



让我们共同打造气候中和的未来
Building a climate-neutral future together.

瑞士2050年脱碳路径 及建筑领域相关政策

The Swiss Decarbonization Roadmap for 2050 and
Related Policies for the Building Sector

Wesley Wojtas, Team Leader Sino-Swiss ZEB China Project (Skat)
韦斯利·沃伊塔斯, 中瑞零碳建筑项目经理 (瑞士Skat咨询公司)

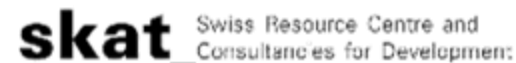
Dr. Feng Lu-Pagenkopf, Deputy Team Leader Sino-Swiss ZEB China Project (Intep)
路枫博士, 中瑞零碳建筑项目副经理 (瑞士intep综合规划责任有限公司)



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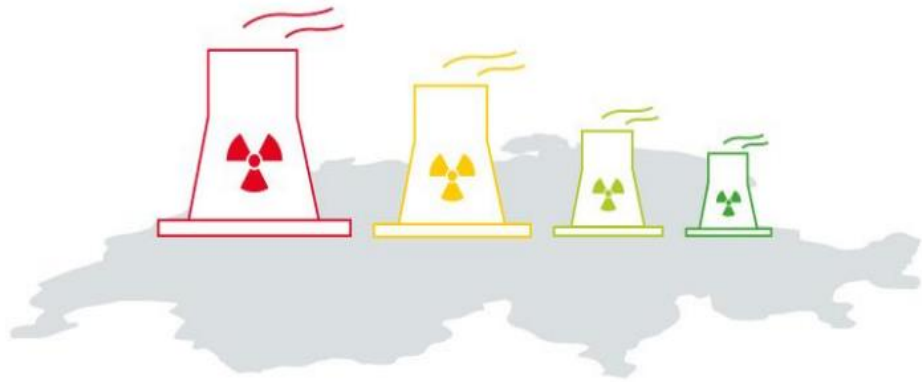
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2050能源战略：为什么？

ENERGY STRATEGY 2050

WHY?



2011日本福岛核事故

- 瑞士联邦委员会和议会决定逐步取消瑞士的核能使用
- 对瑞士能源系统进行重建

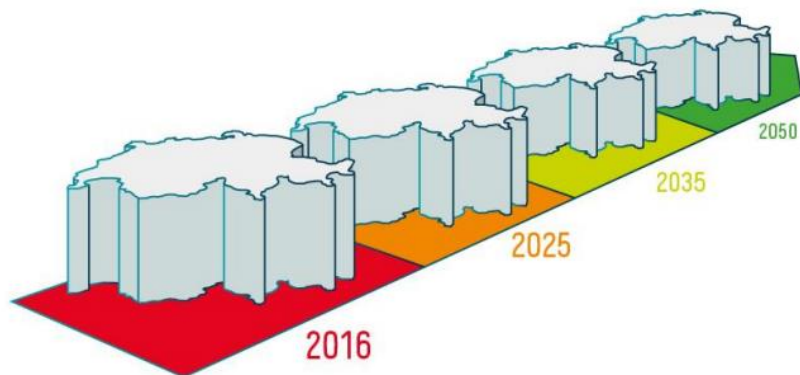
2011: reactor melt down in Fukushima, Japan

- nuclear energy phase out decided
- required a restructuring of the Swiss energy system

2050能源战略：是什么？

ENERGY STRATEGY 2050

WHAT?



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2012/13:

- 通过《2050年能源战略》的第一套措施
- 通过 "瑞士协调能源研究 "行动计划
- 对能源法进行第一轮调整

2012/13:

- adoption of first measures Energy Strategy 2050
- adoption of action plan "Coordinated Energy Research CH"
- first round of adjustments to the "Energy Act"

2014-2017: 对能源法进行整体修订的技术工作和议会程序

2014-2017: Technical work, parliamentary process and acceptance of revised "Energy Act"

