



ITC Long Term Forecast Methodology
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Long-Term Adequacy is The Goal



- ◆ ITC Holdings' (ITC) long-term load forecasts are to ensure a system to serve the demands when they occur.
- ◆ Our forecast is primarily a top-down demographic/economic forecasting exercise, not an operations/engineering one.
- ◆ ITC uses forecasts from MDOT/University of Michigan, in addition to U of M's Research Seminar in Quantitative Economics (RSQE), and the Energy Information Administration (EIA) as inputs to the long-term demand forecast.

Peak Forecasting Methodology



- ◆ ITC forecasts system peaks using the following method:
 - A sales forecast is derived.
 - A system load factor is modeled to reflect usage patterns.
 - The following relationship is used to extract the system peak:

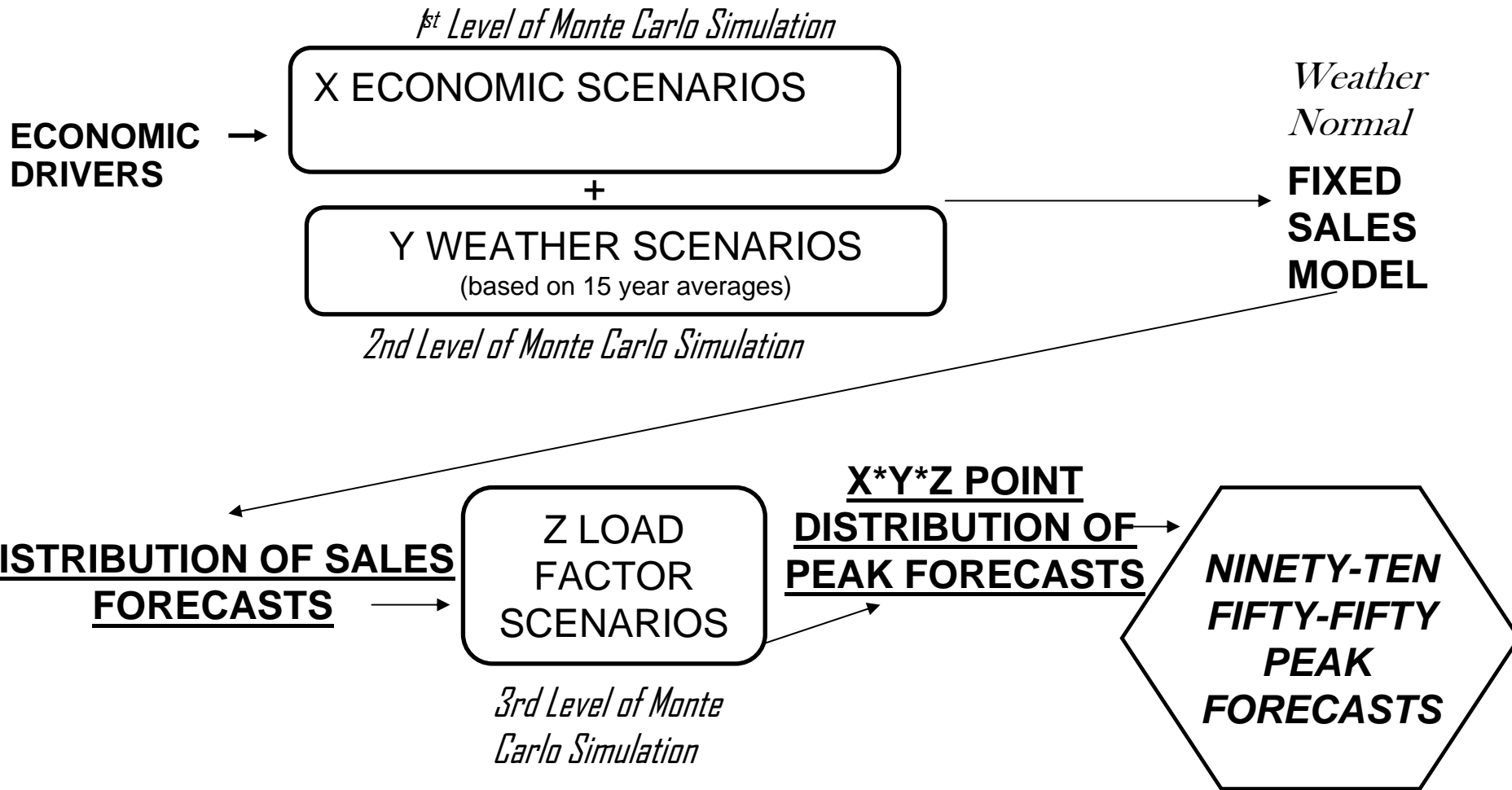
$$\textit{Peak Demand} = \textit{Average Demand} / \textit{Load Factor}$$

