

## **Business Investment Decisions in Emission Reduction Technologies - Draft questions**

The focus groups will be conducted by an experienced facilitator who will use a moderator guide to lead the discussion. The moderator's guide provides the facilitator with an organized list of all topics to be covered, which will be based on the questions listed below. The guide also will contain prompts for the moderator to use if specific issues do not come up in the course of the discussion.

Each focus group will start with a reminder of the general background and purpose of the focus group. Some of the discussion in the supporting statement will be used for this purpose along with background specific to the case study such as which technologies pertinent to that industry appear to be cost-effective based on a present value calculation with guidance to keep this technology or set of technologies in mind when answering the questions posed in the focus group. A set of warm-up questions about the role of technology and investment decisions generally also will be used to prime focus group participants before concentrating on the main questions.

*General questions about how decisions about investing in technology are made at your firm:*

What is the process you use to decide whether to invest in technology? Does it vary by the scale of the investment decision?

Do the factors you consider when evaluating the adoption of new technologies differ from those used to evaluate adoption of technologies already widely available in the marketplace? If so, how?

*Questions about the role that energy savings play in purchase decisions at your firm:*

When you're buying a piece of equipment, what role does potential energy savings play in your purchase decision? Does it vary by the type of equipment being purchased?

Have you made special requests to your suppliers for equipment that results in greater energy savings?

How do you get information about the energy savings you're likely to get from adopting various technologies? Do you rely on manufacturer estimates, outside organizations such as EPA, your own in-house testing or use in the field, or some other source? If you use manufacturer or other outside estimates, how reliable do you find them to be? What key factors do they capture? Which do they not adequately capture?

Based on engineering estimates, a number of technologies appear to have the potential to save businesses in your industry a substantial amount of money, such as use of [INSERT RELEVANT EXAMPLE]. Do you agree with calculations that they are likely to be cost-effective? If not, why not?

*Questions about why this technology (or set of technologies) is not being adopted:*

How important are energy prices to estimating the potential returns from investing in technologies such as [INSERT RELEVANT EXAMPLE]? What do you assume about future energy prices when purchasing new equipment or evaluating changes in production processes? Do you consider the potential for unexpected spikes or dips in energy prices? If yes, how do you factor this possibility into your investment decision?

How does lack of information about future conditions affect investment decisions? Does this cause the company to delay investment decisions in certain kinds of equipment? Is an investment decision treated different if capital is sunk once the investment is made versus a case where divestiture is possible at a later date?

How does access to capital factor into your business investment decisions with regard to long-lived technology such as [INSERT RELEVANT EXAMPLE] or with regard to production processes aimed at reducing emissions (or some other environmental goal)?

Are there additional costs apart from the up-front cost associated with adopting new [INSERT RELEVANT EXAMPLE] technologies that play a role in your purchasing decisions or projects? Specifically, what about non-standard costs like retraining or uncertainty about the reliability of the new equipment? What costs of adopting such practices may be difficult to estimate in an engineering analysis?

Are there other regulatory requirements or concerns (e.g., safety) that prevent you from investing in these types of technologies that you would otherwise find attractive?

What role does equipment resale play in deciding what types of investments to make? How long do you expect to use a technology before reselling? Why do you use that resale horizon in purchasing decisions?