ES 2050

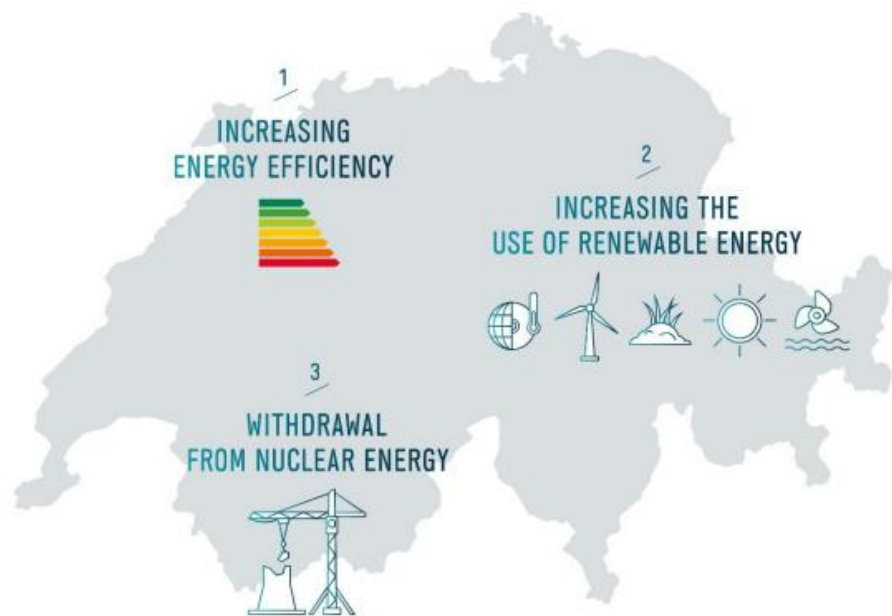
EP 2050+

Conclusion

2050能源战略：如何？

ENERGY STRATEGY 2050

HOW?



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- 开展能源研究
 - 促进创新
 - 议会倡议12.400
 - 新能源法
-
- Energy Research
 - Innovation promotion
 - Parliamentary initiative 12.400
 - **New Energy Act**

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Conclusion

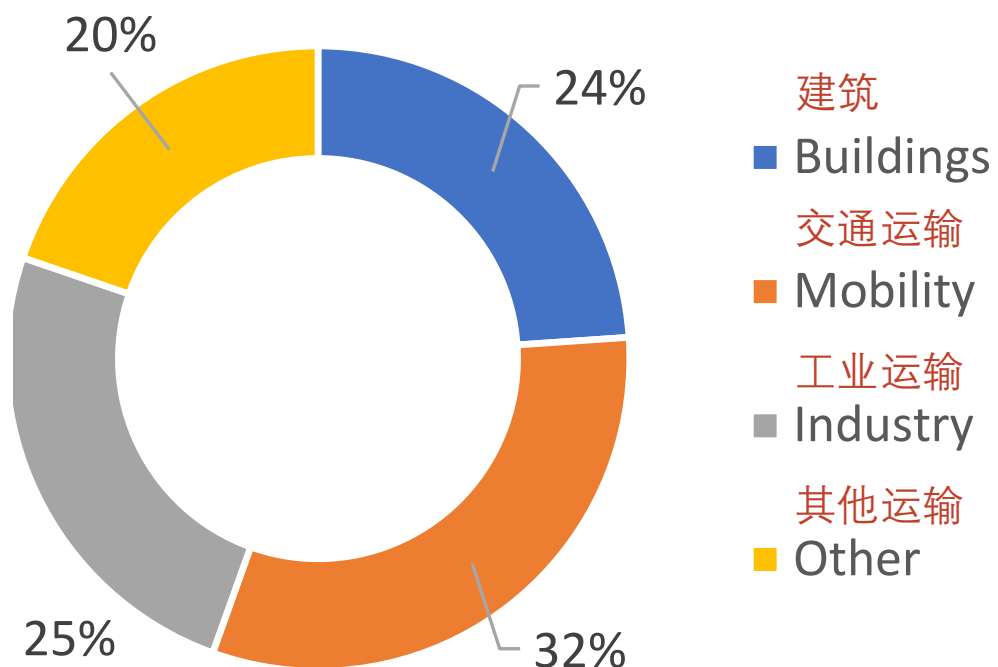
2050能源战略：建筑相关项目？

ENERGY STRATEGY 2050

HOW? FOCUS BUILDING PROGRAMME

建筑行业的相关性

Relevance of the building sector



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2050能源战略：建筑相关项目？

ENERGY STRATEGY 2050 HOW? FOCUS BUILDING PROGRAMME



- 将二氧化碳税的部分收入专门用于提高建筑能源效率
- 为提高建筑物的能效提供更高的税收优惠
- Partial earmarking of revenue from CO₂-levy
- Higher tax incentives

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Conclusion

2050+ 能源展望：为什么？

ENERGY PERSPECTIVES 2050+ WHY?



