

## **Case Study: Ze-gen**

### **Challenge – Financing Innovative Energy Technology**

Ze-gen is a renewable energy company that combines proprietary gasification technology with ordinary waste streams in order to generate clean, sustainable, low-cost synthesis gas for multiple industrial applications. Founded in 2004, Ze-gen assembled innovative science, proven processes, a motivated and experienced team, and institutional supporters all organized around the belief that it is possible to efficiently repurpose the carbon content found in conventional solid waste streams into synthesis gas and then into different forms of renewable energy. Ze-gen's focus: integrating advanced gasification technology to efficiently convert ordinary waste streams into a reliable energy source.

Ze-gen's management determined that commercializing their technology would require building demonstration and initial commercial plants to showcase the effectiveness and profitability of their technology. While the founding management team had strong backgrounds in the technology and marketing sectors, they sought a renewable power financing expert to help the company access project financing sources to support the roll-out of their technology. One of Ze-gen's venture capital investors knew of Birch Tree Capital from work assisting another clean tech company. Ze-gen asked Birch Tree Capital to help move their concepts to reality.

### **Approach**

Birch Tree Capital explained the project financing market to potential venture capital investors in the company's Series A equity round. Following the successful closing of that round, Birch Tree Capital's John Harper became Ze-gen's first finance professional as Treasurer, Secretary, and Vice President, Finance. John built upon the Series A equity round by quickly sourcing and closing a \$2.5 million venture debt facility. The aggregate funds financed construction and operation of Ze-gen's demonstration facility. For Ze-gen's first commercial-scale project, John coordinated the closing of Ze-gen \$20 million Series B equity round in January 2009. Despite the pressure of the 2008-9 financial recession, the Series B financing was a step-up round with participation by both new and existing investors, and included the conversion of \$1.5 million in state incentive loans to equity. The work included creation and management of the corporate and project financial projections, investor due diligence, final documentation, and funding coordination. In addition, John oversaw multiple other internal corporate finance duties, including management of the first external audit, 409a valuation analyses, filing of tax returns, budget creation and management, stock option and insurance programs, and preparation of Board and investor financial reports.

### **Solution**

With financing expertise from Birch Tree Capital, Ze-gen built an exciting clean tech proposition for establishing a new power generation technology and reducing wood waste streams. While difficulties in permitting domestic U.S. projects and declines in natural gas prices complicated Ze-gen's subsequent efforts, the company's technology still represents an innovative option for communities facing waste management constraints and shortfalls in electric power supplies.