Modeling Forecast Variability

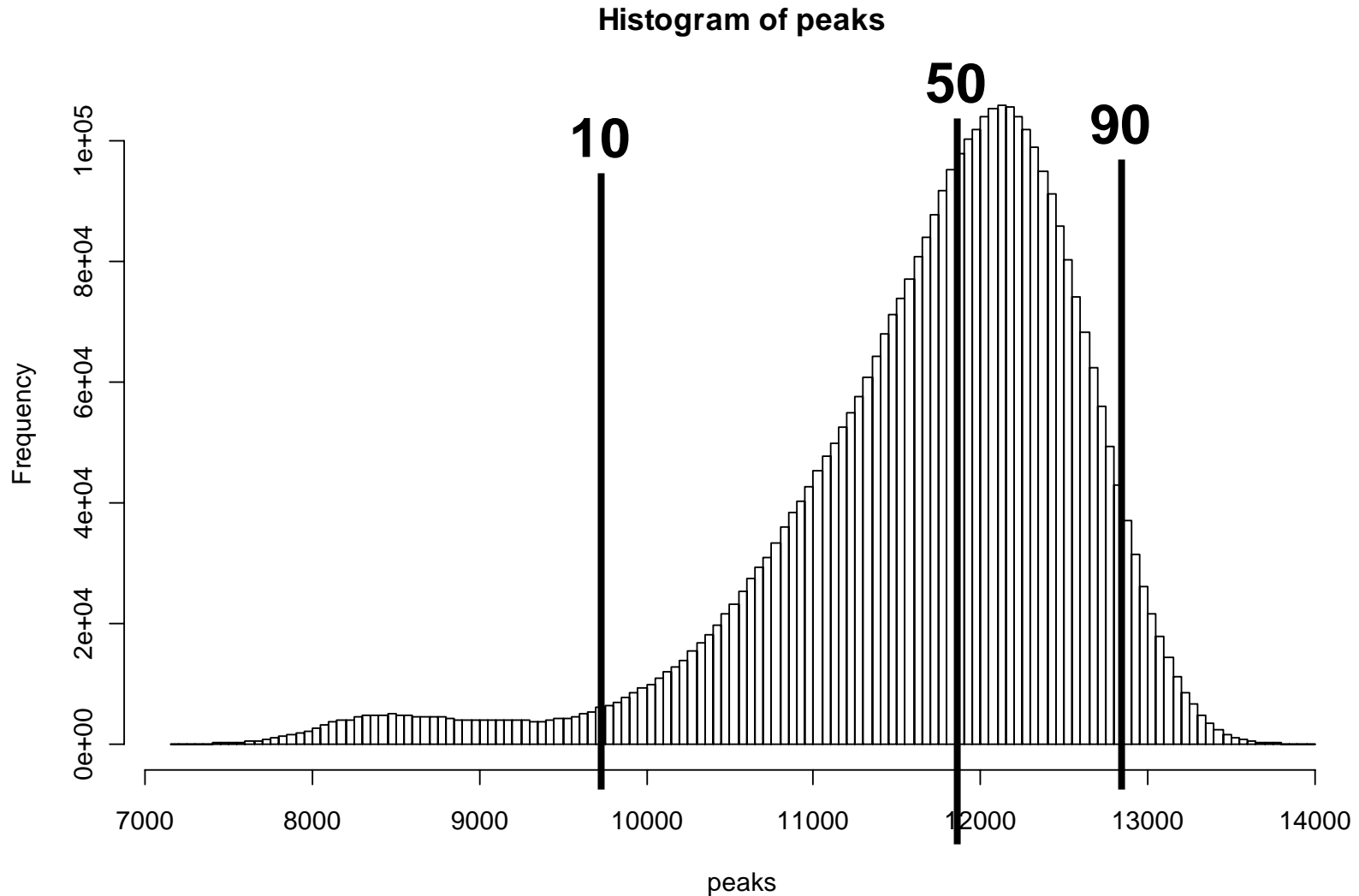


- ◆ ITC models different scenarios of peak forecast drivers:
 - Economics: Each scenario is taken from a multivariate distribution of economic indicators.
 - Weather: A 15-year sample of Heating Degree days and Cooling Degree Days provides the basis.
 - Usage/Efficiency: The system load factor is modeled over a range of outcomes that represent different demand patterns.
- ◆ Many combinations of these scenarios are fed through the forecast model to produce a range of outcomes.

