From:	Brett Smith
To:	LNGStudy
Subject:	American Iron and Steel Institute Comments on 2012 LNG Export Study
Date:	Thursday, January 24, 2013 1:22:58 PM
Attachments:	FINAL - AISI Comments - 2012 LNG Export Study.pdf Interagency Analysis Final EITE resp 12-9-09.pdf

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Attached please find the comments of the American Iron and Steel Institute (AISI) on the 2012 LNG Export Study. An enclosure referenced in the comments is also attached.

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Thomas J. Gibson
President and Chief Executive Officer

VIA ELECTRONIC DELIVERY

January 24, 2013

Mr. John Anderson
U.S. Department of Energy (FE–34)
Office of Natural Gas Regulatory Activities
Office of Fossil Energy
Forrestal Building, Room 3E–042
1000 Independence Avenue SW
Washington, DC 20585

RE: Comments on 2012 LNG Export Study

Dear Mr. Anderson:

The American Iron and Steel Institute (AISI), on behalf of its U.S. producer member companies, submits these comments in response to the U.S. Department of Energy's (DOE) Office of Fossil Energy request for comments on the liquefied natural gas (LNG) export cumulative impact study (the LNG Export Study). The request for comments was set forth in a December 11, 2012 Federal Register notice appearing at 77 Fed. Reg. 29894. AISI takes no position on whether or to what extent natural gas prices may rise as a result of LNG exports, and provides comments only with respect to how the LNG Export Study analyzes the impact of any projected increase in natural gas prices on steel and other energy-intensive, trade-exposed (EITE) industries.

North American Steel Industry Background
AISI is comprised of 25 producer member companies, including integrated and electric furnace steelmakers, and 124 associate and affiliate members who are suppliers to or customers of the steel industry. AISI's member companies represent over three quarters of both U.S. and North American steel capacity. Steel and other manufacturing industries are the backbone of the U.S. economy. A strong manufacturing sector creates significant benefits for society, including good-paying jobs, investment in research and development, essential materials for our national defense, and high-value exports. A robust American steel industry is critical to ensuring a healthy domestic economy.

Last year, AISI commissioned a report by Professor Timothy J. Considine of the University of Wyoming on the industry's impact on the U.S. economy.[1] Professor Considine found that the steel industry's purchases of materials, energy, and supplies for the production of steel stimulate economic output and employment in a range of sectors across the economy. Steel's economic contributions are multiplied many times over, with Professor Considine finding that every $1

[1] Dr. Timothy J. Considine, "Economic Impacts of the American Steel Industry," March 2012. Available at: http://www.steel.org/en/sitecore/content/Global/Document%20Types/News/2012/Americas%20Steel%20Industry%20Is%20Leading%20Manufacturing%20Out%20of%20the%20Recession.aspx

increase in sales by our sector increases total output in the U.S. economy by $2.66. In aggregate, the steel industry accounts for over $101 billion in economic activity and supports more than one million jobs in the United States.

Steel Industry and Natural Gas

The increased production of natural gas from shale formations in the United States is bringing about substantial benefits for the domestic steel industry. It is also allowing other sources of demand for natural gas to emerge from the electric generating sector, the transportation sector, and the manufacturing sector at-large. The supply and demand equilibrium for America's natural gas resource is very dynamic and its future is still evolving. This fact has important implications for policymakers that are not yet fully understood.

The production of steel is inherently energy intensive, as energy typically amounts to 20% of the cost of making steel. While the domestic steel industry has reduced its energy intensity by 27% since 1990, steel-making remains an energy-intensive process.[2] As a result, the steel industry consumes substantial amounts of natural gas, electricity, and coal and coke to make its products. In 2011, our domestic industry consumed 327 billion cubic feet (bcf) of natural gas.[3] The increased availability and affordability of domestic natural gas has increased the international competitiveness of domestic steelmakers.

