

ILLUME

EM&V: THE FUTURE OF EVALUATION

2015 MIDWEST ENERGY SOLUTIONS CONFERENCE

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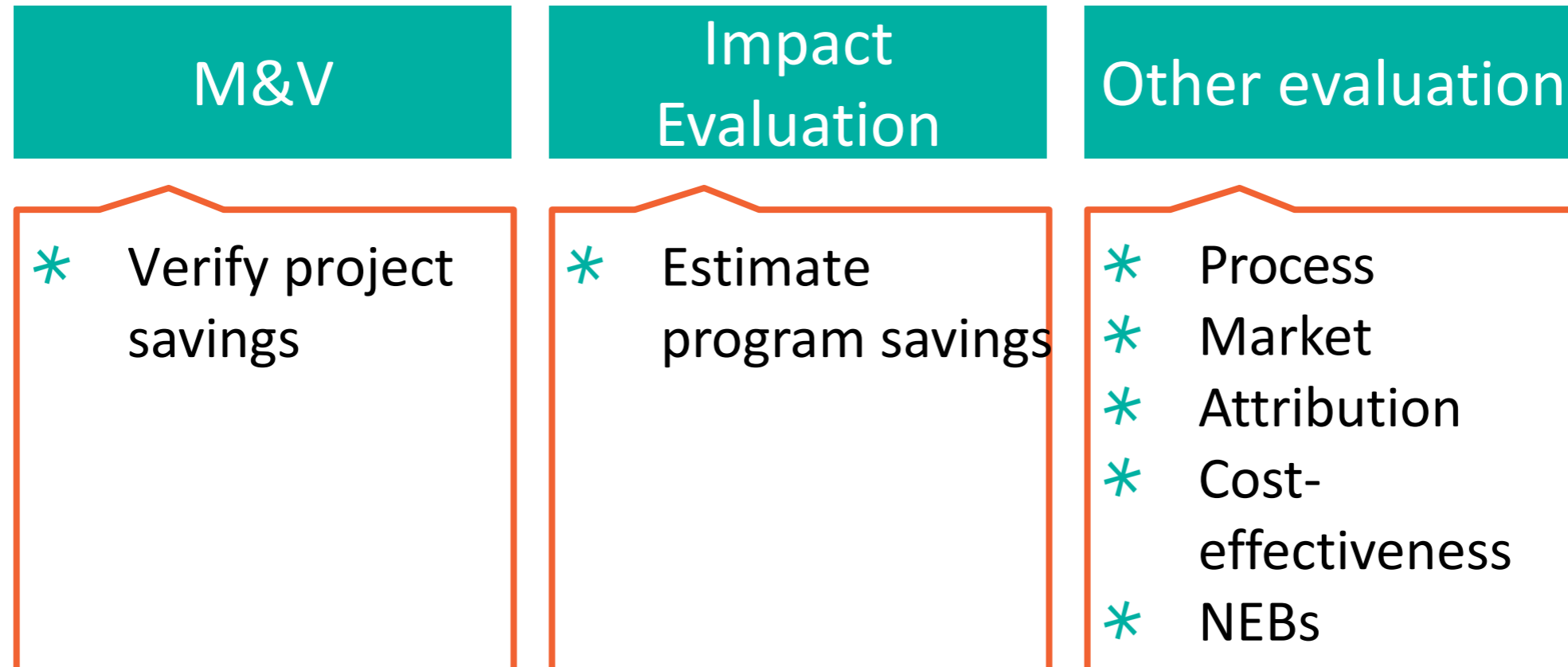
Midwest Energy Efficiency Alliance





Let's start from the very
beginning

Evaluation and M&V Terms



“Way Back When”



It seemed we had more....

- * Time
- * Funding for each study (not absolute)
- * Opportunity to evaluate programs as more than a widget or energy unit





But, alas....

*there are three constants in life...
change, choice, and principles*

(Stephen Covey)

Markets are continually evolving...

