# Article information:

Capacity optimization of hybrid energy storage system for microgrid based on electric vehicles’ orderly charging/discharging strategy - ScienceDirect
<https://www.sciencedirect.com/science/article/pii/S0959652623015044>

# Article summary:

1. China's focus on green and low-carbon energy systems, including the integration of distributed energy into microgrids and the use of energy storage systems to address the mismatch between supply and demand.

2. The increasing number of electric vehicles (EVs) in China and their potential impact on the power system, as well as the potential for EVs to serve as mobile energy storage systems (MESS) when guided by vehicle-to-grid (V2G) technology.

3. The optimization of hybrid energy storage systems (HESS) that combine EV batteries with stationary energy storage systems (SESS), including determining optimal capacity elasticity for microgrids and forming optimal scheduling strategies to reduce uncertainty, lower investment costs, and increase reliability.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

该文章主要介绍了基于电动汽车有序充放电策略的微网混合能量存储系统的容量优化。文章提到了中国在可再生能源方面的发展和应对可再生能源波动性的挑战，以及电动汽车作为移动能量存储系统在微网中的应用。然而，该文章存在以下问题：

1. 偏袒可再生能源

文章强调了可再生能源的重要性和不确定性对电力质量的影响，但没有提到其他类型的发电方式如核能、燃气等。这可能导致读者认为可再生能源是唯一解决方案。

2. 片面报道

文章只关注了电动汽车作为移动能量存储系统在微网中的应用，但没有提到其他类型的移动储能设备如飞轮、超级电容器等。这可能导致读者认为只有电动汽车才是解决方案。

3. 缺失考虑点

文章没有考虑到电动汽车充放电对其寿命和安全性的影响，以及其对驾驶员行驶需求和便利性的影响。这些因素可能会影响人们是否愿意购买和使用电动汽车。

4. 主张缺失证据

文章提出了混合能量存储系统的容量优化模型，但没有提供实际案例或数据来证明其有效性和可行性。这可能导致读者对该模型的可靠性产生怀疑。

5. 未探索反驳

文章没有探讨其他学者对电动汽车在微网中应用的质疑和反驳意见，如电动汽车充放电对电网稳定性的影响、电动汽车与传统发电方式之间的竞争等。这可能导致读者对该主张缺乏全面了解。

综上所述，该文章存在一些偏袒、片面报道、缺失考虑点和证据不足等问题。在未来的研究中，需要更加全面地考虑各种因素，并提供更多实际案例和数据来支持其主张。

# Topics for further research:

* Other types of power generation
* Other types of mobile energy storage devices
* Impact of EV charging/discharging on lifespan
* safety
* and convenience
* Evidence to support the capacity optimization model
* Criticisms and counterarguments against EVs in microgrids
* Comprehensive consideration of all factors involved

# Report location:

<https://www.fullpicture.app/item/97206b7860578d7bf36b91ac68b50456>