



MACTool

**An Easy and Transparent Way to Build
a Marginal Abatement Costs Curve**



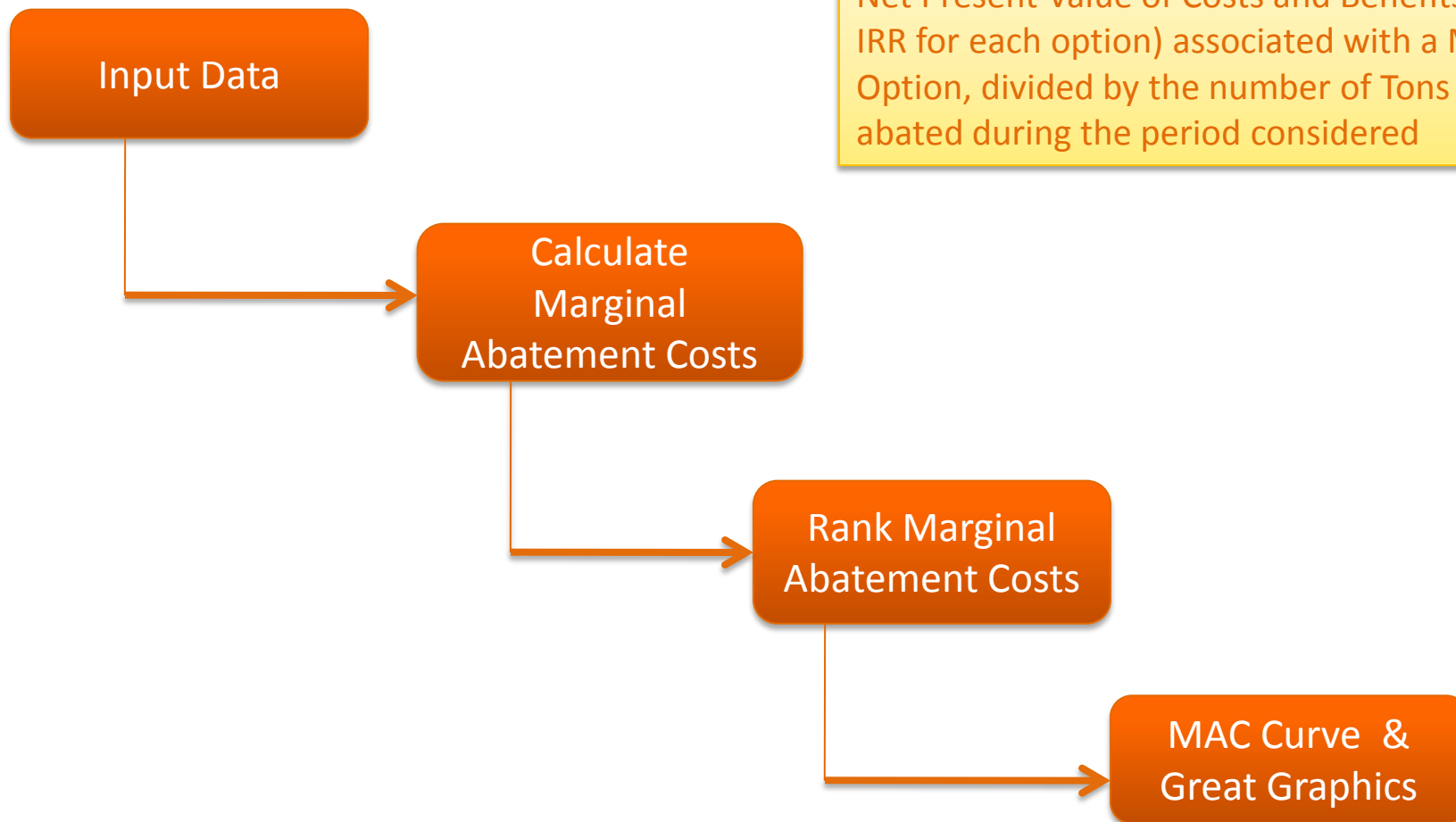
Countries conducting low carbon studies/implementing Cap-and-Trade systems to achieve voluntary emission reductions. There is need to:

- Achieve the targets efficiently
- Choose among many mitigation options
- Know the potential results
- Know the potential costs