Low-hanging fruit continues to decrease



Codes and standards increasing baselines



Cost-effectiveness is becoming more difficult to attain

...so we respond to changes

Increased emphasis on holistic program designs



Technology advancements



Expansion of program approaches



Resurgence of market studies



Market Shifts Create EM&V
Challenges

These Changes Raise Questions on How we Approach EM&V

- * **Standard impact approaches:** Are these approaches (e.g., engineering analysis) accurately accounting for savings?
- * **TRMs:** Are they sufficiently nimble and sophisticated?
- * **Attribution:** Are stakeholders convinced funds are being used wisely, and do we have the right techniques to illustrate this?
- * **Cost-effectiveness:** Are results accurately representing all the costs against all the benefits?
- * **Timeliness:** Are we providing information when it is most useful, in a format that is most useful?

To Further Complicate Matters

- * Each jurisdiction differs
 - * Incentive and recovery mechanisms
 - * Application of EM&V findings
 - * Reporting requirements
 - * Program administration and EM&V models
- * Concern over consistency of E and M&V techniques
- * Scrutiny over how EM&V funds are spent and attempt to determine value for funds



Energy and Efficiency Continue to Gain Federal Attention





EM&V 2.0: Is it the solution?

Promises and Offerings

- * “Real-time” EM&V
- * Reliable results
- * Defensible models
- * Broad applicability
- * Advanced analytic tools
- * Less costly – more efficient – EM&V

Sounds amazing, right?

My Position

Disclaimer of Liability

While support is the topic presented in this presentation, "Fixing SharePoint 3.0: Fixing 'Broken,' 'Slow P,' 'No Document' Issues on Windows, Access, or Intranet, including the use cases, of safety and fitness for use in a particular SharePoint environment, or any other, any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, or represents that its use would not infringe previously issued patents.

I, in further understanding and accepted that information presented hereafter is obtained in the interest of time and lacks significant qualifying detail that should be reviewed prior to instituting any changes based on the tips shared.

TIP #1: The SharePoint object cache is only available in environments built using a "gold tier" version of SharePoint. It is not available within Windows SharePoint Services 3.0 (WSS 3.0) or SharePoint Foundation 2010. The object cache is backed by memory and can impact server performance when memory allocations are not released. Therefore, below certain thresholds, actual threshold values vary from environment to environment, so ensure that the environment being modified is localized and understood from a performance perspective before making changes. Consult the "MOSS Object Cache Memory Tuning in an Intranet Platform" blog post on SharePointDev.com for further discussion that includes performance counters that can be leveraged. In SharePoint 2010 environments, each super user and each user profile accounts must be configured following this application setup to ensure proper operation. Consult Technet for additional detail and Power Shell scripting. Enabling the object cache for query results can result in situations where "stale" data is displayed to users. Data will remain in place for a number of seconds equal to the value specified in the box below the color button that enables the object cache for query results. If that data is not available within a SharePoint environment, consider leveraging the cache duration or invalidation steps for the use of the object cache for query results.

