*Clean*Metrics Corp.

Company Overview, Products and Solutions

October 2011

Company

- **Founded Dec 2007 in Portland, Oregon**
- **Company principals bring extensive experience:**
  - Modeling and simulation of complex systems
  - Life cycle assessment
  - Supply chains and logistics
  - Resource analysis and optimization
  - Data and statistical analysis
  - Market impact analysis
  - Software development

Mission

- **Solve challenging problems in environmental sustainability**
  - Apply rigorous quantitative methods, get to root of problems
  - Make more problems tractable
- **Link economic performance to environmental performance**
  - Work to align incentives on multiple dimensions

Approach

- **Start with thorough understanding of problem domain**
  - Usually comes from years of working in the trenches
- **Pull together multidisciplinary expertise**
  - Scientific basis for solutions
  - Computer modeling
  - Mathematical algorithms for analysis and optimization
  - Software/database implementation

Solution Areas

- **Resource efficiency**
- **Life cycle assessment**
- **Value chain analysis**

Resource Efficiency

- **Software**: MetaFlowScope™
- **Economic + Life-cycle Environmental** analysis
- **Application areas**:
  - Waste reduction
  - Waste diversion
  - Material substitution
  - Energy substitution
  - Process optimization
  - Product redesign

Life Cycle Assessment

- **Software**: CarbonScope™, FoodCarbonScope™, BuildingScope™

- **LCA application areas:**
  - Food and agriculture
  - Buildings
  - General: packaging, clothing, bedding, kitchenware, industrial equipment, etc.

- **LCI database:** CarbonScopeData™
  - Includes largest set of commercially available LCI data for North American food production and processing

Value Chain Analysis

- **Software**: MetaFlowScope + LCA software
- **Solution areas**:
  - Scope 3 GHG emissions analysis and reporting
  - Transportation, product distribution, logistics analysis

Recent Product Innovations

- **LCI database:** CarbonScopeData
  - Includes the largest set of North American food LCI data
- **Food LCA software:** FoodCarbonScope
  - The most complete food/beverage LCA tool available today
  - Detailed agriculture to processing, packaging, cooking, waste
  - Comprehensive, rigorous, easy-to-use, web-based
- **Resource analysis software:** MetaFlowScope
  - Industry-first business analytics solution for resource efficiency and waste reduction

Selected Recent Results

- **Completed largest cradle-to-grave LCA study to-date of North American food production & consumption**
  - Results reported in EWG's *Meat Eater's Guide to Climate Change and Health*
- **Quantified the climate change and economic impacts of food waste in the US – first such complete analysis**
  - Results further disseminated by NPR and other outlets
- **Compared life-cycle carbon footprints of 12 organic and conventional crops grown in California**
  - Paper submitted for publication

Selected Customers

- **Bedding products:** *Pacific Coast Feather Co.*
- **Bulk chemicals:** *Purac America*
- **Buildings/construction:** *Birtcher/EcoLogistics, Meram*
- **Clothing/apparel:** *Fashion & Earth*
- **Environmental nonprofits:** *EWG, Ecotrust*
- **Environmental service providers:** *BKW, BHA*
- **Food packaging:** *Rexam, Constar*
- **Food processing:** *Sundia*
- **Food product distribution/logistics:** *Organically Grown Co.*
- **Food service:** *Bon Appétit*
- **Home décor:** *Pinnacle Frames*
- **Industrial machinery:** *EASA*
- **Kitchenware:** *Chef'n, Green Labs*
- **Manufacturing:** *MRC*
- **Packaging products/materials:** *Corrugated Pallets, Petoskey, EcoPoly*
- **Retail:** *New Seasons Market*
- **Universities:** *Portland State Univ., San Francisco State Univ., Univ. of Hartford, Univ. of Hong Kong*