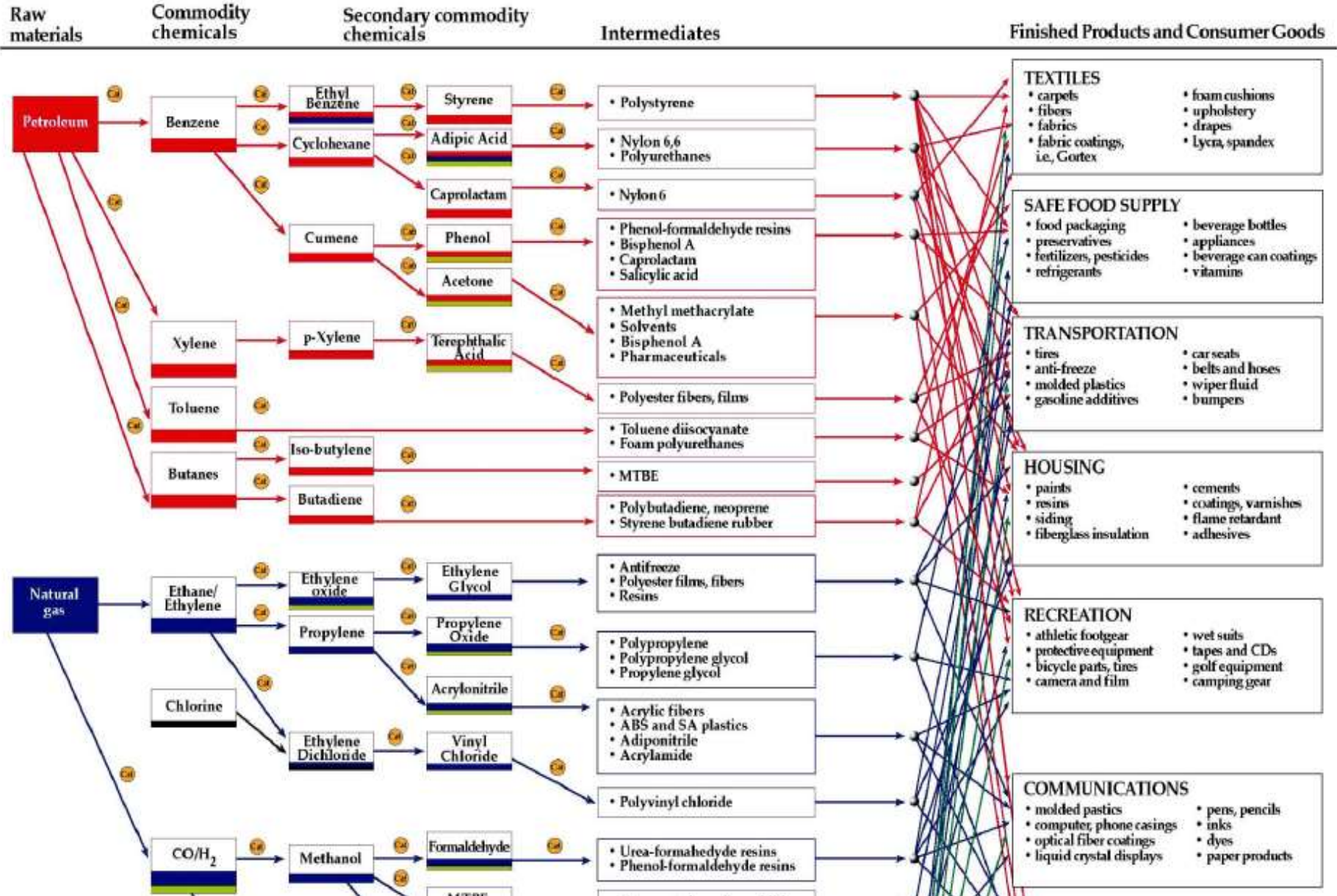


- EU strategy for bio-economy
- EU strategy for circular economy
- EU-China Food Agriculture and Biotechnology (FAB) Flagship Initiative
- H2020 Strategic Innovation and Research Agenda (SIRA) for Bio-based Industries (Public Private Partnership – PPP)



## Biomass Feedstocks

## Intermediate Platforms

## Building Blocks

## Secondary Chemicals

## Intermediates

## Products/Uses

Starch

Hemicellulose

Cellulose

Lignin

Oil

Protein

Biobased Syn Gas

Sugars  
Glucose  
Fructose  
Xylose  
Arabinose  
Lactose  
Sucrose  
Starch

SG

C2

C3

C4

C5

C6

Ar

Direct  
Polymers & gases

H<sub>2</sub>  
Methanol  
Mixed alcohols  
Higher alcohols  
Oxo synthesis products  
Iso-synthesis products  
Fischer-Tropsch Liquids

Glycerol  
Lactic  
3-Hydroxy-propionate  
Propionic acid  
Malonic acid  
Serine

Succinic acid  
Fumaric acid  
Malic acid  
Aspartic acid  
3-Hydroxy-butyrolactone  
Acetoin  
Threonine

Itaconic acid  
Furfural  
Lemnistic acid  
Gluconic acid  
Xylooligosaccharide

Diethylsuccinic acid  
4-Hydroxymethyl-furfural  
Lysine  
Gluconic acid  
Gluconic acid  
Sorbitol

Malic acid  
Fumaric acid

Acetic acid, Acetylacetone, Acetylacetone products  
Methyl acrylate, Formic acid, Acrylic acid, Dimethylacrylate, Dimethylacrylates, Methyl acrylate, MMA, MMA, MMA, MMA  
Diene and isoprene (1) alcohols, and other higher alcohols  
Dialkyl hydroxyacetate products, alcohols, acetals, esters  
Bio-CO molecules, alcohols and related esters  
Acrylics, glycols, ureas, alcohols

Polymers products, Polyethylene glycol, ureas, 1,2-PDO, alcohols, glycol alcohols, alcohols, acetals

Acrylics, 1-Propylene glycol, Diureas, Polyureas, Lactols

Acrylics, Acrylates, Esters, 1,2-Propanediol, Malonic acid and others

Regens, propionic, acrylates

Pharmaceuticals

Lactins, 1,2-PDO, 2-aminoethanol, gamma-BP

TPP, 1,4-Bisoxazolone, polyhydroxyacetone, polyhydroxybutane, alcohols, alcohols, 1,4-Bisoxazolone, hydroxyacetone

Urea and urea derivatives (see above)

Nitrogen acetate derivatives (see above), hydroxyacetone

Acetic acid derivatives (see above)

Hydroxyacetone, acetylacetone, alcohols, alcohols

Biocatalytic, alcohols

Diols, urea derivatives, hydroxyacetone

Methyl acetate derivatives (see above), urea derivatives

Many types of lactols

Diureas, alcohols, 1,4-Bisoxazolone, 1,4-Bisoxazolone, TPP, 1,4-Bisoxazolone, urea, urea

Acetic acid, glycol, alcohols, hydroxyacetone, urea

1,2-propanediol, urea derivatives, polyhydroxyacetone, urea

Diureas, urea derivatives, urea, urea, urea, urea

Caproic acid, diurea alcohols, 1,4-Bisoxazolone

Diureas, urea

Diureas, urea derivatives, urea, urea, urea, urea

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# The EU Action Plan for Circular Economy

## Key Action Areas



## 5 Priority Sectors

