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WORKING FOR YOU – WHEREVER YOU NEED ENERGY.



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Importance of monitoring energy systems – Monitoring as the basis for decision-taking

5th Workshop of Eastern Partnership Energy Regulatory Bodies, Vilnius

MARIO REISINGER

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This presentation forms part of the *5th Workshop of Eastern Partnership Energy Regulatory Bodies: „Importance of monitoring energy systems – Monitoring as the basis for decision-taking”*.

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Vilnius, 12th April 2016

Assumptions

Benevolent and independent regulator

- Maximise welfare, however it is defined (total surplus= consumer surplus and producer surplus)
- Minimise deadweight loss

Companies maximise profit

Customer maximises utility – chooses the bundle of goods that fits his/her needs best

Importance of Monitoring



Knowing your market and participants leads to better decisions

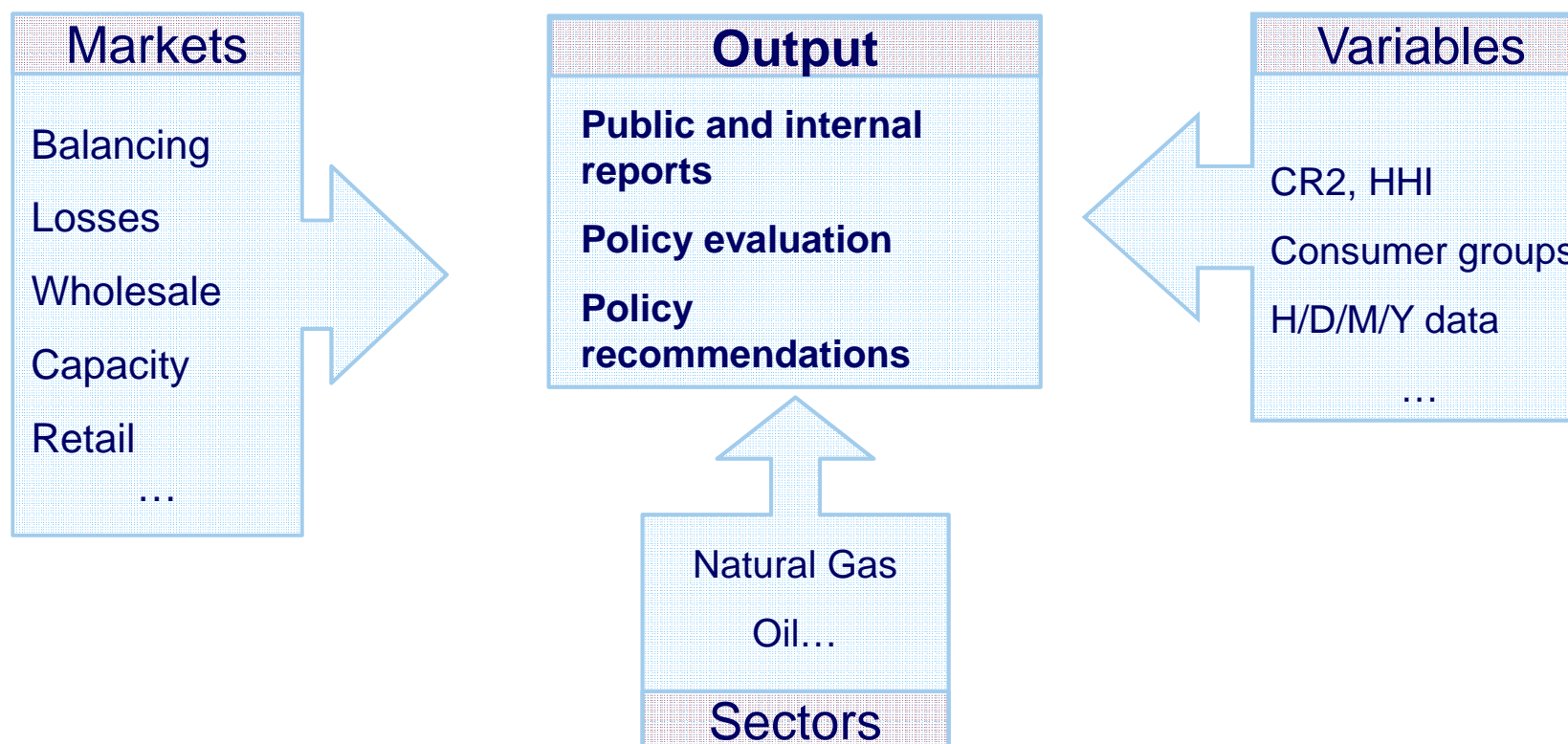
If we play a game where regulator and participants are counterparts then...

keep your friends close, but your enemies closer
and
Information is power, thus arm yourself

