

2007 Integrated Resource Plan



4: Energy Resource Planning

Resource Portfolios

Figure 22 and Figure 23 present the incremental resources needed to assure reliable supply over the next 20-odd years, based on each of the four scenarios. A detailed description of Green Mountain Power's incremental needs is contained in "Appendix A: 2007 Long-Term Energy and Peak Forecasts" on page 111.

GMP has already begun exploring ways to meeting as much of the energy shortfall as possible with renewable resources. GMP is currently before the Vermont Public Service Board to help the developer of GMP's Searsburg wind site expansion secure Section 248 approval. The project could add 33 megawatts of wind capacity. GMP would seek to purchase at least 10 megawatts under a long-term PPA (or obtain a comparable ownership share), assuming the price is consistent with least cost principles. If successful, the output of approximately 25,000 megawatt hours would supply roughly 1.25% of GMP's load.

The state's SPEED program provides incentives to jump-start such activity, although the volume of associated Act 61 requirements for new renewables are based on actual growth in Vermont electricity demand. As developers become more familiar with state and federal incentive programs, the rate of start-up investment in biomass and biogas may increase. GMP intends to remain flexible in structuring purchase arrangements with developers so that plants can go online with equitable sharing of risks and benefits.

Even though higher fossil prices and extension of the federal PTC have improved the economic outlook for new renewables, the construction of projects in the state has been slowed by very real environmental concerns. While the theoretical potential of Vermont renewable electricity projects (primarily wind and biomass) is probably several hundred MW, it is difficult to know the achievable scale and timing of such projects. We note that based on the electricity demand growth projections presented herein, GMP's renewable obligations under Act 61 could turn out to be quite limited. As explained below, we also examined a resource portfolio featuring much more substantial acquisition of new renewable energy sources.

Even an aggressive acquisition of new renewable resources (combined with ongoing energy efficiency investments through Efficiency Vermont) would leave a substantial supply shortfall after 2015 due to the Vermont Yankee and Hydro-Québec contract expirations. At present, our most promising replacement portfolio includes long-term favorable renegotiated contracts with one or both of those resources.

Other counterparties can provide long-term contracts with similar resource profiles. For Vermont Yankee, however, the requirements to obtain state regulatory and legislative approvals for license extension appears to provide a unique opportunity for a favorably priced contract. More generally, long-term fixed-price contracts (whether from renewables or conventional sources) would stabilize prices for customers, with the risk that the prices would be above-market under some future conditions.

Other potential resources that require construction do exist, in the form of in-state natural gas, regional coal, and natural gas fired generation. Some diesel or jet kerosene fired peaking capacity and dual fueled (distillate oil and natural gas) combined cycle capacity could also find their way into the regional supply mix.