

Hazardous Substances in Plastics

Making the invisible visible

Martyn Futter, PhD – Swedish University of Agricultural Sciences

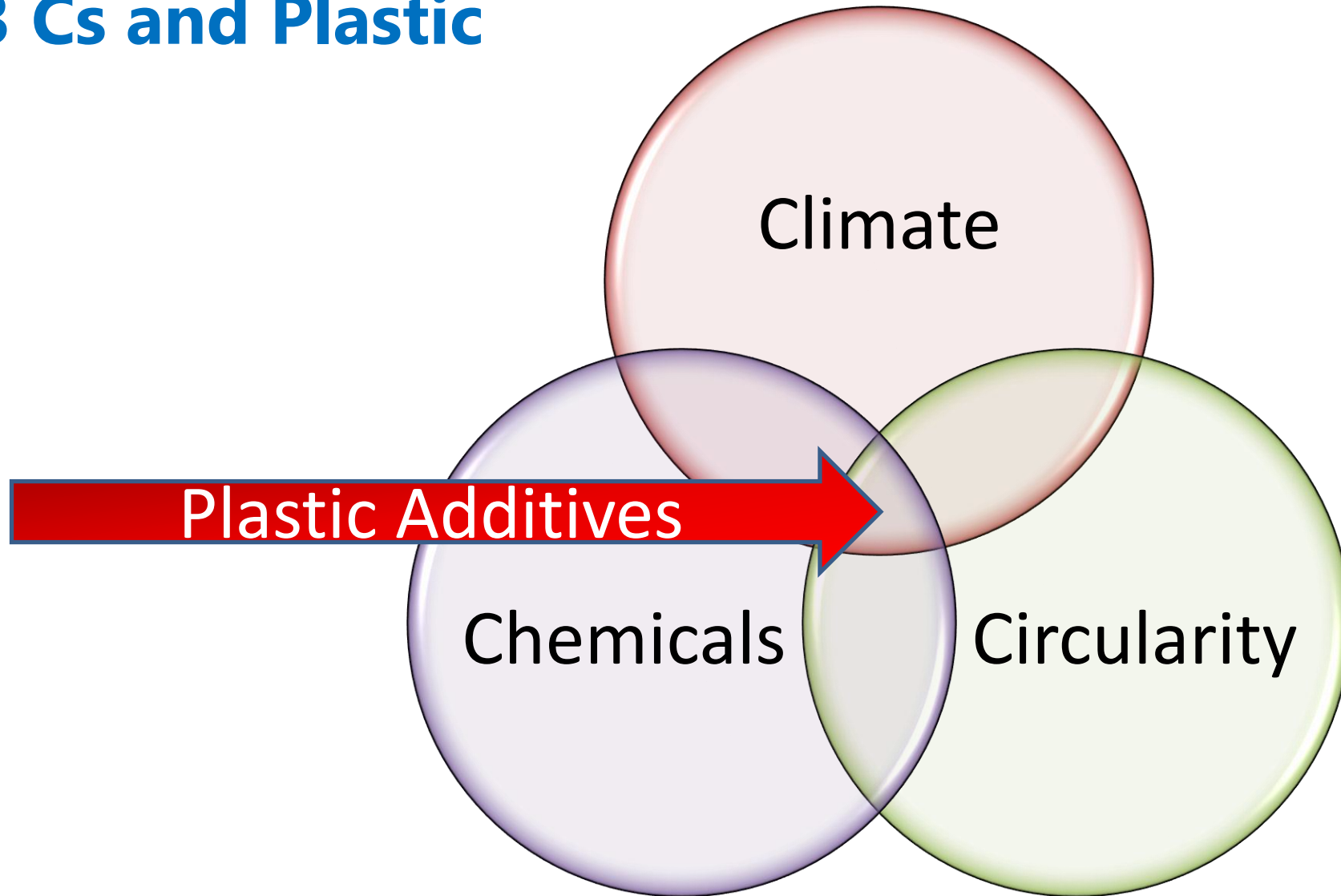


EUROPEAN
REGIONAL
DEVELOPMENT
FUND



NONHAZCITY

3 Cs and Plastic



Plastic Additives

- Chemicals added to plastics to give new properties (e.g., flexibility, durability, resistance to combustion, etc.)
- Additives can be >70% of the weight of an article
- Additives can leach out, either by design or unintentionally
- Some additives are extremely toxic and have endocrine disrupting properties



