



# THE LOCATION OF DECISION MAKING AFFECTING THE SPECIFICATION OF COPPER

*a survey conducted by*

**Bloomsbury Minerals Economics**

**Summary Results – June 2010**

## OBJECTIVES

- The principal objective is to remap copper use
  - Create a more rational basis for understanding copper use
- Copper use placed with the party that specifies its use
  - Parties concerned may be fabricators, end users, or manufacturers
  - Dominant party differs by market sector
- Once the decision maker is identified, its location is defined
  - Companies are often multinational
  - Decision points are not self evident
  - So the decision process is identified and defined
- The available figures reallocated to reflect decision process
  - Alternative rationale of mapping means a different map applies
  - The available copper use figures are re-allocated accordingly



# COPPER VALUE CHAIN DEFINES POINTS OF MEASUREMENT

*COPPER USE CAN BE RECORDED AT DIFFERENT POINTS IN THE CHAIN*

A complex value chain where copper use can be measured at any one of four points (“F”, “I”, “A” or “E”)



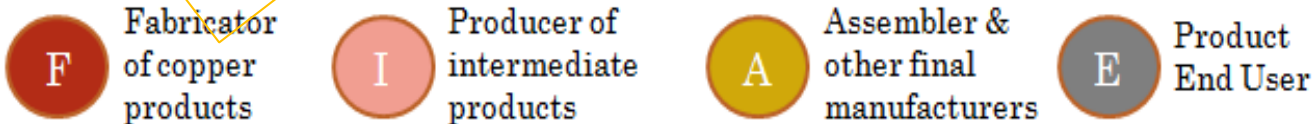
In single step manufacturing “First Use in Manufacturing” and “Final Use in Manufacturing” (“I” and “A”) are the same thing



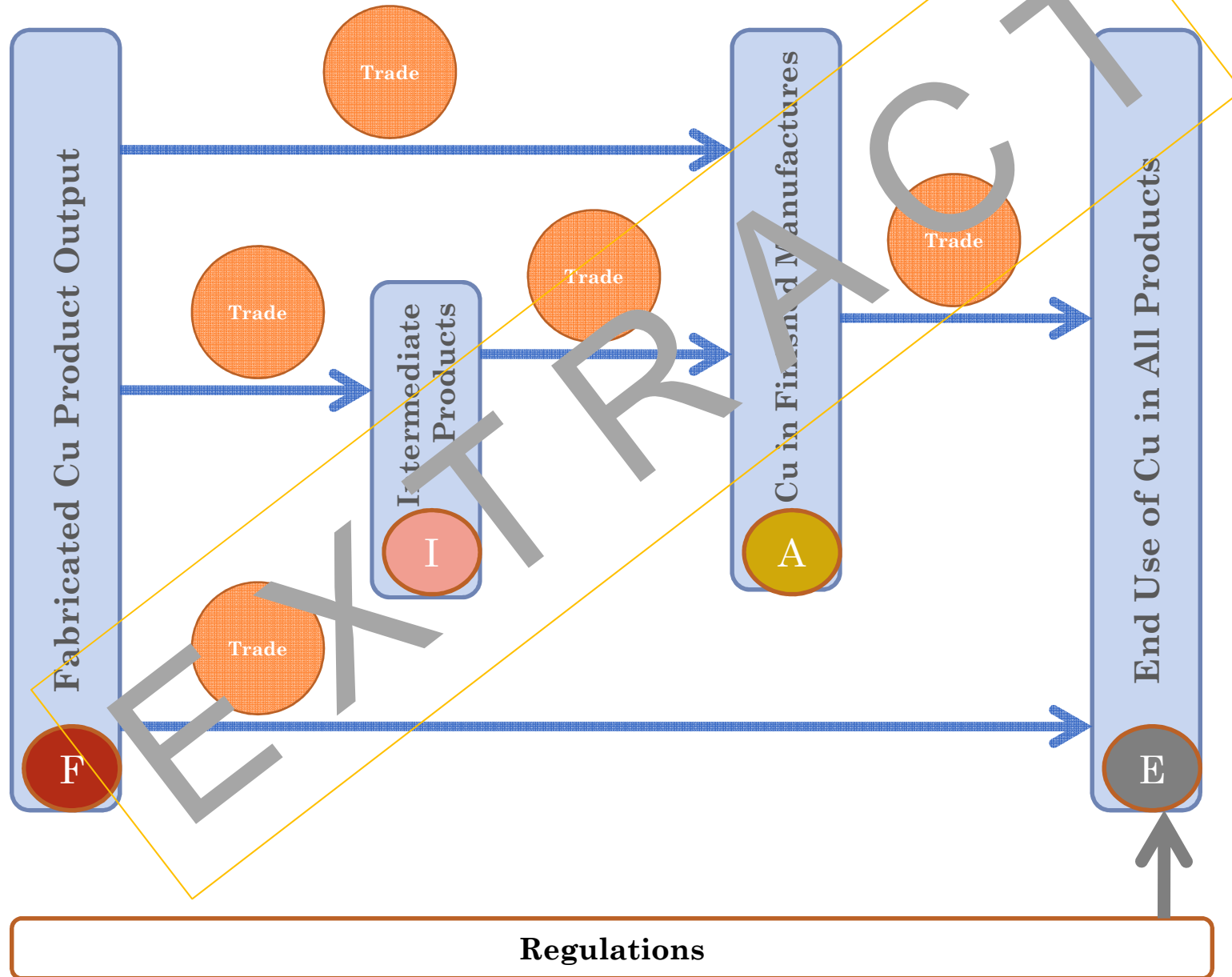
Where fabricated products are sold directly to market, copper use can only be measured at the point of fabrication or of end use (“F” or “E”)