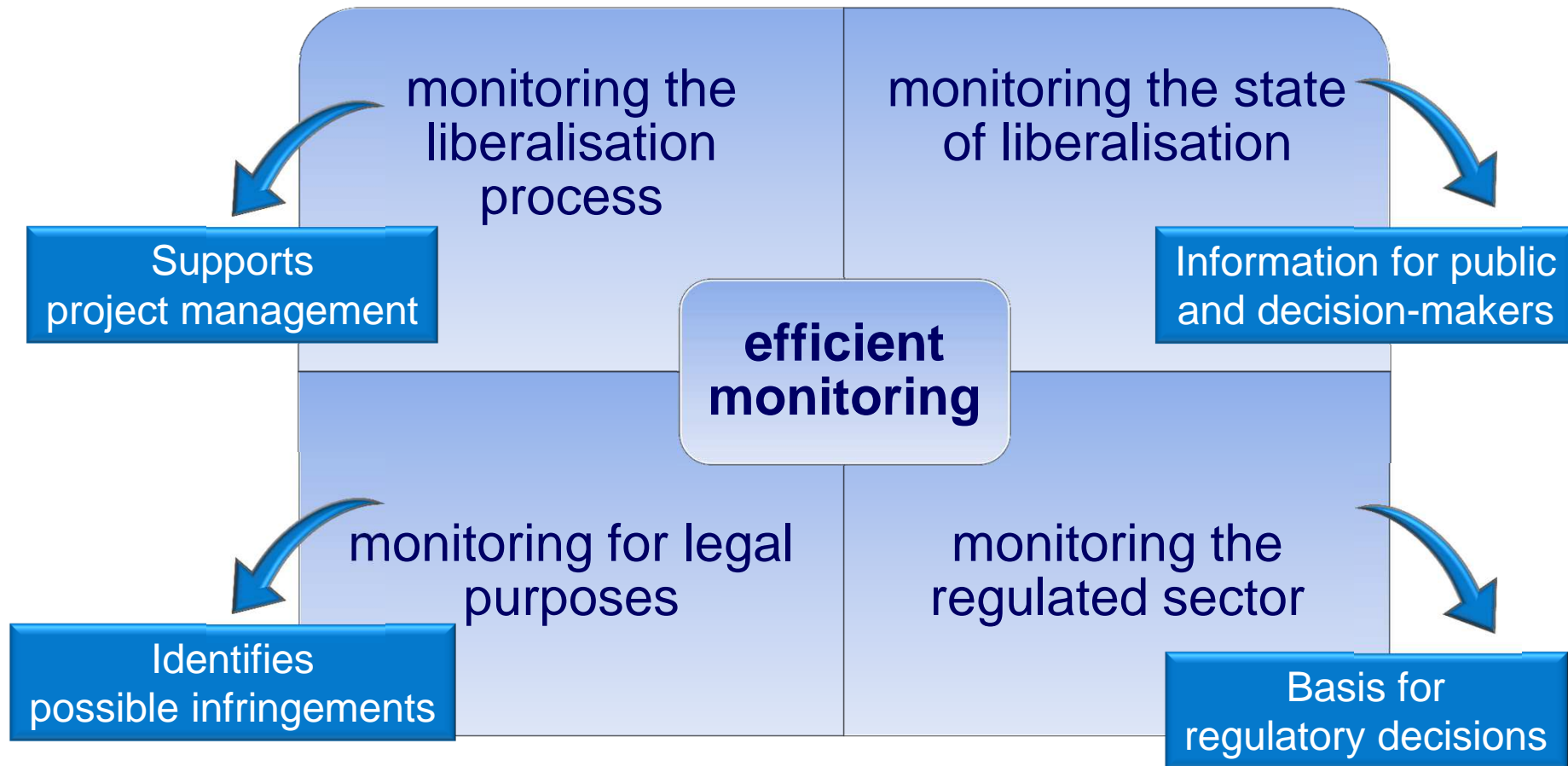


Market Monitoring: Motivation

- MM is a system to promote current information that allows the state of the system to be accurately described



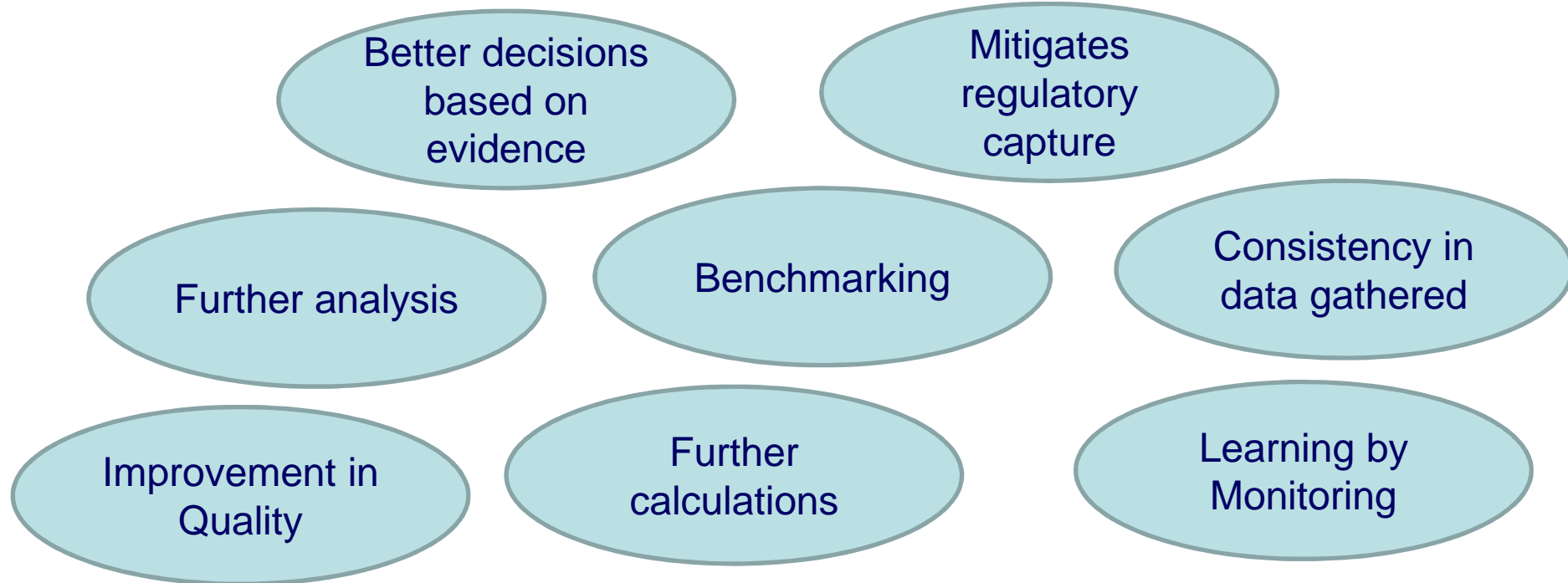
Aspects of a holistic monitoring system



Monitoring same information over time leads to...