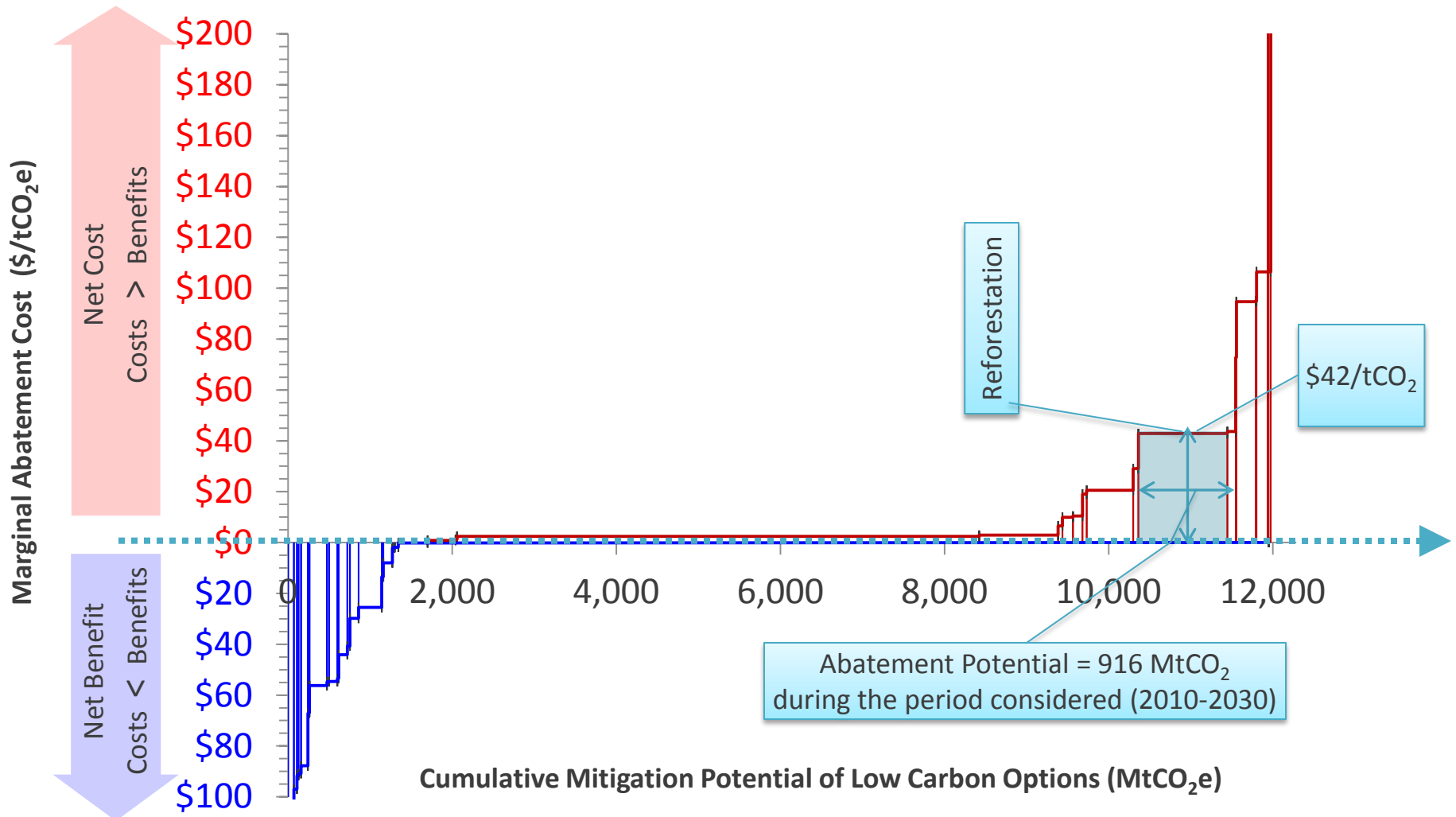
Key Advantages of MACTool:

- Considers the break-even carbon price
- Discount rate customizable by technology
- Visual display of the results easy to share with stakeholders





Marginal Abatement Cost (MAC):
 Net Present Value of Costs and Benefits (unique IRR for each option) associated with a Mitigation Option, divided by the number of Tons of CO₂ abated during the period considered



KEY QUESTIONS

EXAMPLE MITIGATION OPTION: COGENERATION FROM SUGARCANE

PUBLIC SECTOR

- Is there an option for a low-carbon scenario?
- What is the mitigation potential ?
- Does it make sense economically from a public planning perspective ?