## Key



THE COPPER VALUE CHAIN HAS A GEOGRAPHICAL DIMENSION  
*TRADE CHANGES LOCATIONS ALONG THE CHAIN*



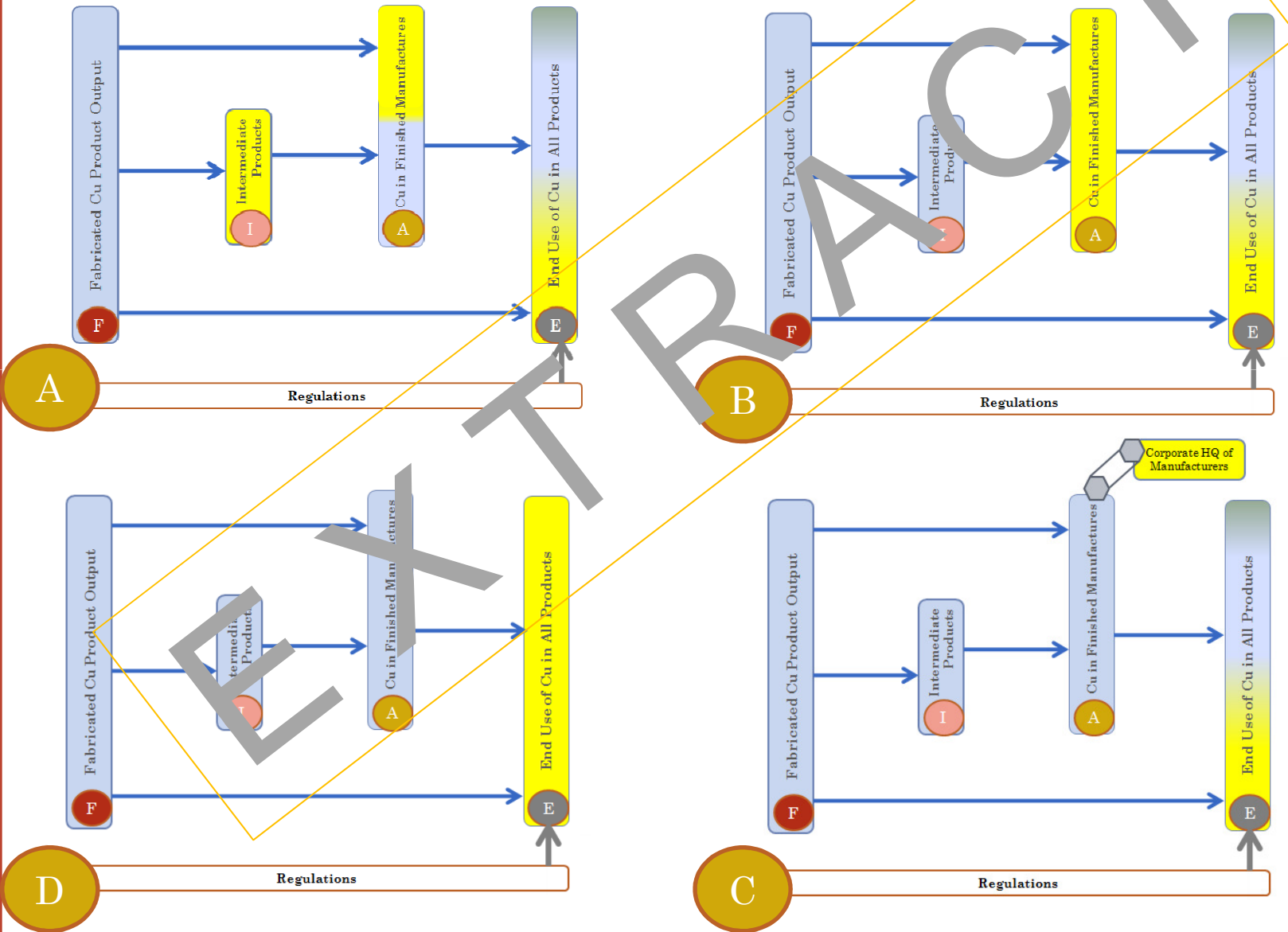
WE FIND 4 POSSIBLE MAPS OF COPPER USE  
*EACH REFLECTS A DIFFERENT KEY POINT OF DECISION MAKING*