While affordable natural gas is presenting all steelmakers with new options for how to make their products more efficiently, it is also providing expanded markets for steel pipe and tube products that are essential to the production and transmission of natural gas. The industry is also developing new options and technologies for the production of steel as a result of natural gas availability. Indeed, the discovery and production of shale-based natural gas is leading to significant investments, plant expansions, and job creation in manufacturing sectors across the U.S. economy, including in steel. Moreover, the steel industry's increased use of natural gas is also helping to grow the market for domestically produced natural gas. One integrated steel company calculates that every ton of domestically produced steel pipe consumes about 7 million BTUs of natural gas. By contrast, a ton of imported steel requires no domestic natural gas and creates no domestic manufacturing jobs.

NERA Study

Given the benefits of shale-based natural gas currently being realized by the domestic steel industry, AISI believes it is important that the potential impact of liquefied natural gas (LNG) exports be thoroughly examined for manufacturers in general and the steel industry in particular. The recent analysis performed by NERA Economic Consulting for the DOE entitled *Macroeconomic Impacts of Increased LNG Exports from the United States* (NERA Study) is deficient in such an evaluation, as its scope is simply too limited to allow for a full range of economic conclusions.

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[2] AISI Statistics
[3] *Ibid*.

Of particular concern to AISI is the reliance of the NERA Study on a 2009 federal interagency analysis of proposed climate change legislation (Interagency Report)[4] as the sole basis for its EITE analysis, in place of any actual analysis of the impact of LNG exports on EITE industries. In AISI's view, it is inappropriate to assume that an analysis of the impact of the proposed legislation, which would have established a cap-and-trade program to limit greenhouse gas emissions, is in any way relevant to an analysis of the impact of LNG exports.

In addition, several fundamental flaws in the Interagency Report make it an unsuitable basis for an analysis of the impact of LNG exports on EITE industries. As detailed in the attached letter from the American Materials Manufacturing Alliance, a coalition of EITE industry associations, the Interagency Report's flaws rendered it ineffective in accurately examining the impact of the climate change legislation then under consideration.[5] First, the Interagency Report underestimated the likely energy price impact of the proposed cap-and-trade system on EITE industries. In particular, it did not account for the likelihood that coal-intensive utilities serving EITE industries would be under allocated emission allowances, thus requiring these utilities to purchase additional allowances to meet their direct emissions obligations. The cost of these additional allowances likely would have been passed on to EITE industries in the form of higher energy prices.

Second, the Interagency Report improperly assumed that EITE industries could reduce the energy intensity of their respective manufacturing processes by 20-45% from 2009 levels by the year 2020. This faulty assumption in the Interagency Report led to the conclusion that the number of allowances to be allocated to EITE industries would have been sufficient to offset the negative competitiveness impact of the proposed cap-and-trade system on these industries.[6] This analysis failed to account for the substantial reductions in energy use by various EITE industries that had already been achieved over the past two decades. As noted above, energy intensity in the domestic steel industry has been reduced by 27% since 1990. In order to make further significant improvement in energy efficiency in the steel industry, new breakthrough technologies must be developed and deployed, and cannot simply be assumed. Finally, the Interagency Report did not recognize the 15% allowance cut required to meet Congressional Budget Office (CBO) scoring rules, further reducing EITE allowance sufficiency under the proposed legislation.

Simply put, the flawed Interagency Report from 2009 cannot serve as a substitute for an actual analysis of the potential impact of LNG exports on EITE industries, including steel.

Recommendations

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[4] U.S. Government Agencies, "The Effects of H.R. 2454 on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries: An Interagency Report Responding to a Request from Senators Bayh, Specter, Stabenow, McCaskill, and Brown," December 2009.
[5] American Materials Manufacturing Alliance, Letter to Senators Bayh, Specter, Stabenow, McCaskill, and Brown, December 10, 2009.
[6] U.S. Government Agencies, p. 20

Section 3 of the Natural Gas Act of 1938 directs the Federal Energy Regulatory Commission (FERC) and the Department of Energy to determine whether a proposed terminal for the importation or exportation of LNG is "consistent with the public interest."[7] However, the statute does not provide substantial details as to the criteria which should be used to make this determination. Given the importance of affordable and available natural gas to the EITE manufacturing sectors, including steel, it is essential that a full and accurate analysis of the impact of LNG exports on each of these industries be undertaken.