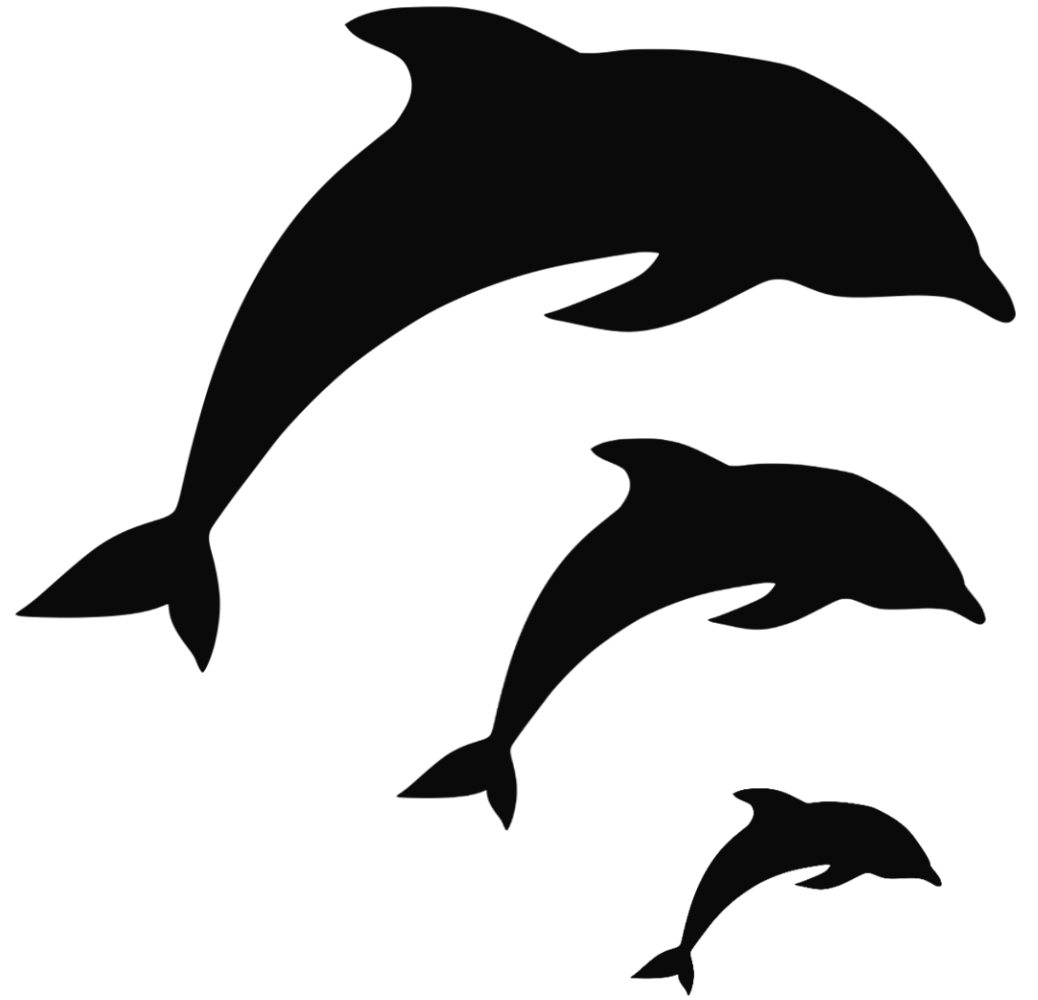
Endocrine Disrupting Chemicals (EDCs)

- “an exogenous [non-natural] chemical, or mixture of chemicals, that interferes with any aspect of hormone action”
 - Endocrine Society
- Some functions controlled by hormone action:
 - Development
 - Growth
 - Metabolism (e.g., body weight regulation)
 - Reproduction
 - Stress and immune responses



© Dan Clark, AP







© Dan Clark, AP



Sources of EDC exposure

- Drinking Water
- Food Contact Material
- Furniture
- Other household articles



Food Contact Material – the theory



© newfoodmagazine.com



Food Contact Material – the problem



© epicurious.com



© Frank Schulenberg



What now ?





PLASTICS, EDCs & HEALTH

A GUIDE FOR PUBLIC INTEREST ORGANIZATIONS AND POLICY-MAKERS ON ENDOCRINE DISRUPTING CHEMICALS & PLASTICS



Jodi Flores, PhD
Paulina Dondosopoulou, PhD
Bertha B. Petroski, PhD
Andrew Gere, PhD
Lori Kocaman, PhD
Laura K. Wandenberg, PhD

ENDOCRINE SOCIETY
Maximize. Restore. Revitalize.

IPEN
for a toxin-free future



Plastic's toxic additives and the circular economy

September 2020

Regional Activity Centre
for Sustainable Consumption
and Production

UN
SUSTAINABLE
DEVELOPMENT

United Nations
Sustainable Development
Goals

BRS
CERTIFIED

IPEN
for a toxin-free future

ECHA
EUROPEAN CHEMICALS AGENCY

Describing uses of additives in plastic material for articles and estimating related exposure
Practical Guide for Industry

March 2020

Hazardous Substances in Plastics

Making the invisible visible

Martyn Futter, PhD – Swedish University of Agricultural Sciences



EUROPEAN
REGIONAL
DEVELOPMENT
FUND



NONHAZCITY