*The 4 Maps described below define the location of consumption according to 4 different sets of rules*

- Map A: a map of first use of fabricated products
  - Measured at the end user for non-processed fabricated products, the final manufacturer in simple manufactures or at an intermediate manufacturer for more complex ones
- Map B: combined map of end use and manufacturing location
  - Measured at the end user for non-processed fabricated products, at the final manufacturer for both simple and complex manufactures
- Map C: as in Map B, with manufacturing decision relocated
  - Same as Map B, but manufacturer location taken to be the corporate HQ of the manufacturer
- Map D: a map of final end use
  - All measurement of copper use placed with the final end user

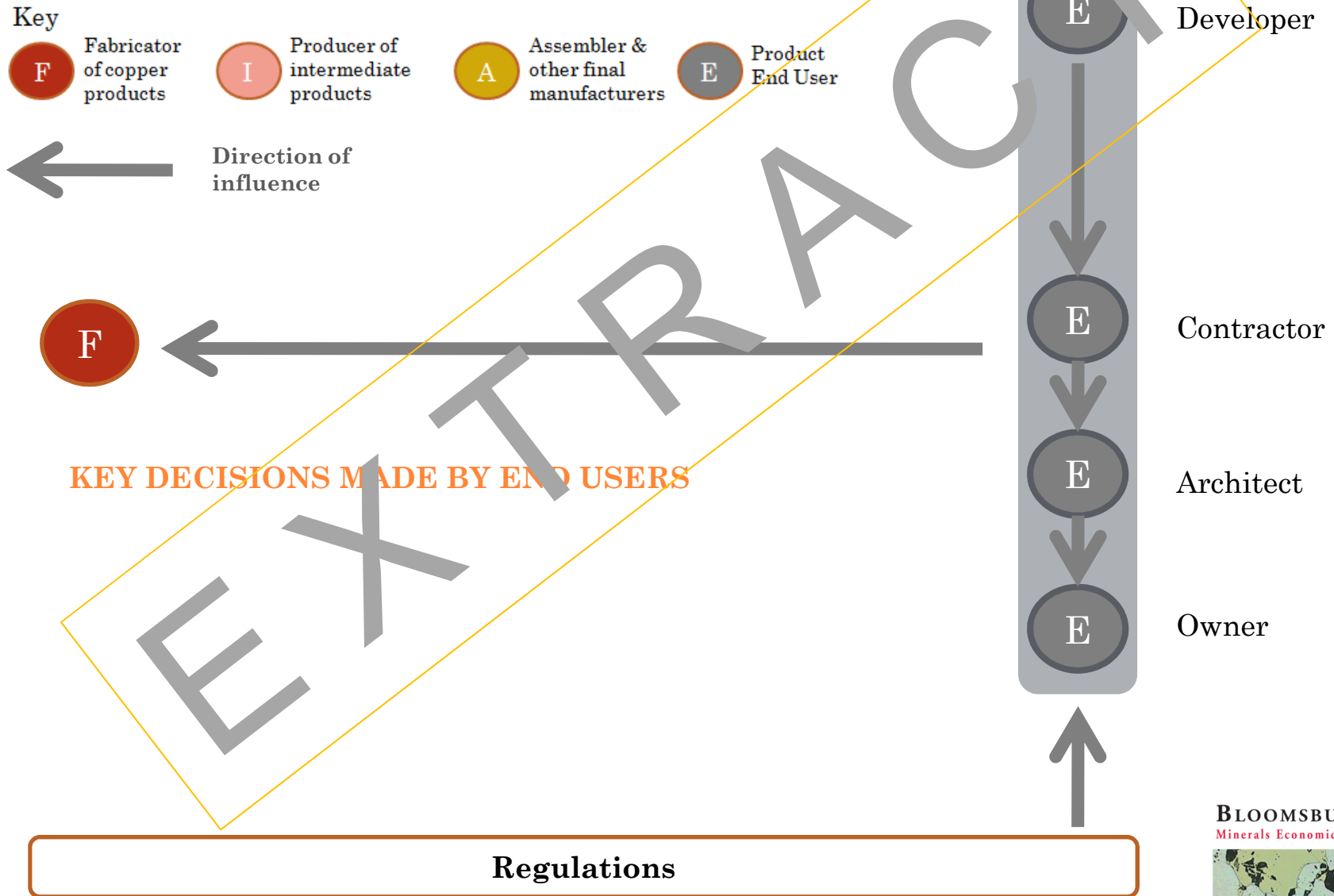
# THE 4 MAPS AND THE VALUE CHAIN

DATA COVERAGE OF EACH MAP SHOWN IN YELLOW



# REAL WORLD DECISION MAKERS

## BUILDING WIRE



# REAL WORLD DECISION MAKERS

## SIMPLE MANUFACTURES IN BUILDING CONSTRUCTION

e.g. Plumbers' fittings, other fixtures and fittings

### Key

- F** Fabricator of copper products
- I** Producer of intermediate products
- A** Assembler & other final manufacturers
- E** Product End User