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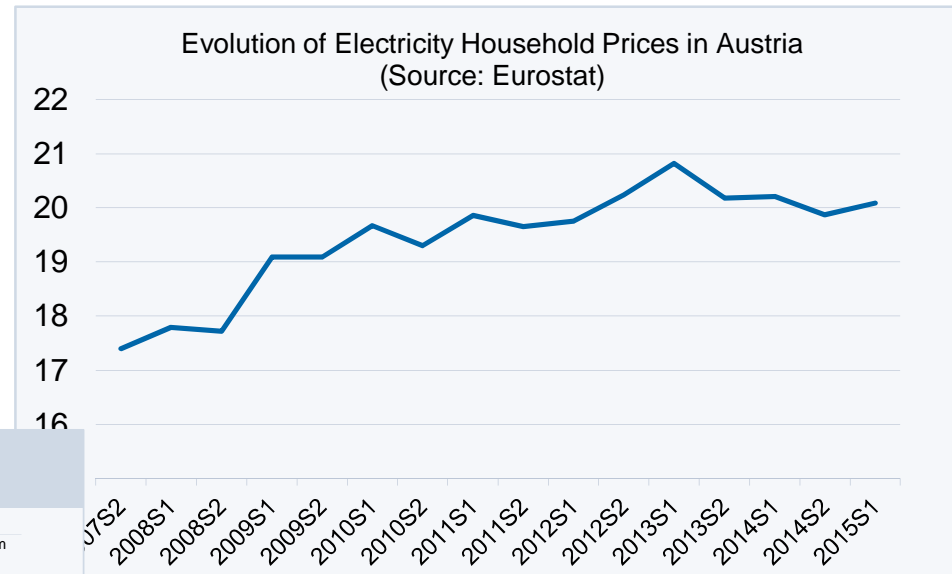
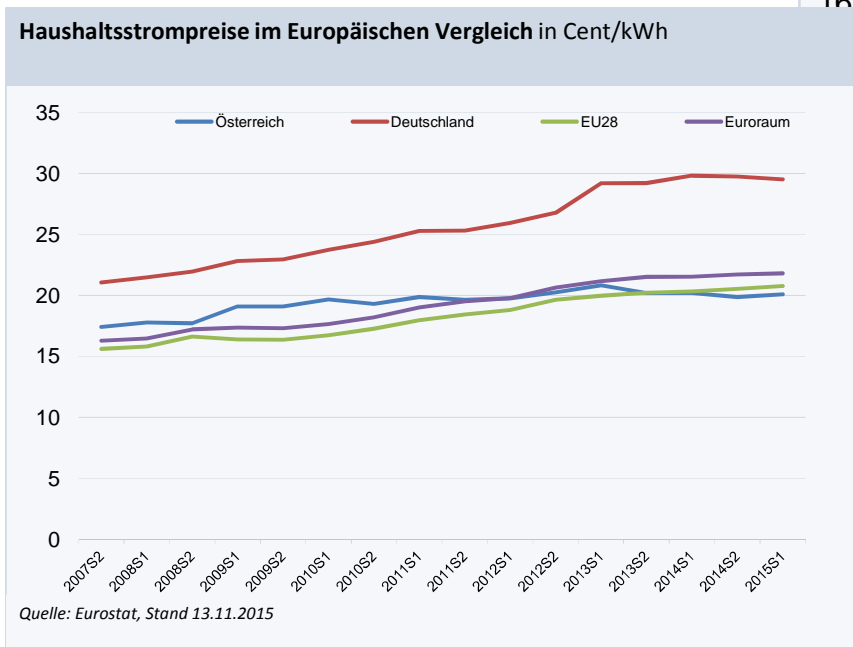
Take your time for monitoring, calculus and interpretation! Question your data! Gathering Data is not enough! Assure quality and correctness of delivered data

Data interpretation changes...



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Matter of point of view...same data looks different...granularity or unit matters



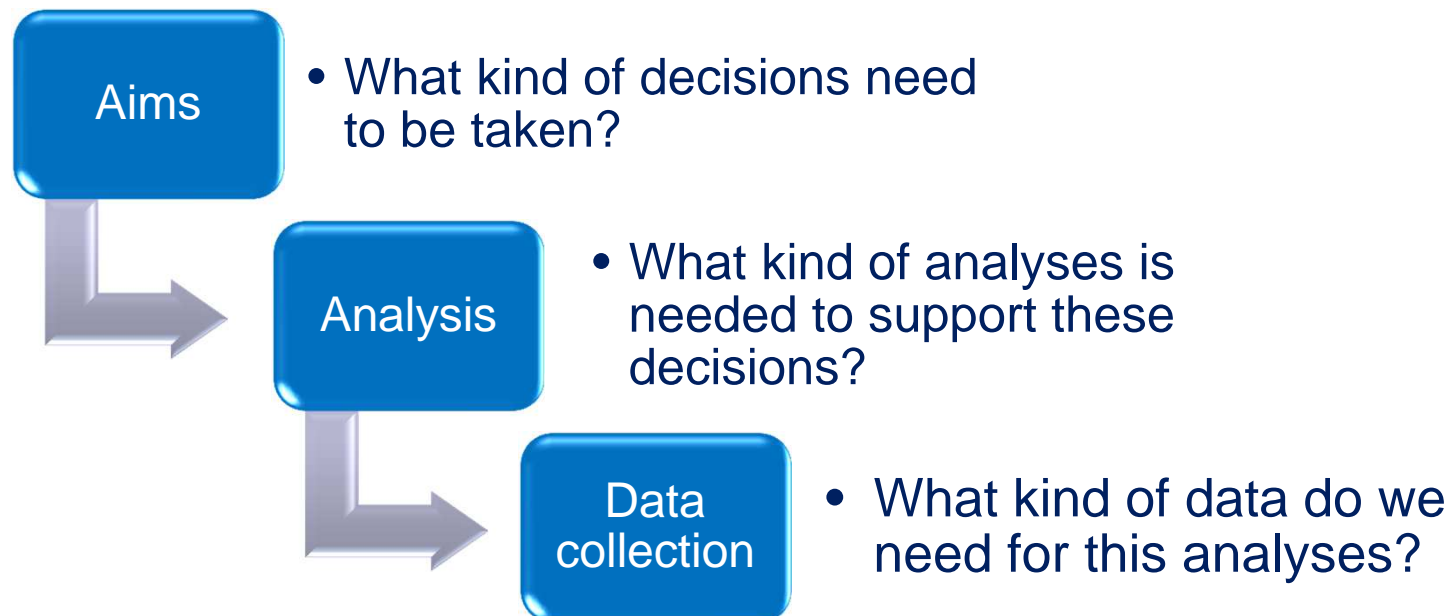
Absolute Numbers,
Relative Numbers,
year on year,
growth rates,
Relevant market,
Definitions,
...

What should be monitored?

