

manufacturers, either through the purchase of patent rights or through imitation.

In each of the four case studies that followed this pattern, interviews with industry spokespersons indicate that the DOE role was significant. Either the technology would not have been developed without DOE support, or at the very least the pace of technology development, market entry, and market penetration would have been significantly slower.

DOE had an opportunity to support the development of compact fluorescents using a similar strategy, but could not due to inadequate funding. The result is foreign domination of the compact fluorescent market. It is likely that the same fate would have beset solid-state ballasts if DOE had not provided R&D support. In the lighting industry there is little incentive for the major companies to conduct the R&D necessary to develop new technologies, especially if the innovation will require large capital investments. New products are likely to be duplicated by competitors at less cost than was paid by the innovating firm.

Despite the dominance of this one technology transfer strategy, three of the other strategies were shown in the case studies to be effective in specific situations - working with broker organizations, generating end-user demand, and influencing key decision-makers. While the remaining two strategies (involving industrial consortia and licensing) have not yet been used, they would appear to be appropriate under particular circumstances and should be included in the portfolio of alternatives considered by DOE program managers.

DOE's valuable role as a source of information about the performance of new technologies was illustrated throughout our case studies in conjunction with efforts to influence trade and professional associations, key decision-makers, and end-users. Public institutions like DOE are important sources of