



鞍钢集团节能技术服务有限公司

ANSTEEL ENERGY-SAVING TECHNOLOGY SERVICES COMPANY LIMITED

绿色鞍钢驱动者 低碳生活实践者

**Green Ansteel Driver
Low-Carbon Lifestyle Practitioner**

演讲人：冯占立

Speechmaker: Feng Zhanli





目 录 Contents



公司基本概况
Company Profile

技术解决方案
Technical Solutions



1. 公司基本概况 Company Profile

➤公司简介 Company Overview

2019.05

总资产30亿

Total assets: RMB 3 billion

2018.03

注册资本5亿

Registered capital: RMB 500 million

2013.06

注册资本1亿

Registered capital: RMB 100 million

2010.12

节能公司成立

Establishment of energy saving company

注册资本2000万

Registered capital: RMB 20 million

依托鞍钢集团，为钢铁行业绿色发展提供技术解决方案。
Based on Ansteel Group, we provide technical solutions for green development of iron industry.

●列入国家发改委第二批节能企业备案

Listed by SDRC as the 2nd documented energy-saving enterprises

●2016年节能服务产业创新企业

Rated as energy-saving service innovation company in 2016

●2016年与2017年节能服务产业重合同守信用企业

Rated as contract-honoring and creditable energy-saving company in 2016 and 2017

●2017年EMCA优秀会员单位

Excellent EMCA member in 2017





1. 公司基本概况 Company Profile

➤主要商业模式 Main business pattern

聚焦
Focus

LOCAR

延伸
Extend

EXCELD

•合同能源管理

Contract energy management

以节能效益分享型模式为业主降低能源费用，已实施62项。

Reduce the client's energy cost using energy benefit sharing, and have done 62 programs of this kind.

•合同环境服务

Contract environment service

以契约形式设定减排目标，为业主制定减排方案并提供相关服务，已实施13项。

Set emission reduction objectives under a contract and provide custom-made emission reduction proposal and service; have done 13 programs of this kind.

•售电业务

Electricity sales

完成售电业务准入，与鞍钢用户达成交易意向，年总电量9亿kWh。

Have completed permit application for electricity sales; reached an agreement with users, with annual electricity supply of 900 million kWh.

•碳资产管理

Carbon asset management

正在申办碳资产核查机构、开设碳交易账户，开展碳核查、碳交易等业务。

Apply for establishment of carbon asset auditor, open the carbon trade account, carry out carbon audit and trade, etc.



1. 公司基本概况 Company Profile

➤取得成果 Achievements

- 累计实施项目：246项
Accumulative implementation projects: 246
- 累计投资：60亿元
Accumulative investment: RMB 6 billion
- 累计创效：38亿元
Accumulative benefits: RMB 3.8 billion

累计节能减排量

Cumulative energy saving and carbon emission reduction

吨标煤 1201456 tce

CO₂ 3147804 t

SO₂ 662889 t

NO_x 46077 t



钢铁主流程工序节能减排

Main procedure of energy saving and carbon emission reduction in steelworks



1. 公司基本概况 Company Profile

- 主要项目业绩 (节能类)
- Main Reference Projects (energy saving)

序号 NO.	类别 Category	名称 Description	数量 Quantity	总投资 Total investment	累计节能效果 Cumulative energy saving effect
1	余热利用 Waste heat utilization	蒸汽余热利用 Waste heat utilization from steam	5	1.6亿元 160 million yuan	吨标煤 89210tce
		烟气余热利用 Flue gas waste heat utilization	8	2.7亿元 270 million yuan	吨标煤 325860tce
2	变频改造 Variable frequency modification	铁前工序变频改造 Variable frequency modification for the system before iron-making process	7	4500万元 45 million yuan	吨标煤 63350tce
		炼铁工序变频改造 Variable frequency modification for iron-making process	6	1200万元 12 million yuan	吨标煤 33220tce
		炼钢工序变频改造 Variable frequency modification for steelmaking process	8	2500万元 25 million yuan	吨标煤 43350tce
3	节水改造 Water-saving modification	水系统改造 Water system modification	11	6800万元 68 million yuan	吨标煤 40010tce



1. 公司基本概况 Company Profile

➤ 主要项目业绩 (环保类)

➤ Main Reference Projects (environment protection)

序号 NO.	类别 Category	名称 Description	数量 Quantity	总投资 Total investment	累计节能效果 Cumulative energy saving effect
1	烟气处理 Flue gas treatment	焦炉烟气脱硫脱硝 DeSO _x /DeNO _x of coke oven flue gas	21	5.3亿 530 million yuan	SO ₂ 18688t NO _x 33664t 粉尘 Dust 14336t
		烧结烟气脱硫 DeSO _x of sintering flue gas	70	13亿 1.3 billion yuan	SO ₂ 616800t 粉尘 152300万t Dust 1523 million t
		高炉煤气干法除尘 Dry dedusting technology for blast furnace gas	8	4亿元 400 million yuan	CO ₂ 230560t
		转炉煤气干法除尘 Dry dedusting technology for converter gas	2	1.2亿元 120 million yuan	CO ₂ 38784t
2	水处理 Water treatment	焦化废水处理 Coking wastewater treatment	6	5.2亿 520 million yuan	5000万m ³ 50 million m ³
		综合废水处理 Comprehensive wastewater treatment	3	1.2亿 120 million yuan	31500万t 315 million t
		冷轧废水处理 Cold-rolled wastewater treatment	5	1.6亿 160 million yuan	1000万m ³ 10 million m ³



