

6. ACQUIRING FINANCIAL SUPPORT

Small firms tend to face significant financial barriers to technological innovation. They typically have a pressing need for funds to support the testing, feasibility studies, market analysis, and business planning necessary to gain an adequate assessment in the marketplace. The small firms' internal resources to support technological innovation are rarely sufficient, and loans are difficult to obtain because of insufficient collateral and inadequate business skills. This sometimes leads to mergers or equity financing with larger firms—thereby compromising the relative advantage that the small business brings to the innovation process (Horesh and Kamin, 1983). Perhaps more often they simply are unable to secure adequate financial resources, a failure that causes premature project termination or an under-financed product that fails in the marketplace. ERIP provides several types of assistance to help participating inventors acquire the resources they need.

6.1 THE NATURE OF ERIP'S FINANCIAL ASSISTANCE

The monetary grants awarded by the Energy-Related Inventions Program are provided to meet at least some of the financial needs of small firms and individuals engaged in developing energy-related technologies. But not all ERIP inventors receive grants, and for those who do, the grants provide only a small contribution toward the total amount of capital required to bring a new technology to market. The average ERIP grant has been approximately \$78,000 (in current dollars).

In addition to the direct financial assistance provided by ERIP grants, the Program can indirectly help meet the inventor's need for financing. Inventors often use their NIST evaluation and ERIP award as a source of credibility to aid them in attracting additional resources to further develop their technologies. ERIP support makes the inventor's company more credible in the eyes of potential investors. Finding a first investor when seeking capital is perhaps the most challenging part of the whole process. No one wants to be first, but if someone else is willing to participate, especially a federal agency based on an impartial evaluation of an invention's technical and commercial promise, others will follow. For example, in one instance, an inventor parlayed a \$50,000 ERIP grant into a \$1 million award from a private industrial research institute. Another inventor used his \$75,000 award to garner \$10 million in funding from a multinational corporation. In several other cases, inventors have been able to secure matching state or local grants, based on their ERIP support.

Finally, the program performs a brokering function for many of its inventors. It directs inventors to alternative sources of funding, and it disseminates information about promising inventions to potential sources of development and venture capital through the distribution of fact sheets and involvement in technology fairs.