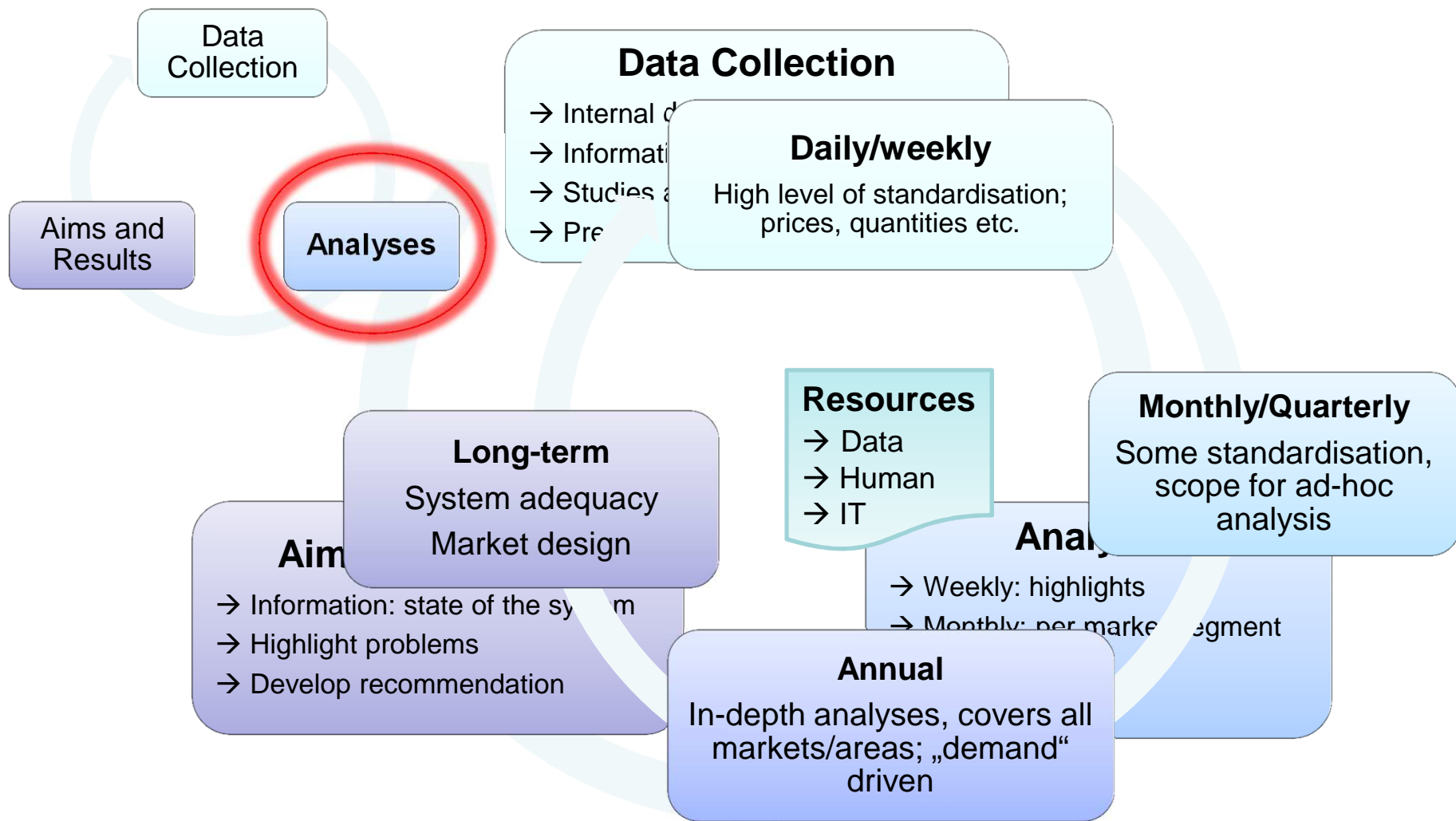
Depends on the scope...

security of supply, production, wholesale, retail,
transmission, distribution,...