- YES: Extracting condensing turbine, 90 bars
- 158 MtCO₂e (7.5MtCO₂/year)
- YES: **Marginal Abat. Cost** = - \$ 105 /tCO₂ (8% social discount rate)

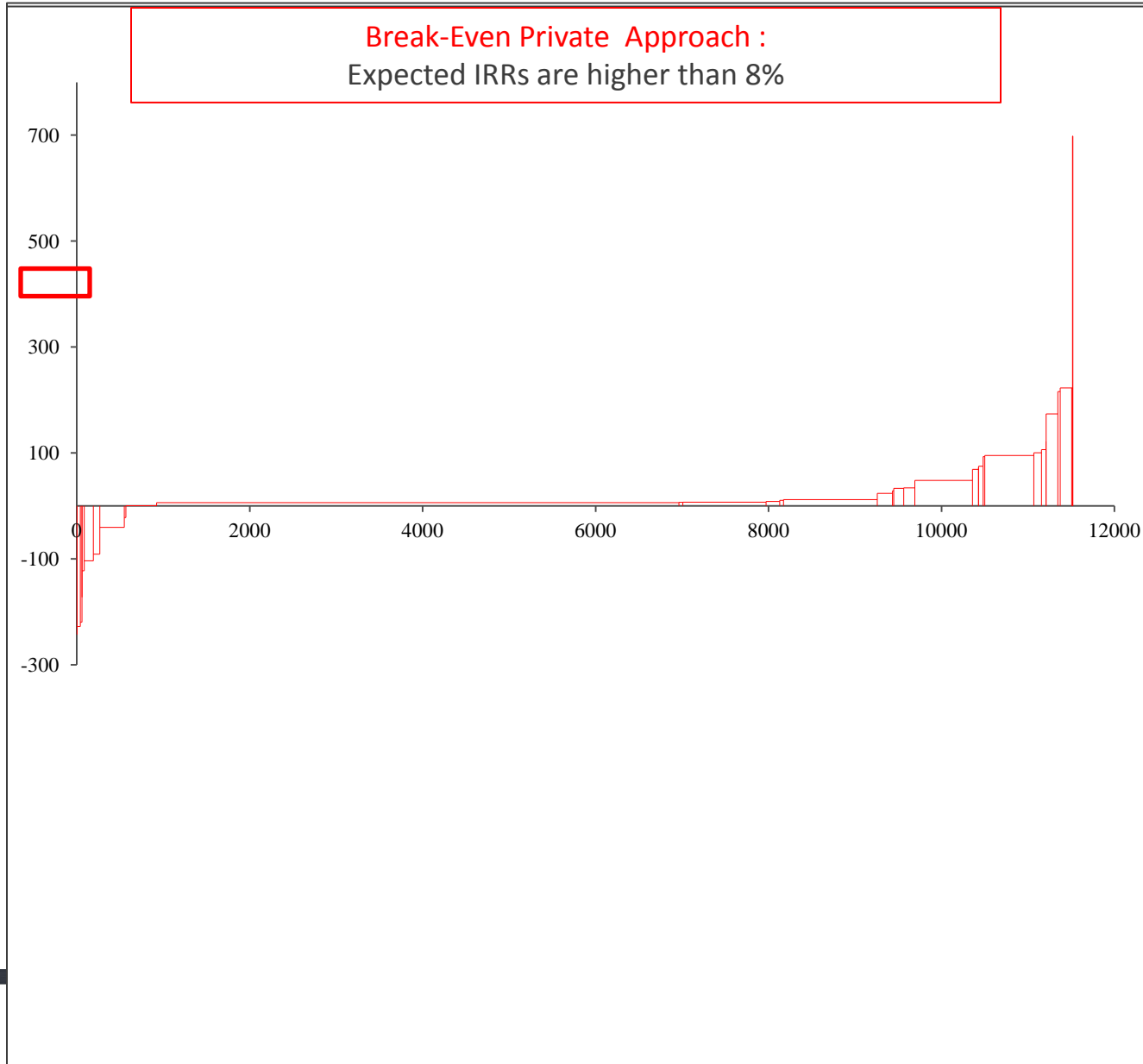
PRIVATE SECTOR

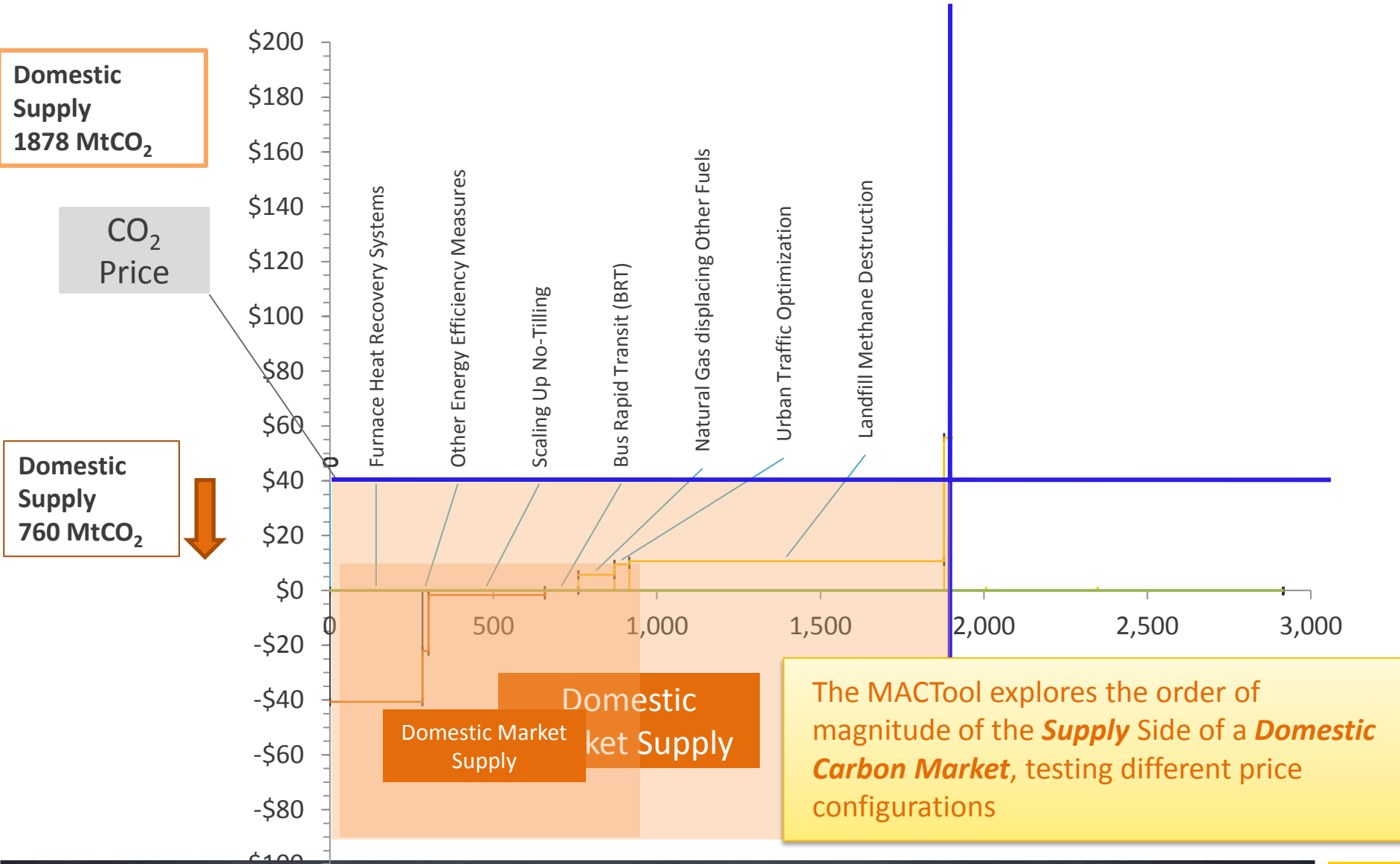
Would it happen spontaneously ?