- 1973年石油危机后，瑞士制定了国家能源政策
 - 在整体能源方案中奠定了基础
 - 这也是第一次包括 "能源展望"，展望了能源的未来
 - 从那时起，能源展望就开始制作并定期更新。
- 1st national energy policy after oil crisis (1973)
 - The groundwork was laid in the overall energy concept
 - For the first time incl. 'energy perspectives' / future of energy
 - Since then, energy perspectives have been updated periodically

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ES 2050

EP 2050+

Conclusion

2050+ 能源展望：是什么？

ENERGY PERSPECTIVES 2050+ WHAT?



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- 能源展望2050+通过不同的规划情景分析了如何开发一个可持续的能源系统
 - 一方面与2050年的温室气体净零排放相适应
 - 另一方面确保安全的能源供应
- 能源展望是瑞士能源政策的核心量化基础
- 2020年，采用了最新框架的能源展望2050+发布
- Using different scenarios for a sustainable energy system meeting net-zero greenhouse gas emissions by 2050
- Ensuring a secure energy supply
- Central quantitative basis for energy policy in Switzerland
- In 2020, current “Energy Perspectives 2050+” were published

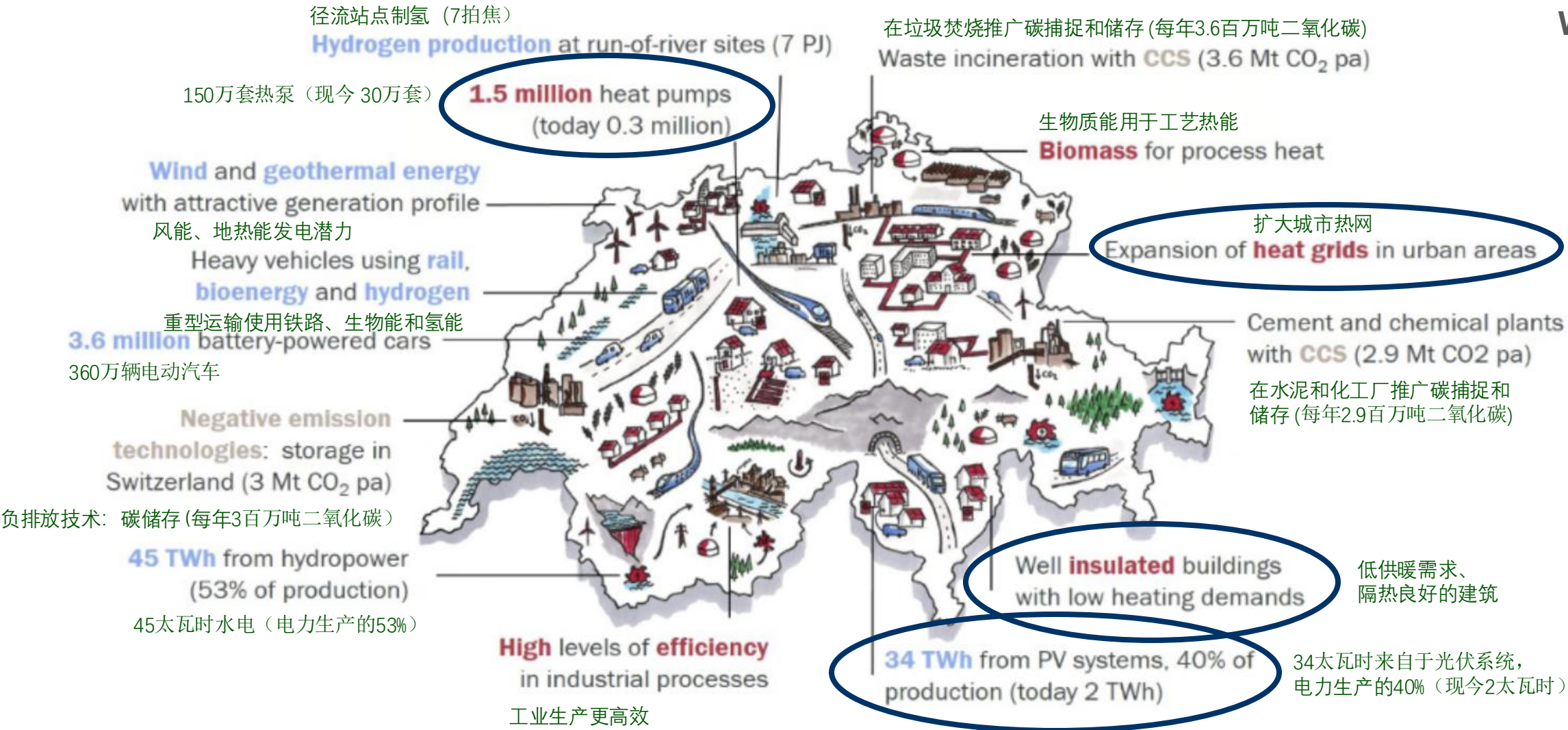
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Conclusion

2050+ 能源展望：是什么？

ENERGY PERSPECTIVES 2050+ WHAT?