Market monitoring principles



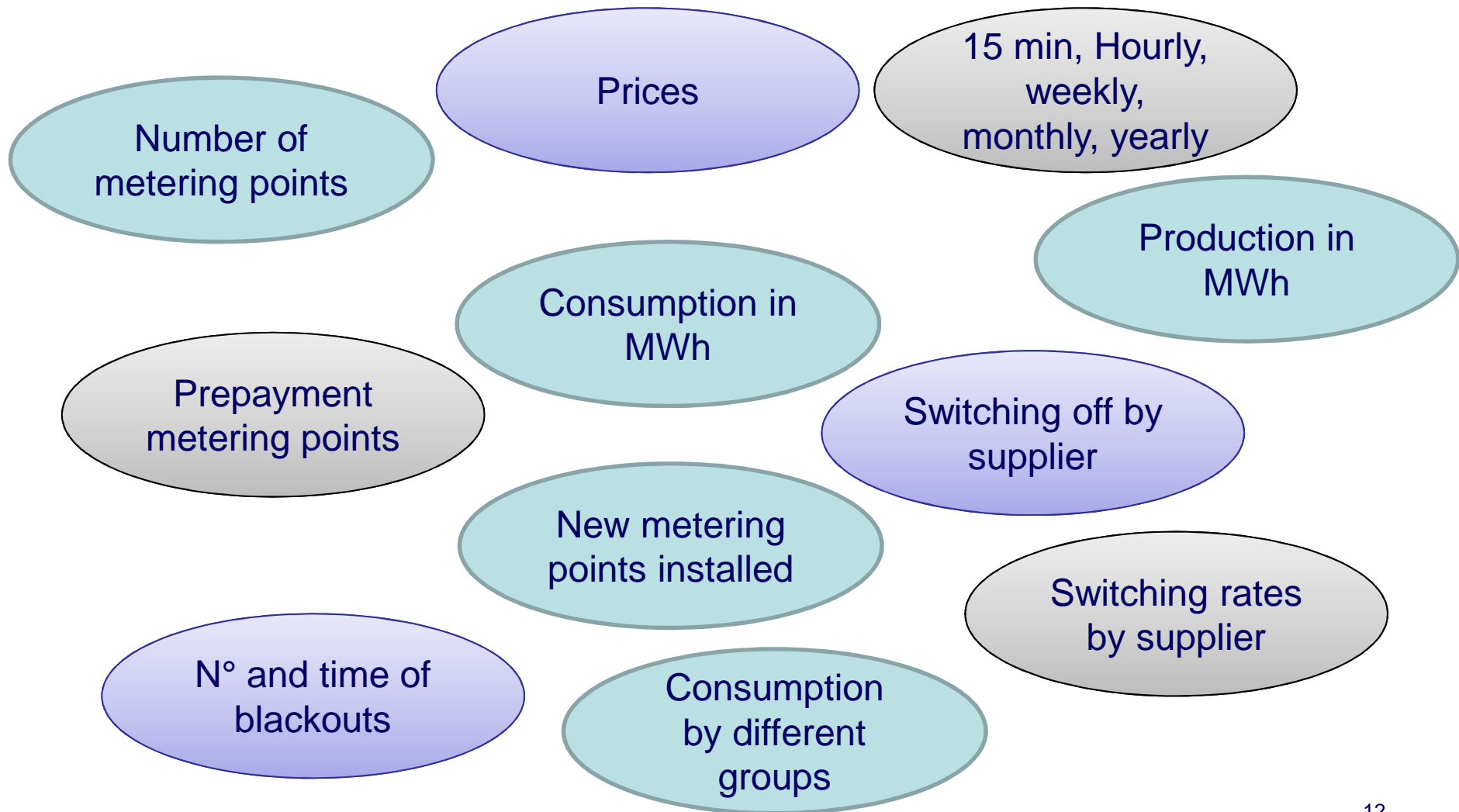
Market Monitoring at E-Control



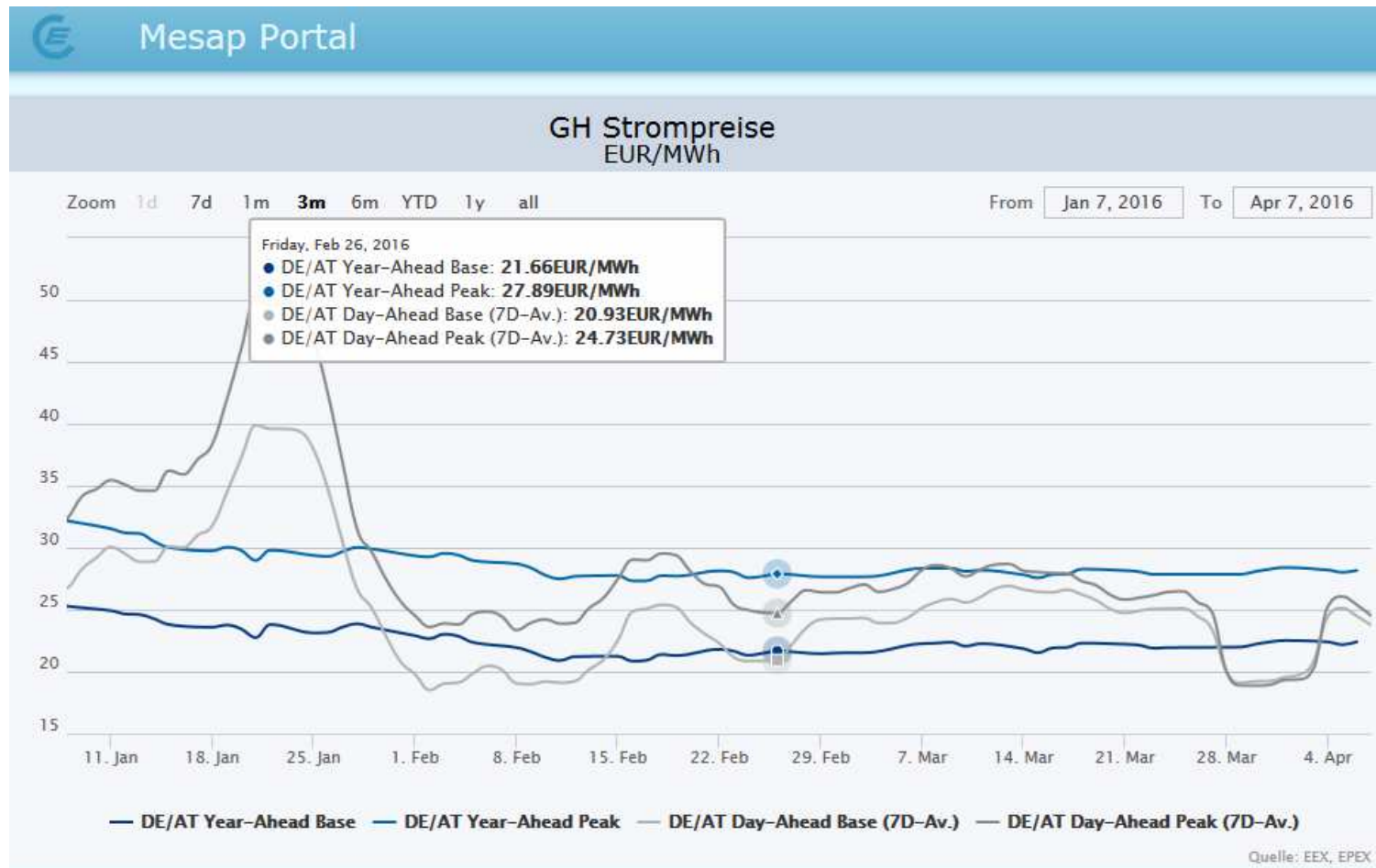
Subject to Monitoring...



