

We test the performances of the following methods. The objective value provided by each method is tested with  $\mp 1\%$  precision with 95% confidence.

- Deterministic approximation (DA): We replace all random quantities in the problem with their expectations and solve a deterministic linear program to get the first stage decisions. This method illustrates the value of solving an appropriate model that takes randomness into consideration.
- Piecewise-linear recourse function approximations (PL): We approximate the recourse functions with separable piecewise-linear functions and use the sampling-based method proposed by Powell, Ruszczyński & Topaloglu (2004) to update the recourse function approximations iteratively.

You can email me at [ht88@cornell.edu](mailto:ht88@cornell.edu) to obtain the solutions that yield the objective values given in the following table.

Problem	DP	PL
Electricity planning small	-1351.00	-1460.81
Electricity planning medium	-5695.06	-5916.40
Electricity planning large	-1722.62	-1846.08
Bi-weekly fleet-sizing small	-8071.12	-8579.98
Bi-weekly fleet-sizing medium	-701.46	-1481.00
Bi-weekly fleet-sizing large	-6353.51	-7259.32
Weekly fleet-sizing small	-2806.10	-3672.28
Weekly fleet-sizing medium	-500.08	-968.47
Weekly fleet-sizing large	-1750.31	-2535.81
Product distribution small	-17637.20	-18146.60
Product distribution medium	-27837.41	-28479.40
Product distribution large	-29389.04	-30016.40

## References

- Powell, W. B., Ruszczyński, A. & Topaloglu, H. (2004), ‘Learning algorithms for separable approximations of stochastic optimization problems’, *Mathematics of Operations Research* **29**(4), 814–836.