AISI recommends that the Department and FERC conduct a separate analysis or analyses of the likely impact of LNG exports under different supply and demand scenarios for each of the major EITE manufacturing sectors, including the steel industry. Such analysis should factor growing natural gas demand by the energy and transportation sectors and should consider economic opportunities and challenges facing all of these industries in 2013, taking into account recent investments by each industry that were premised on the availability of increased domestic supply of affordable natural gas. The analysis should also include a thorough evaluation of the impact of potential federal regulatory restrictions on shale-based natural gas development, which could limit natural gas supply and could limit key market opportunities for EITE industries. Such analysis would be a more appropriate basis for determining the public interest of proposed LNG exports than the NERA Study.

The American Iron and Steel Institute appreciates this opportunity to comment on the recent NERA LNG export report. We look forward to continuing to work with the Department of Energy to evaluate the potential impact of LNG exports on energy-intensive, trade-exposed manufacturing sectors like steel.

Sincerely,

Thomas J. Gibson
President and CEO

[7] 15 USC § 717b

AMERICAN MATERIALS MANUFACTURING ALLIANCE

The Honorable Evan Bayh
The Honorable Arlen Specter
The Honorable Sherrod Brown
The Honorable Claire McCaskill
The Honorable Debbie Stabenow
United States Senate
Washington, DC 20510

Dear Senators:

The Effects of HR2454 on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries [the "Interagency Analysis"] can be read in a positive light if one focuses on the statement "we consider this report to be a first step in the Administration's engagement with stakeholders…" as this signals the beginning of a process leading to getting climate policy right for energy-intensive, trade-exposed industries [EITEs]. On the other hand, if one focuses on the statement "the modeling also finds that the allocations to LDCs and "trade-vulnerable" industries can eliminate almost all—and, in some cases, more than all—of those cost impacts…" and concludes the competitiveness issue is solved by the measures in Waxman-Markey, there can only be negative consequences for both climate policy and energy-intensive, trade-exposed industries.

The Interagency Analysis concludes, on a theoretical basis, HR2454 can effectively eliminate the competitiveness impacts of US climate legislation on energy-intensive, trade-vulnerable manufacturers. To achieve that desired outcome all the variables and moving parts built into the design of the Waxman-Markey program have to work exactly right. Design mistakes can have enormous consequences for manufacturers and the millions of Americans whose jobs depend on a competitive and healthy domestic manufacturing sector. For example:

- From the EPA analysis [by state] and the Minnesota Power analysis [by utility company; both attached], we know that coal-intensive utilities, typical of those operating in Michigan, Indiana, Ohio, Pennsylvania and Missouri, will be severely under-allocated. These are generally states where EITEs operate. This means they will have to buy allowances just to meet their *direct emissions* obligations. This also means there will be no allowances left over to use to offset the cost of replacing coal capacity with gas or wind [which includes new transmission infrastructure for wind and solar]. All of these substantial costs will be passed on to EITEs as much higher energy prices. Any program to regulate greenhouse gases must mitigate against the impact of these uncompensated energy costs or EITEs will become uncompetitive and leakage is certain.

- The suggestion EITEs can lower energy intensity 20-45% by 2020 is a key assumption leading to the conclusion the EITE allowances are sufficient. This

assumption is false. EITEs have reduced energy use substantially from 1990-2007 and most are on the flat part of the curve (e.g., steel energy intensity is down 33% from 1990 levels, chemicals absolute emissions are down 16% vs. 1990; aluminum CO2 equivalent emissions are down 50% from 1990; paper's energy intensity is down 11% from 1990-2006). Explanatory charts are attached.

- The Interagency Report does not recognize the 15% allowance cut required to meet CBO scoring rules, further reducing LDC and EITE allowance sufficiency.