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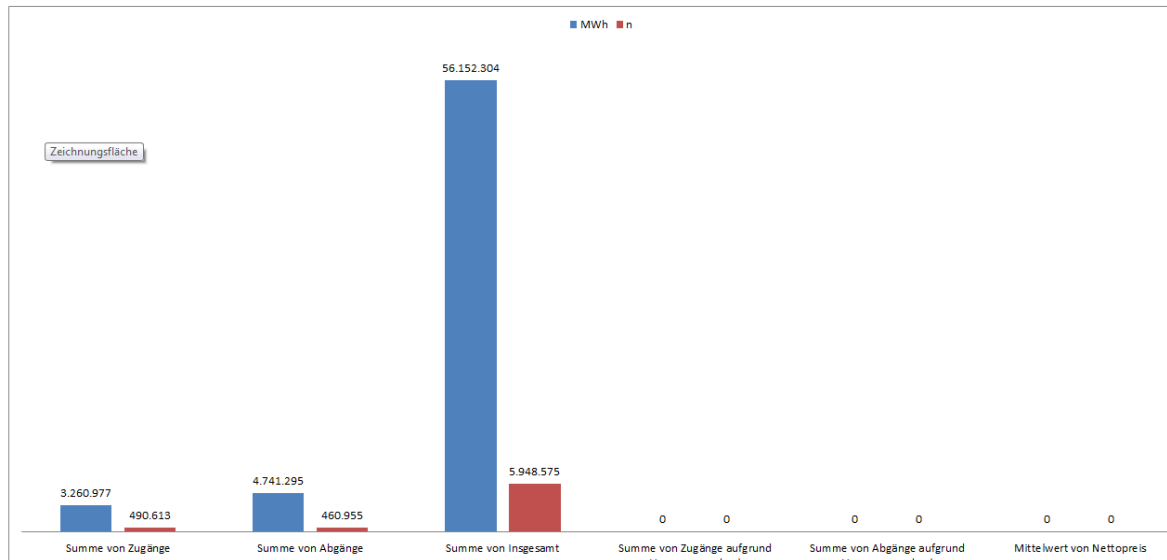
Example 1: Mesap Portal (Database)



Example 2: Monitoring Dashboard

MONITORING DASHBOARD - LF

Hier klicken um ZUM INHALTSVERZEICHNIS zu kommen



Unternehmen

- TIWAG-Tiroler Wasserkraft AG
- Unsere Wasserkraft GmbH & Co KG
- VERBUND AG
- VERBUND Sales GmbH
- Vorarlberger Kraftwerke AG
- Vorarlberger Kraftwerke Ökostrom GmbH
- WEB Windenergie AG
- Wels Strom GmbH
- Wels Strom Öko GmbH
- WIEN ENERGIE Vertrieb GmbH & Co KG

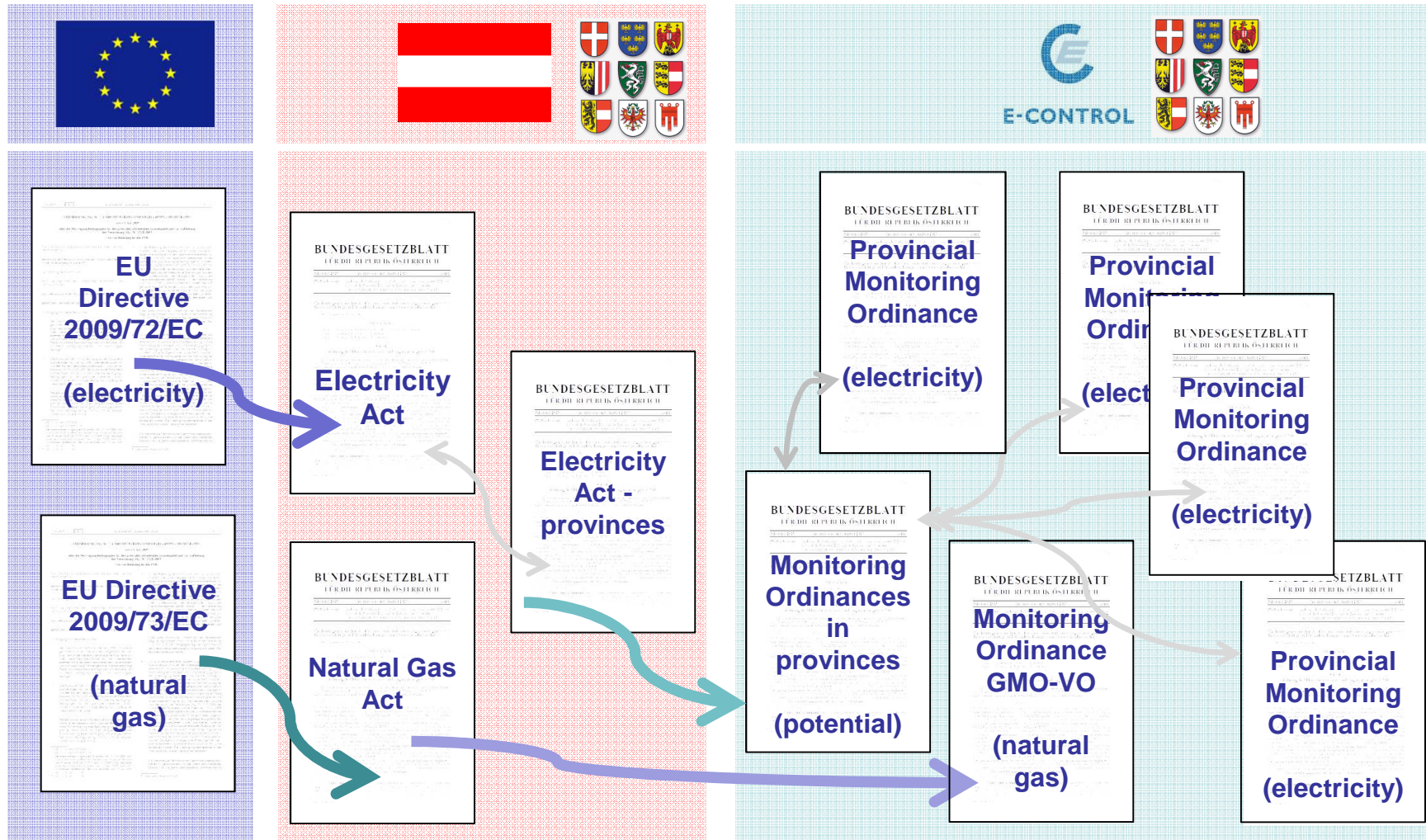
Abnehmer

- bis einschließlich 500 MWh/a
- davon Anzahl der Zählpunkte die gemäß § 77 EIWOG in der Grundversorgung sind
- Gewerbe (z.B. Standardlastprofile G0 .. G7)
- Haushalte (z.B. Standardlastprofile H...)
- Insgesamt**
- Landwirtschaft (z.B. Standardlastprofile L0 .. L2)
- Lastganggemessene Kunden (gesamt)
- Nicht lastganggemessene Kunden (gesamt)
- Sonstige (z.B. Standardlastprofil B1, Sonderlastprofile)
- Sonstige unterbrechbar (z.B. Standardlastprofil ULA .. ULF)
- über 150.000 MWh/a

Legal basis



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Working Infrastructure and Resources

- Staff (Economists, Statisticians, Engineers, Mathematicians,...)
- Time
- Ask for homogenous data: e.g. price, metering points and volume for the same region for the same group – don't mix
- Adequate IT Infrastructure and Support
- Adequate Data Collection and State of the Art
 - Find equilibrium between regulator's needs and workload of enterprise (financial compensation?)