NO: Private Sector EXPECTED IRR is 18% > 8%
Incentive required = + \$ 8 /tCO₂

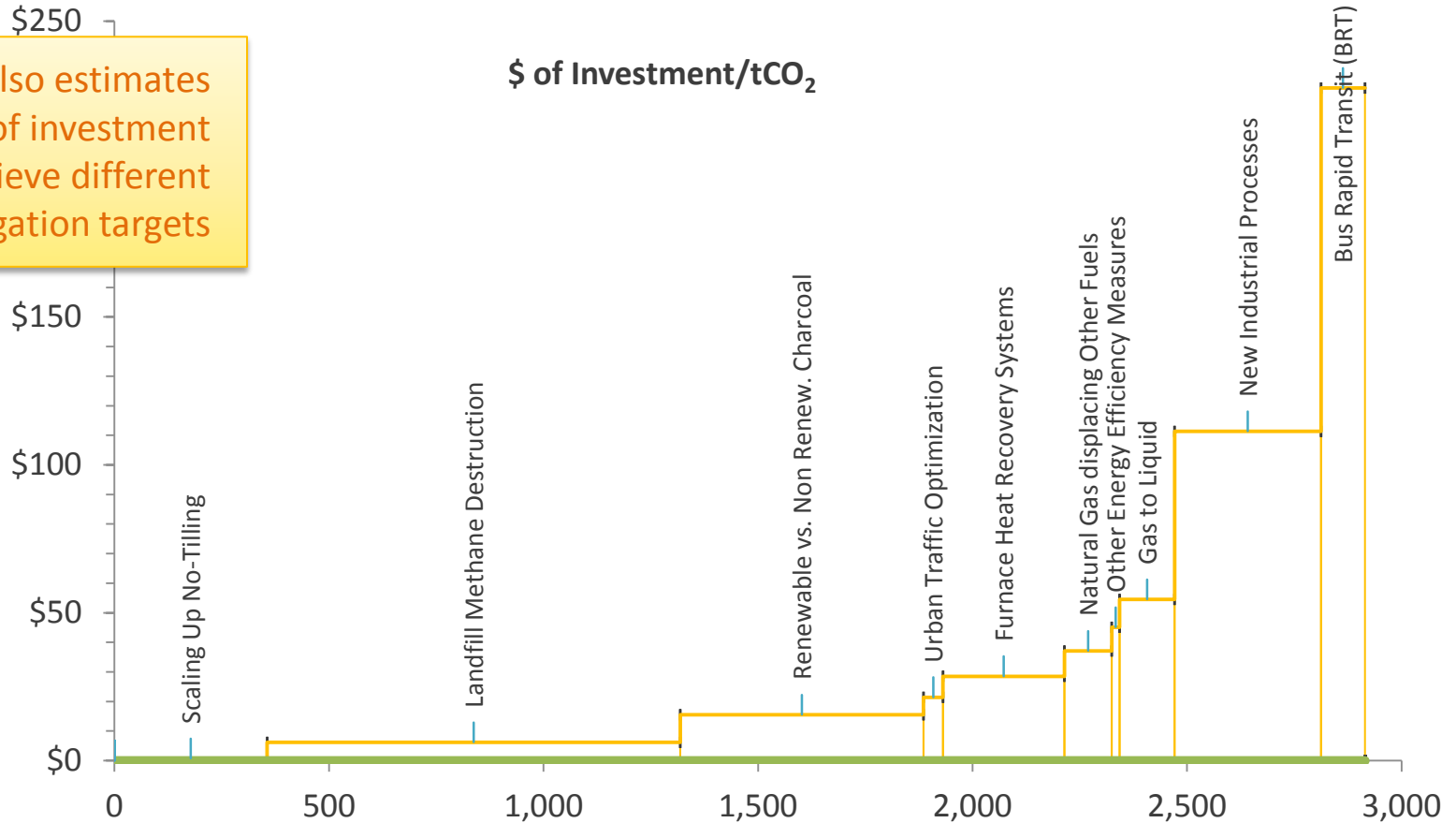
Break-Even Carbon Price = +\$8/tCO₂

Scale Changes!





The MACTool also estimates the volume of investment needed to achieve different sets of mitigation targets



INVESTMENT NEEDED	Scaling Up No-Tilling	Landfill Methane Destruction	Renewable vs. Non Renew. Charcoal	Urban Traffic Optimization	Furnace Heat Recovery Systems	Natural Gas displacing Other Fuels	Other EEy Measures	Gas to Liquid	New Industrial Processes	Bus Rapid Transit (BRT)
\$Million	252	5,957	8,794	972	8,074	4,088	827	6,986	37,995	23,290

TO GET MODEL & TRAINING:

Pedzi Makumbe: pmakumbe@worldbank.org

SUPPORT | User guides available in software
& from ESMAP Staff

FOR ADDITIONAL SUPPORT, CONTACT:

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Thank You.

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