The idea LDC and EITE allowances are sufficient is the foundation of the conclusion of the Interagency Analysis, i.e., "… that the allocations to LDCs and "trade-vulnerable" can eliminate almost all—and, in some cases, more than all—of those cost impacts…"

The Interagency Analysis recognizes the challenges of implementing such a complex emissions trading program have not been "fully considered." An example is the enormous amount of work still needed to devise an allowance distribution system that does not unfairly penalize competitive manufacturers and result in production migration within and outside of the US. The potential for a system to unfairly create "winners and losers" in the marketplace must be avoided at all cost. Similarly, we would like to delve deeper into the assumptions leading to a $20/t carbon price to determine their feasibility in comparison to modeling that has yielded higher carbon cost.

The Waxman-Markey measures for EITEs are inadequate. The absence of consideration of all of the costs that EITEs will confront in a carbon capped economy and the absence of a fair allowance distribution system call into question the ability to properly design an economy-wide cap and trade mechanism. Further, a poorly designed program will impact more than just our direct employees [the employment levels used in the Interagency Analysis] as the men and women whose businesses depend on healthy EITE sectors number in the millions.

More work, the Interagency Analysis says, will need to be done to improve assessments of competitiveness impacts and to address various implementation challenges presented by output-base allocations. We agree. An analysis of cost and job impacts on EITEs using proper and practical assumptions regarding LDC allowances, EITE efficiency and other parameters will tell the true story… a story that could lead to a climate policy construct that lowers CO2 emissions while growing manufacturing jobs and encouraging the development of transformational industrial processes.

EITEs look forward to the next steps with the Administration to build on our long record of developing policy solutions that help create jobs and reduce emissions.

Aluminum Association
American Chemistry Council
American Forest and Paper Association
American Iron and Steel Institute
The Fertilizer Institute

Attachment I

EPA was asked to provide technical assistance on the following questions. EPA's responses are provided below the questions.

Do you have any analysis of the effects of distributing allowances to utilities based on W-M formula vs. based 100% on emissions vs. 100% load (any regional/state break-down; any calculations of %age of emissions covered)? I understand EEI might have some of this too. I believe this is what my boss discussed with the Administrator, and is the issue my boss is hearing a lot about from the state. And what is the Agency's read on often over-looked insertion before House floor vote that appears to prevent a utility from receiving more allowances than its emissions? Does EPA agree that this language trumps the formula and would in fact prevent windfalls for major energy producers of low-carbon emitting sources (e.g., nuclear)? There seems to be a split interpretation of this restriction.

EPA RESPONSES:

Allocation Estimates

Estimates for state allocations are included in Table 1. Note that these are rough estimations based on the best currently available data, described in more detail below. Actual allocations will be different, since the owner or operator of each LDC has the ability to define their baseline as a period of any 3 consecutive years from 1999-2008. Furthermore, this analysis does not consider the impact of new coal generation built prior to 2013.

Only 2012 allocations are presented, as the following years will change proportionately (absent updating based on number of customers). In 2012, LDC allocations are equal to 43.75% of the total allowance pool after 1% of allowances are withheld for strategic reserve auctions. We assume the maximum allocation to merchant coal generators (10% of LDC allocations, phasing out over time), and withhold that value from these estimates.

Delivery estimates are based on sales reported in EIA 861, taking the average of 2006 and 2007 total retail sales by distribution company.

Emissions were estimated using the average of 2006 and 2007 EIA 861 retail sales by delivery state and applying EPA eGRID regional emission factors. These emission values are rough estimates, since the emission factors are based on large geographic regions (see figure 1), and were calculated using available 2005 emission and generation data.

Prohibition against excess distributions in Sec. 783(b)(4)

The language prohibiting distribution of more allowances than "necessary to offset any increased electricity costs to [the electric distribution company's] retail ratepayers, including increased costs attributable to purchased power costs, due to enactment of this title" does take precedence over, and sets a limitation on each electric distribution company's [LDC's] annual distribution of allowances under, the language establishing an allowance distribution methodology based on LDC emissions and deliveries. This is because the prohibition language states that the prohibition applies "notwithstanding" the distribution methodology language.