Evolution over time matters...

- Market Structure and Participants may change over time
- New Policies often need time to work effectively – Monitor the evolution of this processes
- Gives you the opportunity to evaluate and revise your policies
 - New measures/adaption needed?
 - Take back some measures?
 - What did work and what did not?

Correct definition of relevant Market is crucial for further analysis

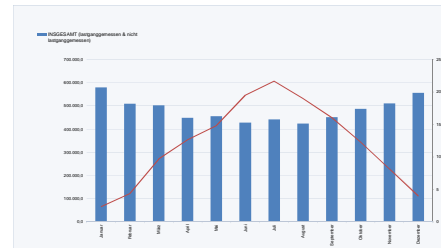
- Product Dimension
 - Which products to include? (only close substitutes)

- Geographic Dimension
 - Whole territory?
 - Transmission network?
 - Distribution network?

Competition Analysis and Market Structure

Rankings, HHI, CR3, Equivalent Number, Trends, Market Shares...

By metering points/customers



By prices/revenue



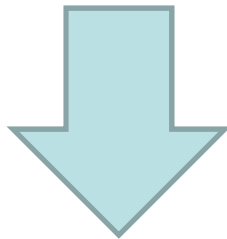
By Volume (MWh)

Concentration Curves

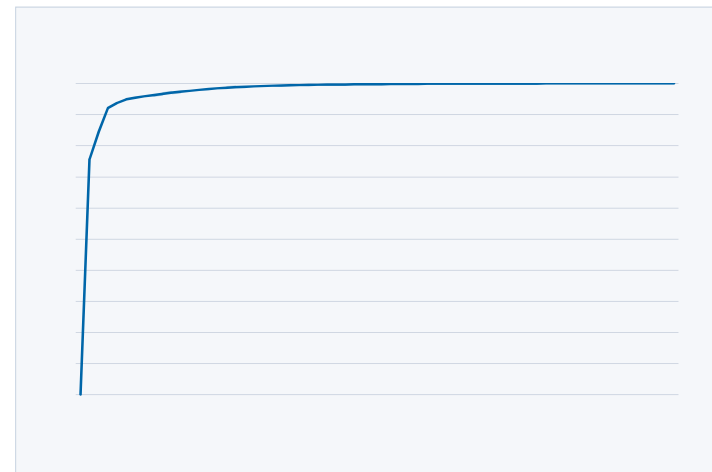
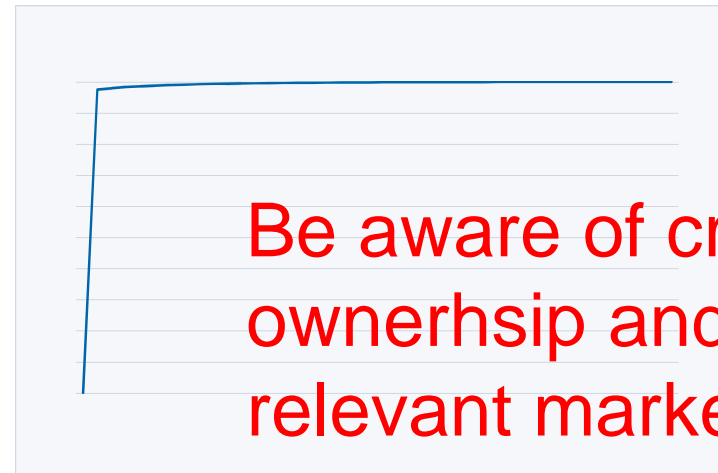


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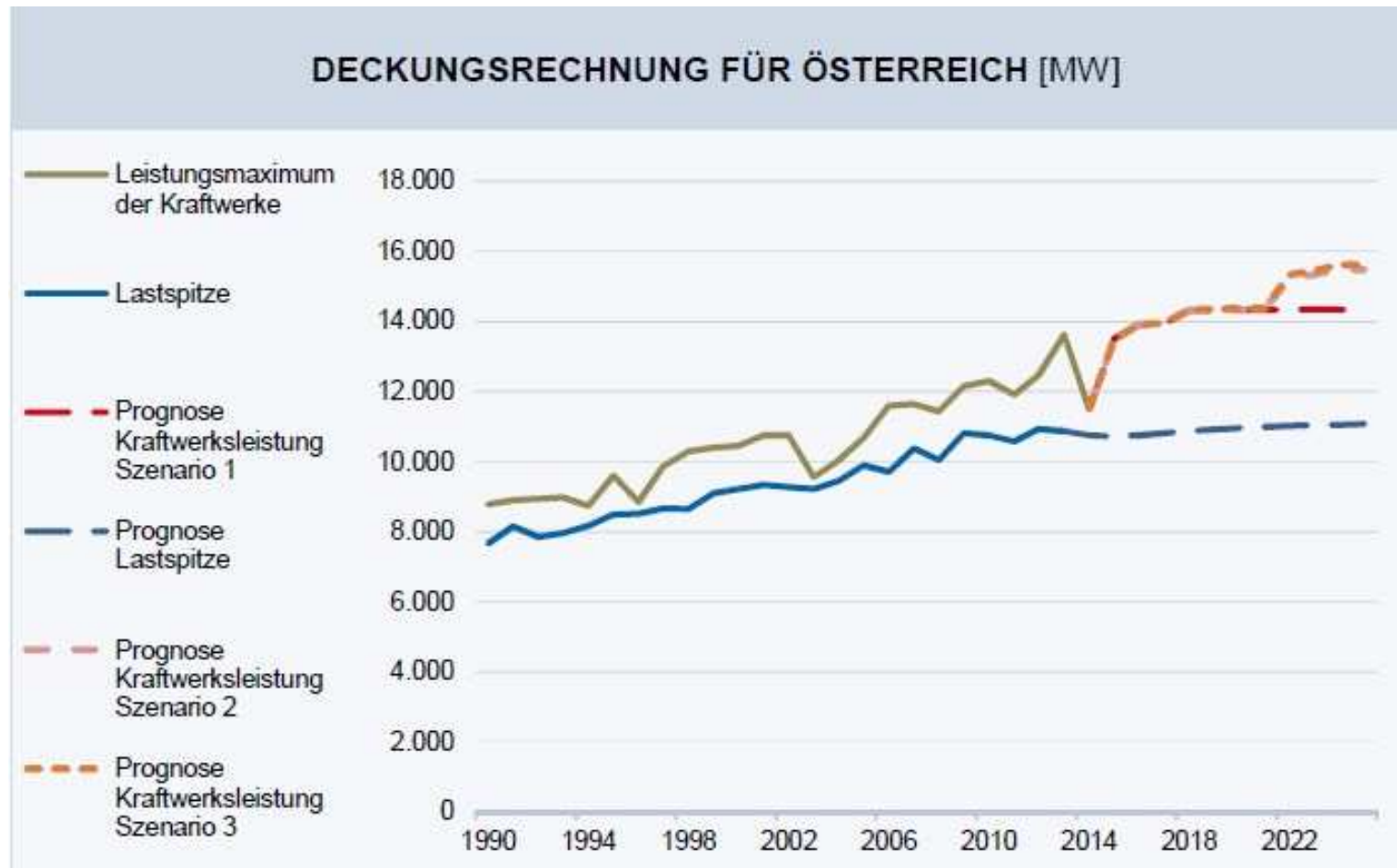
Cumulative Market Share of each company