Direction of influence



LIKE BUILDING WIRE, BUT THE MANUFACTURER ALSO PLAYS A KEY ROLE



Developer

Contractor

Architect

Owner

Regulations

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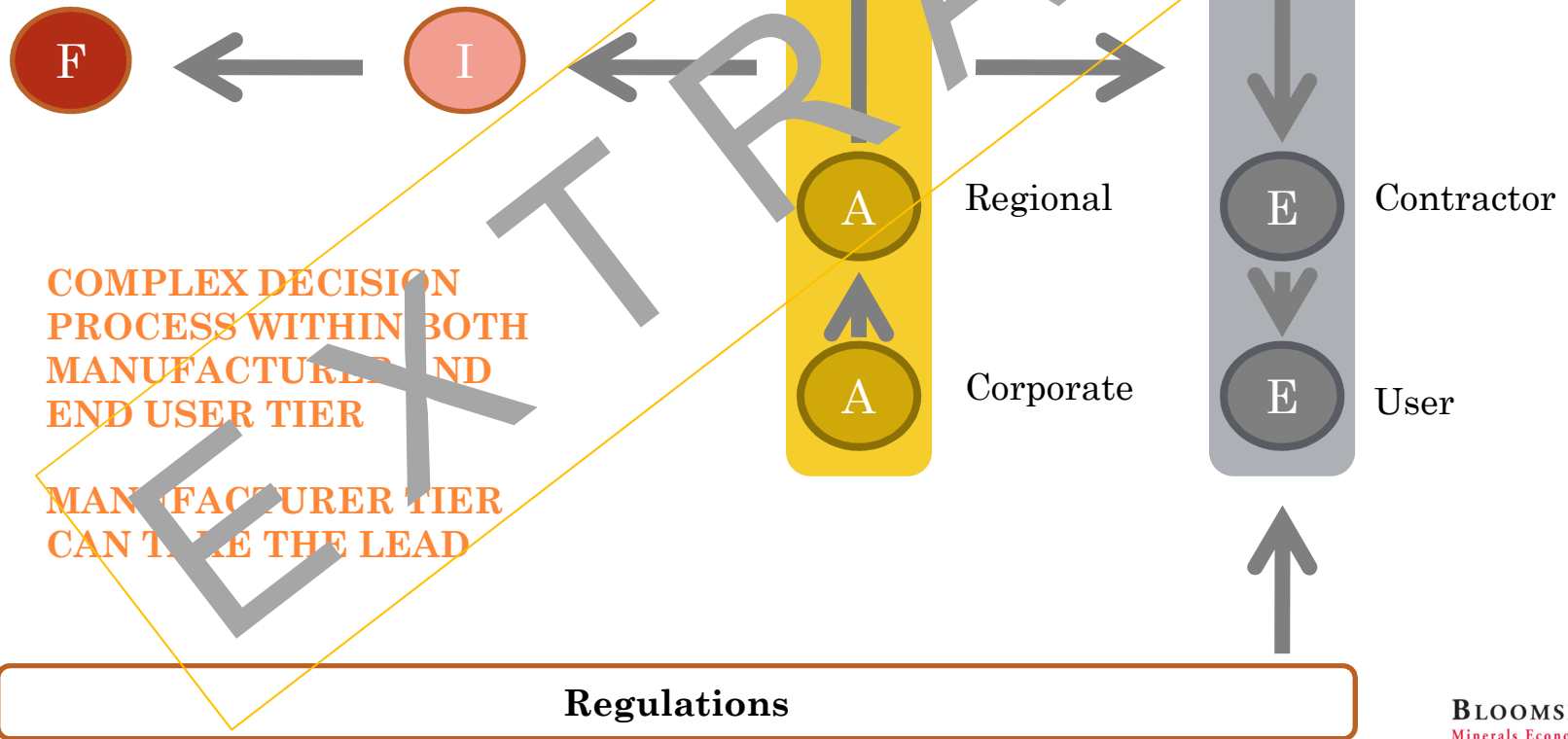