2050+ 能源展望：建筑相关项目？

ENERGY PERSPECTIVES 2050+ HOW? FOCUS BUILDING PROGRAMME



提高供热/热水，照明，暖通设备的能源效率

Increase of energy efficiency

- Electric appliances
- Installations
- Building envelope

2050+ 能源展望：建筑相关项目？

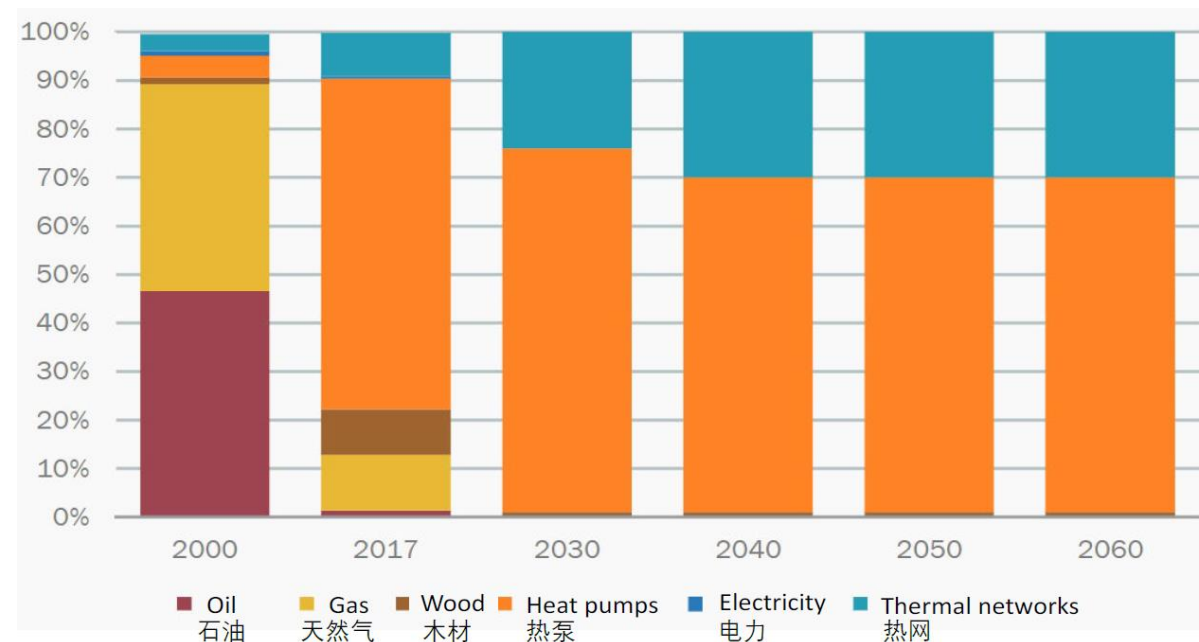
ENERGY PERSPECTIVES 2050+ HOW? FOCUS BUILDING PROGRAMME

利用分布式电热泵实现供暖系统的高度电气化
(热泵比例达到70%)

Electrification of heating system
(heat pumps 70%)

扩大热力网络用于区域供暖和制冷

Expansion of thermal networks
(district heating and cooling)