steep curves mean high concentration



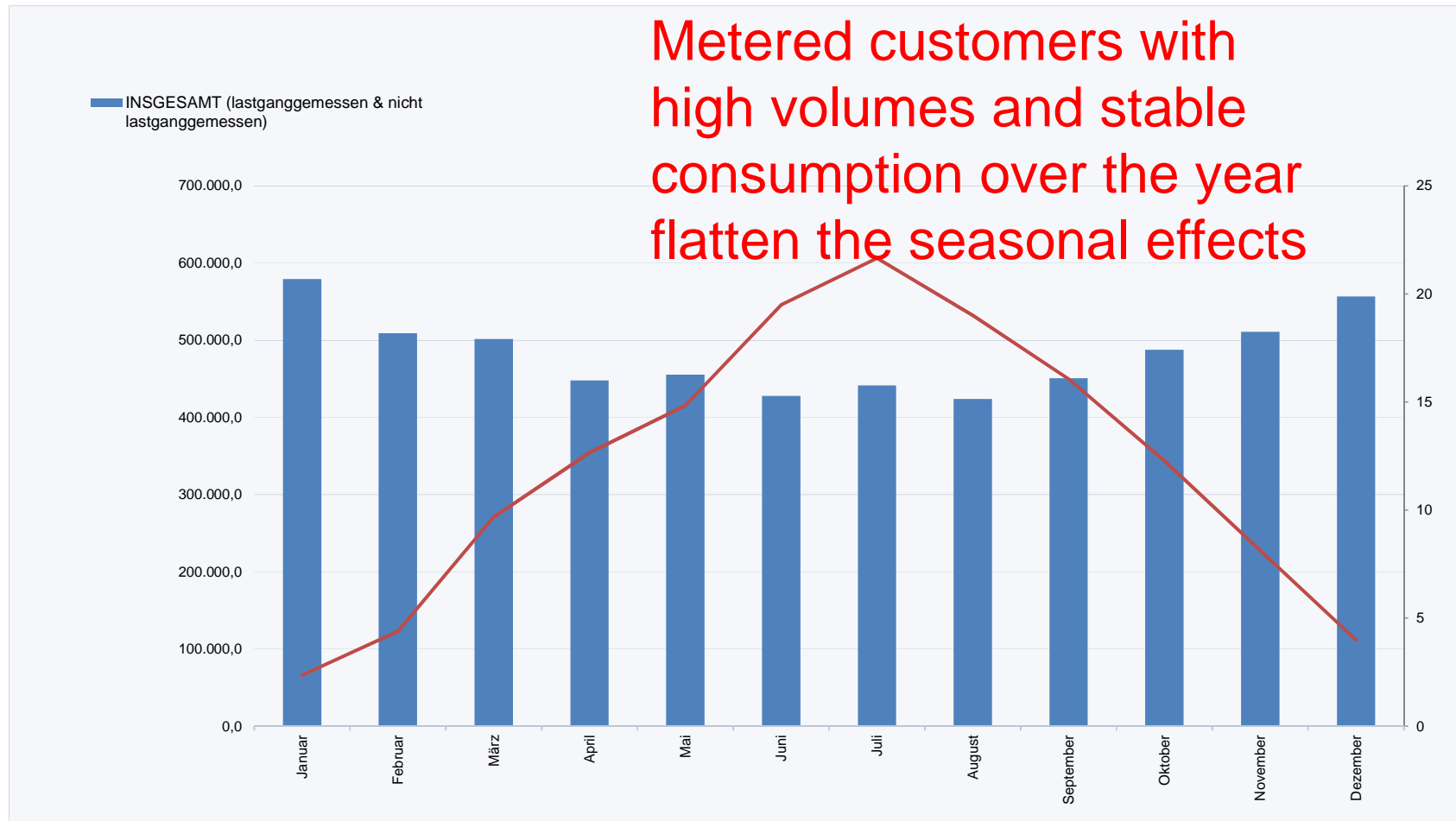
System Adequacy



Temperature vs Consumption (seasonal pattern)



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Conclusion

In the best scenario, Monitoring is a Win-Win situation

Independent Regulator fulfills its monitoring needs and is able to react adequately (international, national, market design, policies...)

Company learns about itself by reporting and may become more efficient

Questioning your aims, data and methods is important, just collecting with no further analysis should not be done

Respect data protection, legal basis and purpose for data collection



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Contact

Mario Reisinger, BA MU



+ 43 1 24 7 24 710



mario.reisinger@e-control.at



www.e-control.at



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