1. 公司基本概况 Company Profile

➤主要在(拟)建项目

➤Main Projects (Proposed) under Construction

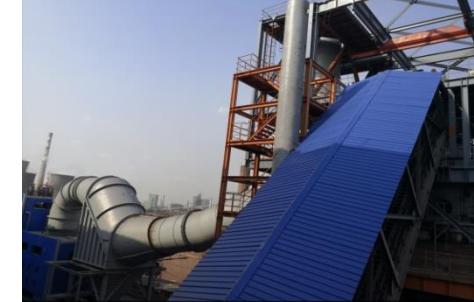
序号 NO.	类别 Category	名称 Description	数量 Quantity	总投资 Total investment	Estimated energy saving effect
1	节能项目 Energy-saving project	180MW CCPP项目 180MW CCPP project	3	25.5亿 2550million yuan	吨标煤 85000tce 创效281400万元 Benefits 2814 million yuan
		烧结机竖冷窑项目 Sintering machine shaft cooler project	1	1.1亿 110million yuan	24000tce/a 年净效益4200万元 Annual net benefits 42 million yuan
		变频改造项目 Variable frequency modification project	10	4500万 45million yuan	吨标煤 38820tce/a
2	环保项目 Environment protection project	烧结烟气脱硫脱硝 Sintering flue gas deNO _x /deSO _x	5	11.3亿 1130million yuan	SO ₂ 83400t/a NO _x 17600t/a 粉尘 Dust 26300t/a
		综合污水处理系统项目 Comprehensive sewage treatment system project	2	1.7亿 170million yuan	5000 t/h
		焦炉烟气脱硫脱硝 Coke oven flue gas deNO _x /deSO _x	20	6亿 600million yuan	SO ₂ 30660t/a NO _x 55230t/a 粉尘 Dust 23520t/a



2. 技术解决方案 Technical Solutions

➤ 节能技术解决方案 Energy-saving Technical Solutions

1. 余热利用技术 Waste heat utilization technology



技术名称
Technical name

富余蒸汽发电
Residual waste heat to power generation

烟气余热回收
Flue gas waste heat recovery

蒸汽余热回收（竖冷窑）
Steam waste heat recovery
(Shaft cooler)

技术特点
Technical Features

技术可靠、先进，应用范围广，改造难度小
Technically reliable and advanced with wide application; small modification difficulties

适用范围
Applicable scope

烧结、电炉、转炉等
Sintering, electrical furnace, converter, etc

连退炉、焦炉等
Continuous annealing furnace, coke oven, etc

烧结机
Sintering machine



2. 技术解决方案 Technical Solutions

➤ 节能技术解决方案 Energy-saving Technical Solutions

2. 变频改造 Variable frequency modification



技术名称
Technical name

铁前系统变频改造
Variable frequency modification for the system before iron-making process

炼铁系统变频改造
Variable frequency modification for iron-making system

炼钢系统变频改造
Variable frequency modification for steel-making system

技术特点
Technical Features

结构紧凑，维护方便，节能效益稳定
Compact structure, easy maintenance, and stable energy saving benefits

适用范围
Applicable scope

烧结、焦炉工序电机
Motor for sintering, coke oven process

高炉工序电机
Motor for Blast furnace process

转炉工序电机
Motor for converter process



2. 技术解决方案 Technical Solutions

➤ 环保技术解决方案 Environmental Technical Solutions

1. 烟气脱硫脱硝 Flue gas deSO_x/deNO_x



技术名称
Technical name

焦炉烟气脱硫脱硝
Coke oven flue gas deSO_x/deNO_x

技术特点
Technical Features

占地小，效率高，副产物可利用
Small footprint, efficient treatment and usable byproducts

适用范围
Applicable scope

焦炉高浓度烟气SO₂及NO_x
烟气净化及回收
Purification and recovery of coking high-concentration gases with SO₂ and NO_x



烧结烟气脱硫脱硝
Sintering flue gas deSO_x/deNO_x

投资少，效率高，运行成本低
Less investment, efficient deSO_x/deNO_x rate, low O&M cost

烧结高浓度烟气SO₂及NO_x
烟气净化及回收
Purification and recovery of sintering high-concentration gases with SO₂ and NO_x



2. 技术解决方案 Technical Solutions

➤ 环保技术解决方案 Environmental Technical Solutions

2. 尘气处理 Dusty gas treatment



技术名称
Technical name

转炉煤气干法除尘
Dry dedusting technology for converter gas

技术特点
Technical Features

能耗低，除尘效率高，无需污水处理
Low energy consumption, high dedusting rate, no need for sewage treatment

适用范围
Applicable scope

新建转炉煤气除尘和湿法除尘改造
New dedusting unit in converter and wet method dedusting modification



高炉煤气干法袋式除尘
Bag type dry dedusting technology for blast furnace gas

能耗低，TRT发电量高，降低焦比
Less energy consumption, higher TRT electricity generation, less coking ratio

新建高炉煤气除尘和湿法除尘改造
New dedusting unit in blast furnace and wet method dedusting modification



2. 技术解决方案 Technical Solutions

➤ 环保技术解决方案 Environmental Technical Solutions

3. 水处理 Sewage treatment



技术名称
Technical name

焦化废水处理
Coking wastewater treatment



钢厂综合废水处理
Comprehensive wastewater treatment
in steelworks

技术特点
Technical Features

成本低，达标排放，节水减排
Low cost, acceptable emission standard,
water saving and emission reduction

适用范围
Applicable scope

焦化废水系统
Coking wastewater system

投资少，总氮去除率高，产泥量少
Low operating cost, less investment, high
total deNOx rate and less mud production

钢铁综合废水系统
Comprehensive wastewater system
in steelworks

诚信聚合价值 绿色成就未来

Honesty amasses values and green development leads to the future achievement





鞍钢集团节能技术服务有限公司

ANSTEEL ENERGY-SAVING TECHNOLOGY SERVICES COMPANY LIMITED

THANKS !