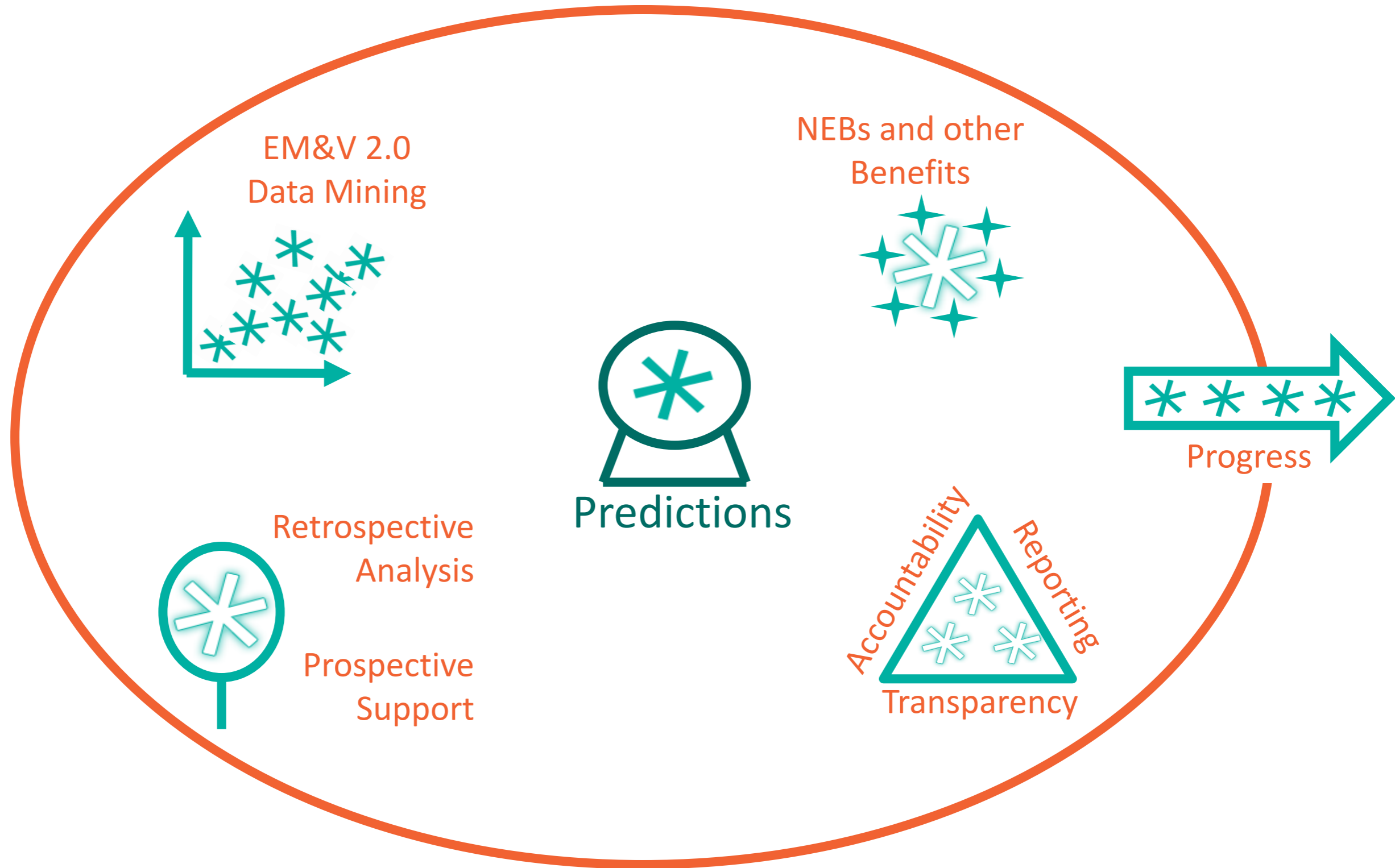
TIP #2: The SharePoint BLOB cache is only available in environments built using a "gold tier" version of SharePoint. It is not available within WSS 3.0 or SharePoint Foundation 2010. The BLOB cache is backed up with front-end (FE) direct attached storage when enabling the BLOB cache, unless that sufficient local storage is available on each FE to prevent out-of-availability scenarios. By default, the BLOB cache local storage location is set to the root of the C: drive. It is recommended that the location be changed prior to enabling the BLOB cache. Failure to specify a storage attribute in the BLOBCache element of the web.config will result in the default value of 1024MB seconds (M) being used. Use of a low-size storage attribute will result in the exhaustion of client-side cacheability headers to assets that are being BLOB cached, and such headers can result in BLOB assets being cached on the client beyond the duration of the current user session. Such caching can result in "stale" BLOB resources being used from the client rather than fresh ones being fetched from the FE, so adjust max-age values carefully. Do not directly modify the contents of a FE's BLOB cache within the server file system; such modifications may corrupt the cache and/or result in inaccessibility to various BLOB content. For additional detail and support for the "SharePoint BLOB Cache" refer to the following SharePoint-related blog posts: "We Don't Dope up the Server... is the BLOB Cache Fully Open?," "Minimally Changing the MOSS 2010 BLOB Cache," and "Client-Side Cache Headers and the Storage Attribute with SharePoint BLOB Caching."

It is A solution,
not THE solution



“There are some things that money just cannot buy, like manners, morals and intelligence.”

Then What Is the Future of EM&V?





QUESTIONS

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