# REAL WORLD DECISION MAKERS

## POWER UTILITY TRANSFORMERS

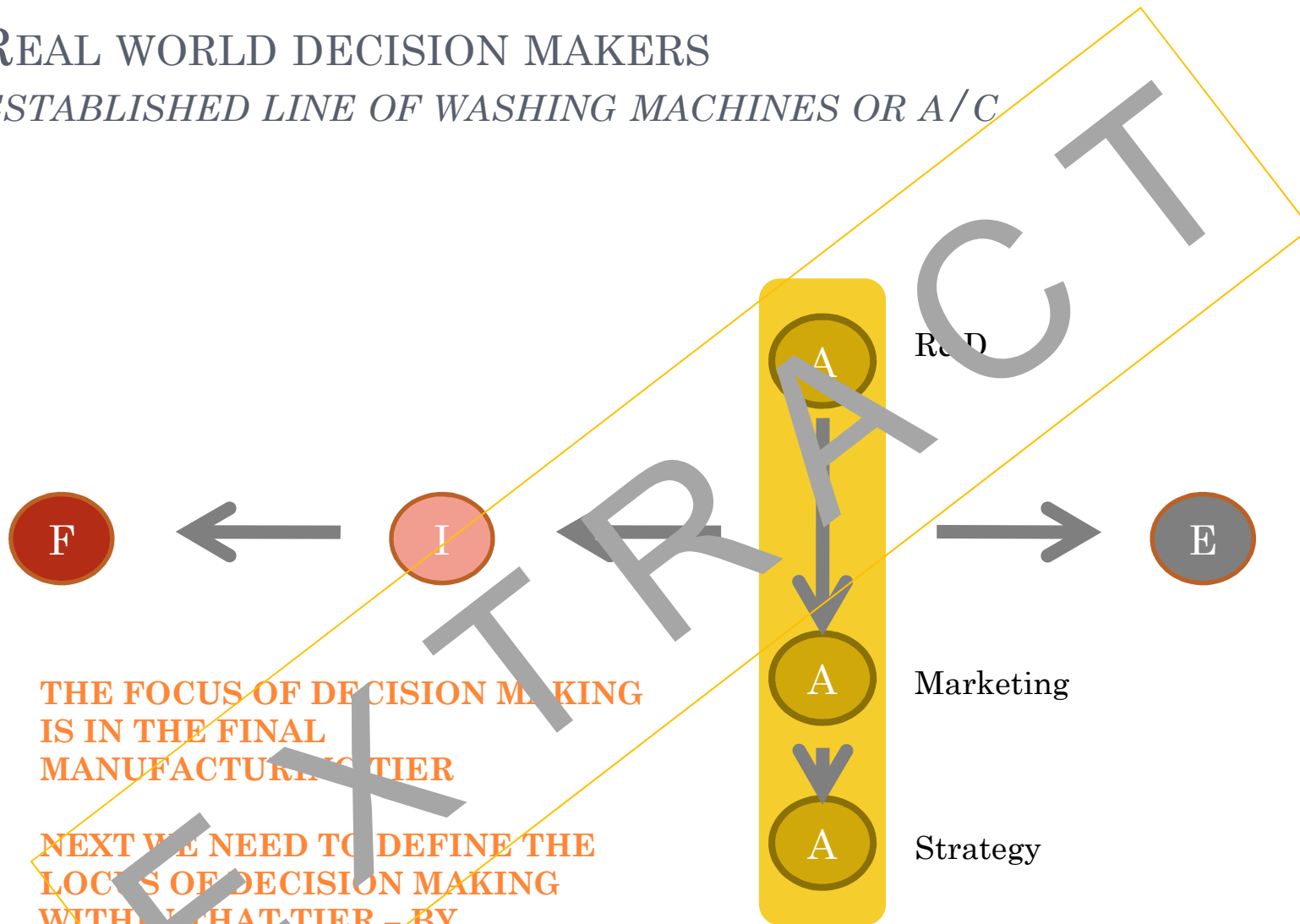
### Additional Key

- Intra-company groups
- Inter-company groups



# REAL WORLD DECISION MAKERS

*ESTABLISHED LINE OF WASHING MACHINES OR A/C*



