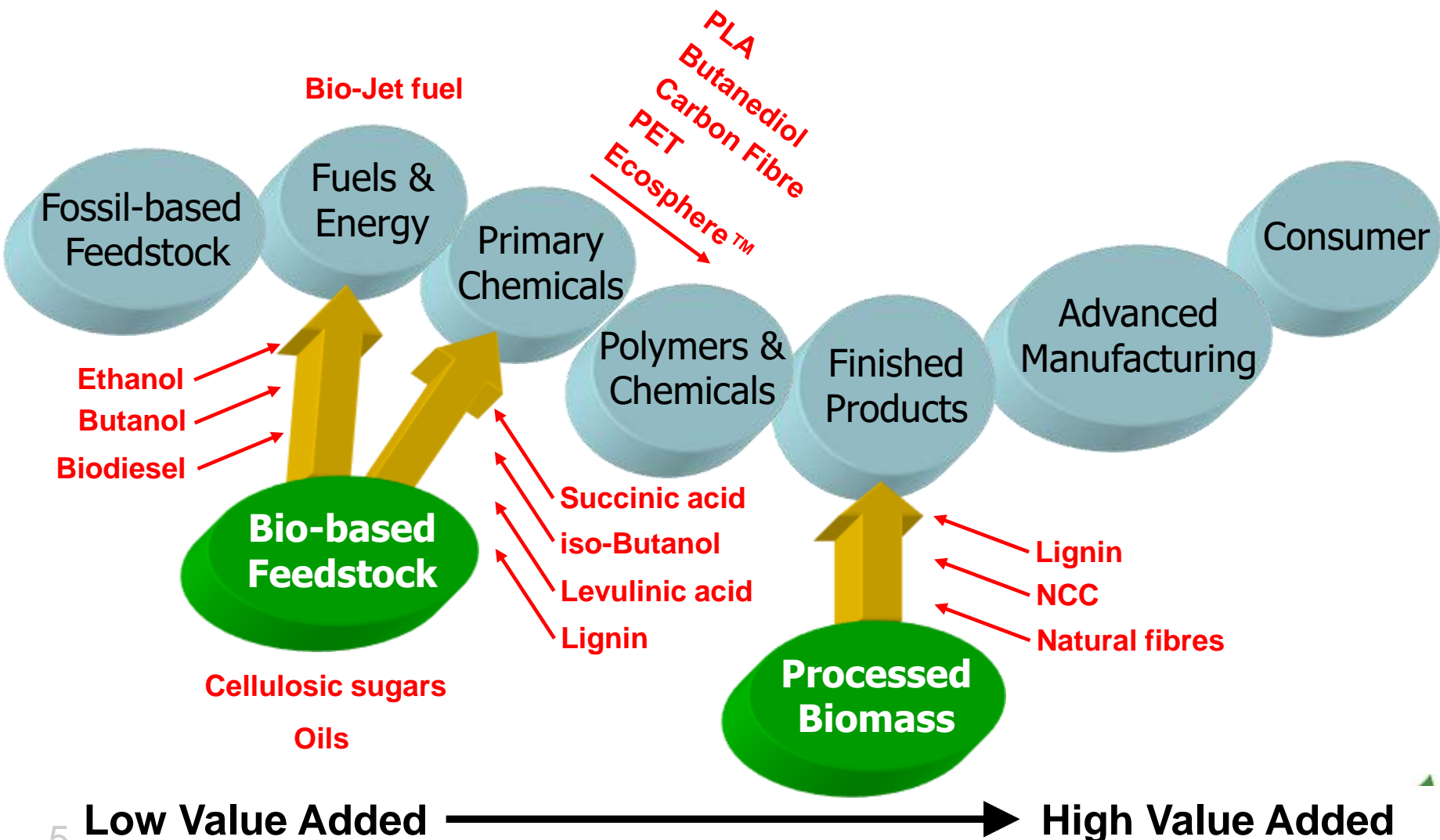
Business accelerator providing critical investment, advice and services

Industrial Parks:

Access to cost effective infrastructure and services for commercialization

Integrating into the Hybrid Chemistry Value Chain

Opportunity for renewable resources to commercialize



Sarnia-Lambton Hybrid Chemistry Cluster [2017]

Canada's First: Building out in southwestern Ontario

Fossil-Based

Air Products
 Cabot
 CF Industries
 DuPont
 HC Stark
 Imperial Oil
 Arlanxeo
 NewAlta
 NOVA Chemicals
 Pembina
 Plains Midstream
 Praxair
 Royal Dutch Shell
 Styrolution
 Suncor Energy
 TransAlta Energy
 TODA



Bio/Renewable

BioAmber
 BIOX
 Cargill
 Cellulosic Sugar Producers Cooperative
 Comet Biorefining
 Enbridge (solar)
 FORGE Hydrocarbons
 GreenCore
 Greenfield Specialty Alcohols
 Origin Materials
 S2G Biochem
 Suncor Ethanol
 Ubiquity Solar
 Woodland Biofuels