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ES 2050

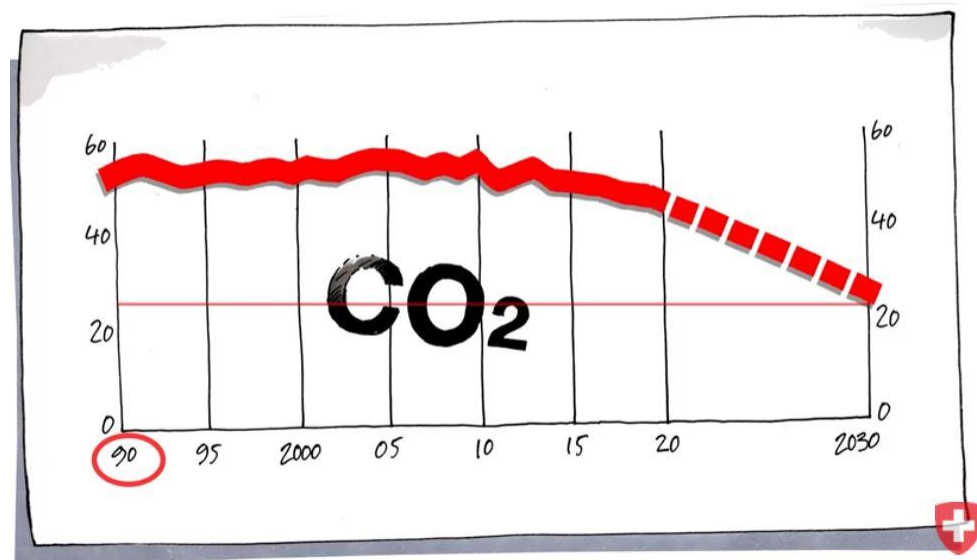
EP 2050+

Conclusion

- 1 到2050年，建筑行业的温室气体排放量有可能几乎净零**
Nearly net zero greenhouse gas emissions by 2050 in the building sector is possible.
- 2 建筑的节能策略也发挥了关键作用。这些措施包括提高电气设备、暖通设备和建筑围护结构的能源效率**
Increased energy efficiency for electrical devices, equipment and building envelope play an important role.
- 3 电热泵成为建筑供暖最普遍的系统，而区域供热系统是一个重要的补充，特别是对于高密度开发的区域和大型建筑**
Electric heat pumps become the most relevant system for space heat in buildings, while district heating systems are an important supplement, particularly in densely built-up areas and for larger buildings.

《二氧化碳法案》

SWISS CO2 ACT



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2020年：瑞士议会就修订后的《联邦减少温室气体排放法》（以下简称《二氧化碳法案》）达成一致

- 该法案将加强瑞士的气候政策
- 使政策工具与《巴黎协定》的国际承诺保持一致。

In 2020: a revised Federal Act on the Reduction of Greenhouse Gas Emissions (hereafter CO2 act)

- Strengthen the Swiss climate policy
- Bring the policy instruments in line with the international commitments of the Paris Agreement.

对建筑采取强制性的二氧化碳排放限制（新） Mandatory CO2 limits for buildings (new)

- 新建建筑不得再因使用化石燃料而排放二氧化碳
- New buildings may no longer emit CO2 from fossil fuels
- 既有建筑必须遵守每平方米每年20公斤二氧化碳的排放上限，且该值每五年减少5公斤
- Existing buildings are allowed to continue to emit up to 20 kg of CO2 per m² of living space per year. The value is reduced by five kg of CO2 in five-year steps

国家二氧化碳税法（继续并强化） Legal Instruments on Cantonal level

- 联邦政府以税收的形式对取暖燃油、天然气和煤炭等化石燃料征收二氧化碳税
- CO2 tax on fossil fuels such as heating oil, natural gas and coal in form of an incentive tax.
- 根据修订后的法律，征税额度从现在每吨120瑞士法郎最高提至210瑞士法郎
- CO2 tax will be raised the levy from 120 CHF to a maximum of 210 CHF per tonne of CO2.

征税使业主和租户减少使用燃油取暖，进而使用热泵、木材或太阳能取暖

- Building owners and tenants to use less heating oil or to heat with a heat pump, wood or solar energy

气候补贴（新）

Climate fund (new)

- 促进气候友好型投资，如资助区域供热网络
- Promote climate-friendly investments such as financing of district heating networks
- 支持建筑翻新，安装无二氧化碳排放的供热系统
- Building refurbishment and installation of CO2-free heating systems
- 所提供的补贴通常为总投资成本的20%至50%
- The subsidy granted is typically between 20 to 50% of the total investment cost.

燃料进口商的补偿义务（继续并强化）

Compensation obligation of fuel importers (continued and strengthened)

- 汽油和柴油的进口商必须用气候减缓措施抵消部分进口燃料引发的二氧化碳排放。
- Importers of petrol and diesel must offset part of the CO2 emissions of the imported fuels with climate mitigation measures.
- 在建筑领域，根据补偿义务为现有的抵消项目和方案提供资金，例如建设可再生的供暖系统，扩大区域供暖系统，提高建筑能源效率
- In the building sector, existing offset projects and programmes provide finance for e.g. renewable heating system, district heating systems, building energy efficiency etc.



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感谢
Thanks



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