THE FOCUS OF DECISION MAKING IS IN THE FINAL MANUFACTURING TIER

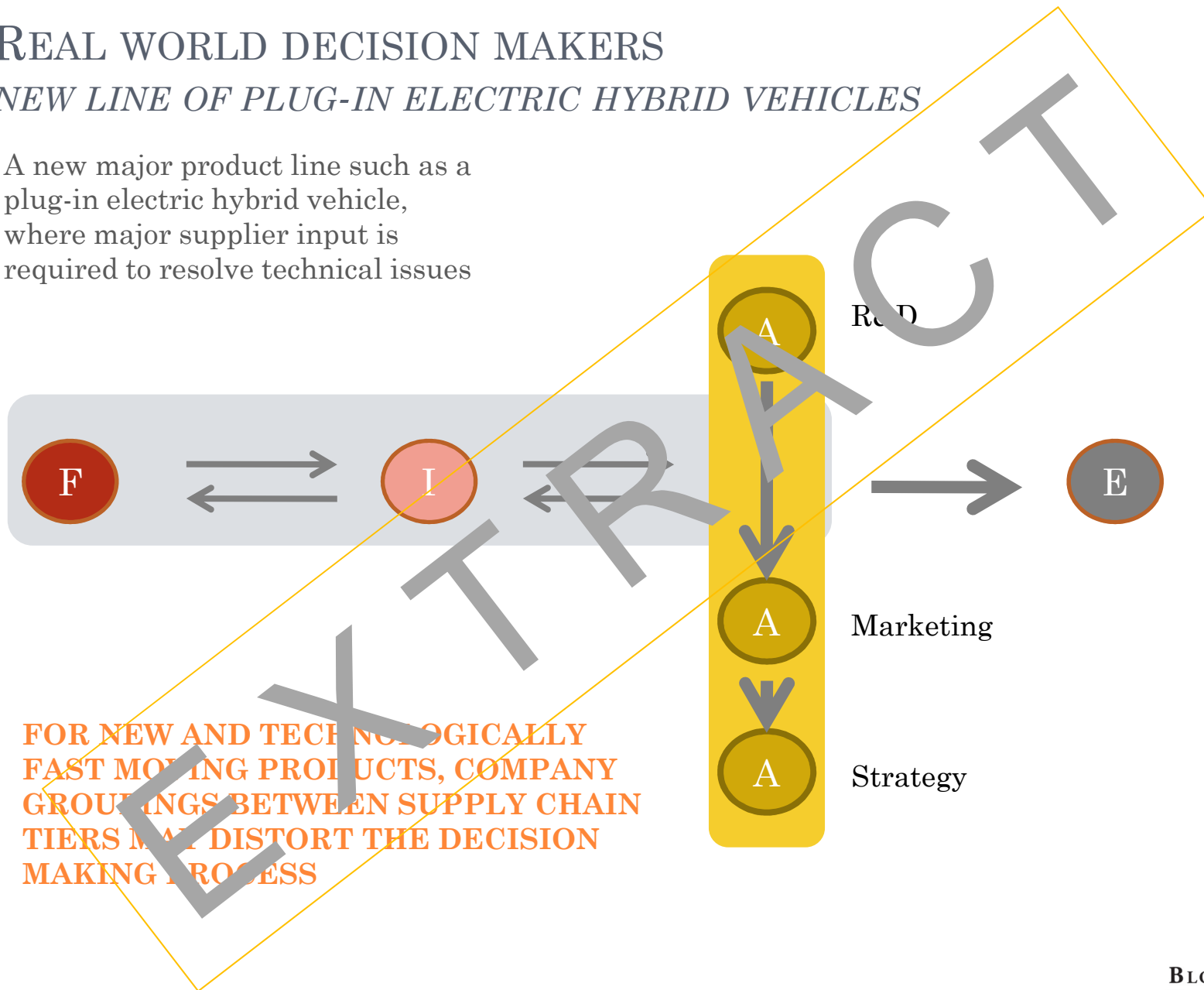
NEXT WE NEED TO DEFINE THE LOCUS OF DECISION MAKING WITHIN THAT TIER - BY FUNCTION, BY LOCATION, OR EVEN BY COMPANY WHERE THE BRAND OWNER AND PRODUCER ARE SEPARATE