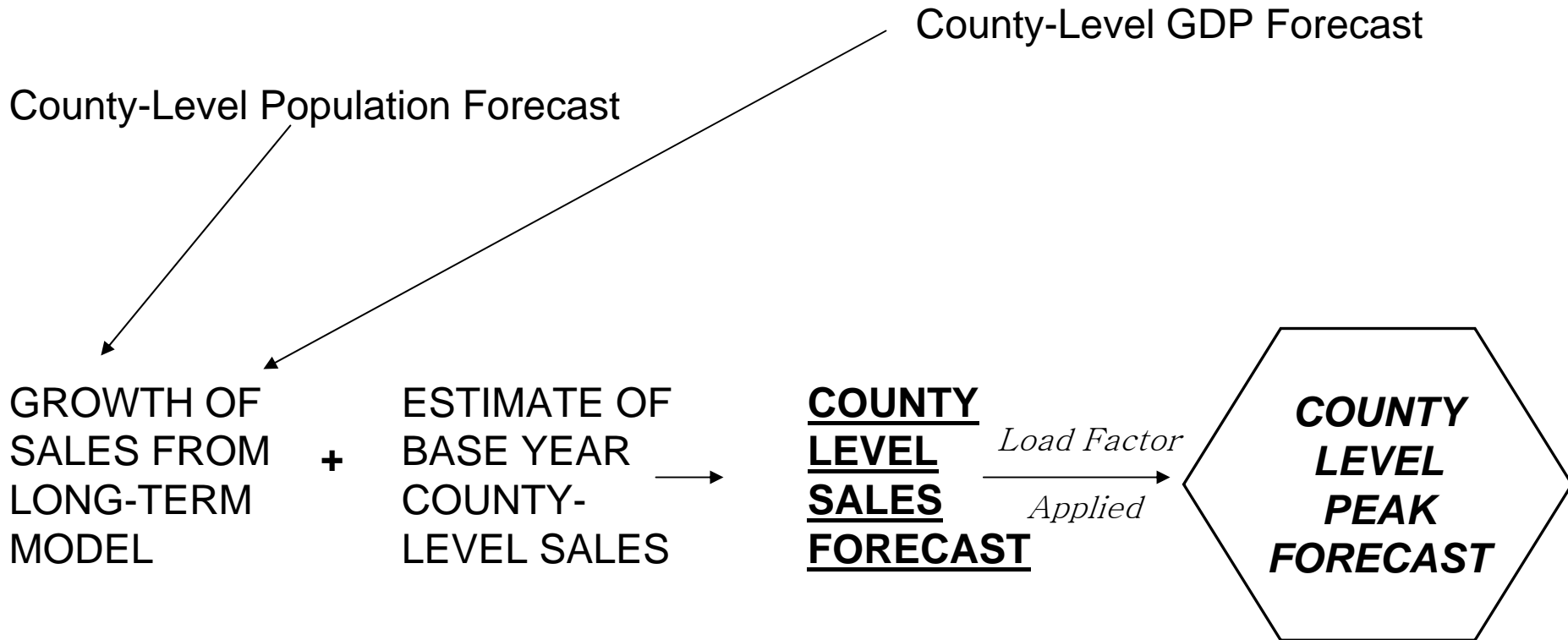
Overview of a Forecasted Year



A Sample Year's Results



Outline of County Forecasting



Allocating the Growth



- ◆ The process yields an overall amount of growth for the service territories, but the overall growth needs to be divided into smaller, economically homogenous regions.
 - The county-level model was initially used to allocate the overall growth to the county level.
 - The demand observed on the stations led to a natural division of multi-county regions, based on the distribution patterns observed.
 - These regions had intuitive appeal based on their similar economic characteristics.

METC/ITC Economic Zones