# REAL WORLD DECISION MAKERS

## NEW LINE OF PLUG-IN ELECTRIC HYBRID VEHICLES

A new major product line such as a plug-in electric hybrid vehicle, where major supplier input is required to resolve technical issues



FOR NEW AND TECHNOLOGICALLY FAST MOVING PRODUCTS, COMPANY GROUPINGS BETWEEN SUPPLY CHAIN TIERS MAY DISTORT THE DECISION MAKING PROCESS



## OUR PREFERRED MAP (MAP B) IN FIGURES

*THE LOCATION OF COPPER USE BASED ON WHERE IT IS SPECIFIED*

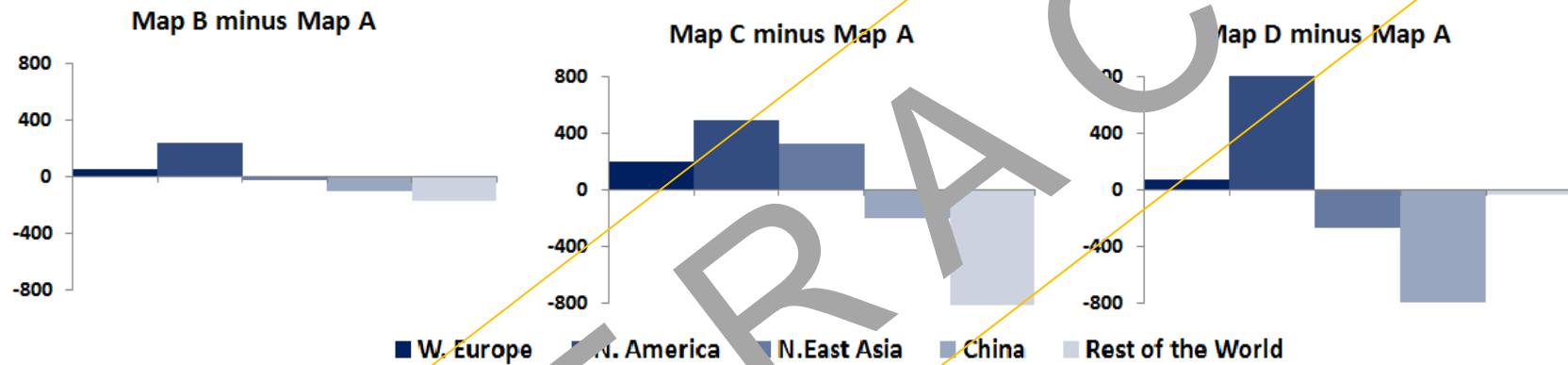
	<b>Building Construction</b>	<b>Infrastructure</b>	<b>OEM &amp; General</b>	<b>Total</b>	<b>% Share</b>
Western Europe	1459	490	2090	4039	16.9%
Central Europe / FSU	471	232	667	1370	5.7%
India	190	119	569	879	3.7%
Japan	437	285	937	1609	6.7%
South Korea	205	130	427	764	3.2%
Taiwan	148	112	256	516	2.2%
ASEAN	209	138	547	894	3.7%
China	1376	1534	3923	6834	28.5%
North America	1290	416	1706	3412	14.2%
Latin America	524	291	621	1437	6.0%
Rest of the World	820	450	923	2193	9.2%
<b>Total</b>	<b>7133</b>	<b>4147</b>	<b>12667</b>	<b>23947</b>	

Data: 2008

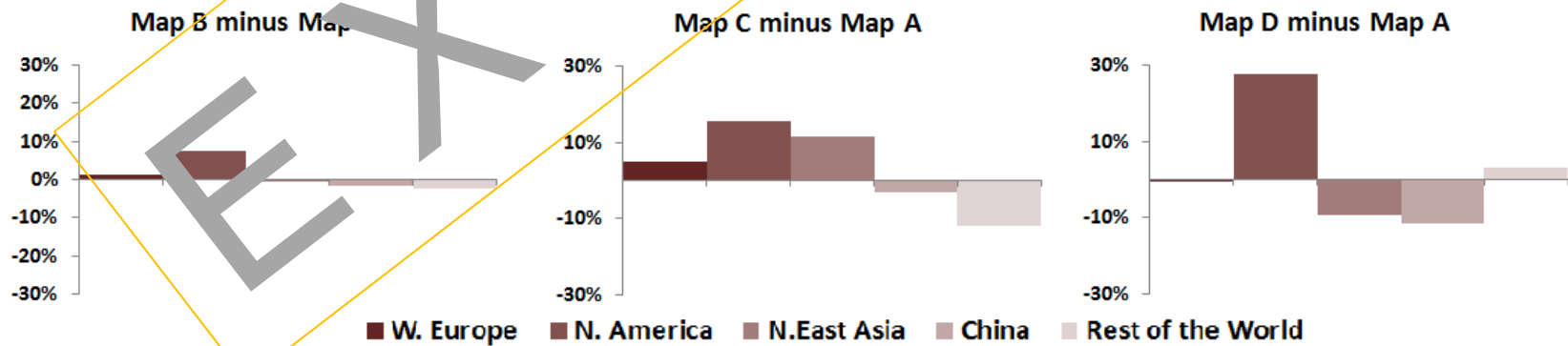
# COMPARISON BETWEEN FIRST USE MAP (MAP A) AND OTHERS

*MAPS C AND D SHOW A GREATER DIVERGENCE THAN MAP B*

## Differences Between the Maps (kt copper)



## Differences Between the Maps (% of Map A Cu Use)



# ABOUT BME

**Bloomsbury Minerals Economics** is a specialised consultancy engaged in base metals market and price analysis, focussing in particular on copper. Our analysis and advice relates to all sectors of the industry from mine to thorough and detailed coverage of end markets for products containing base metals.

## **A foremost provider of base metals single client consultancy**

Our consulting work relates to fundamental supply-demand market analysis, price forecasting, mine project appraisals, intermediate product market dynamics and end market analysis, forecasting and project appraisals. Clients include mining companies, metals processors, fabricators, traders, financial institutions and industry bodies.

## **A complete service provider for copper**

Other product and service offering encompasses the following:

- Monthly and quarterly copper market service publications
- Groundbreaking copper price modelling

For more information contact: **Paul Dewison**, Head of Consultancy

Office: +44(0)207 529 8914

Mobile: +44 (0)7825 178 614

Email: [pd@bloomsburyminerals.com](mailto:pd@bloomsburyminerals.com)

**Or visit: [www.bloomsburyminerals.com](http://www.bloomsburyminerals.com)**

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