However, the prohibition provision would be very difficult to implement because it would require a great deal of speculation. First, the Administrator would need to determine (either through projection before the year for which allowances are distributed or through actual data after the year for which allowances are distributed) the total cost of the electricity distributed to its customers each year starting with 2012. Second, the Administrator would need to estimate (again either up front or after the year of the allowance distribution) what each LDC's total cost of electricity would be each year in the absence of the ACES GHG cap and trade program. Total electricity costs would depend on a number of factors that would have to be projected, including the sources and amounts of purchased power, the mix of generation of purchased and LDC generated power, fuel costs, technology advancements (e.g., in generation), transmission constraints, and electricity demand. Any attempt to remove the impact of the cap and trade program on these factors and thus on total electricity costs would be speculative at best. The Administrator might also have to consider the ability of each LDC to pass through these costs to its customers. The difference between these two total cost figures for a given year, divided by the market value of an allowance for that year, would be the limitation on the amount of allowances that an LDC could be distributed for that year. The limitation could be implemented by limiting up front the distribution or by requiring the LDC to return later to the Administrator any amount of allowances in excess of the limitation. The excess allowances would be redistributed to other LDCs, but an iterative process would be required to ensure that the redistribution of excess allowances would not increase any LDC's total allowance distribution above that LDC's limitation. EPA notes that the prohibition provision could reward higher costs to LDC retail ratepayers in that the higher the level of an LDC's costs, the higher the limitation on the LDC's allowance distribution.

Table 1. Allocation Estimates by Delivery State

		2012 Allocation (Million Tons)					2012 Allocation (Million Tons)		
Delivery State	Annual Emissions Estimate (Million Tons)*	HR 2454 Formula (50/50 Emission /Load)	100% Emissions-Based	100% Load-Based	Delivery State	Annual Emissions Estimate (Million Tons)*	HR 2454 Formula (50/50 Emission /Load)	100% Emissions-Based	100% Load-Based
AK	3	3	3	3	MT	6	6	5	7
AL	62	47	50	44	NC	67	58	54	62
AR	26	22	21	23	ND	10	7	8	6
AS	0	0	0	0	NE	23	16	19	13
AZ	45	36	36	36	NH	5	5	4	5
CA	87	99	70	127	NJ	41	36	33	39
CO	43	30	35	24	NM	14	11	11	11
CT	14	14	11	16	NV	19	16	15	17
DC	6	5	5	6	NY	57	58	46	69
DE	6	5	5	6	OH	110	82	89	76
FL	138	111	112	111	OK	41	30	33	27
GA	92	70	74	66	OR	20	20	16	23
GU	1	1	1	1	PA	84	70	68	72
HI	8	6	7	5	PR	14	11	11	10
IA	36	25	29	21	RI	3	3	3	4
ID	10	9	8	11	SC	42	37	34	39
IL	107	78	87	70	SD	9	6	7	5
IN	75	56	61	52	TN	72	54	58	51
KS	35	24	29	19	TX	205	165	166	164
KY	62	47	50	44	UT	11	11	9	13
LA	42	36	34	38	VA	61	51	49	53
MA	24	23	19	27	VI	1	0	0	0
MD	35	29	28	31	VT	2	2	2	3
ME	5	5	4	6	WA	35	35	28	41
MI	77	57	62	52	WI	55	39	44	34
MN	56	39	45	33	WV	23	17	19	16
MO	70	49	57	40	WY	8	7	7	7
MS	29	23	24	23	Total	2,234	1,802	1,802	1,802

* Estimate calculated using 2006-2007 retail sales and eGRID emission factors

Figure 1. eGRID Emission Factor Regions

Sampling of Utilities for Waxman Markey Impact Comparison

Utility (Sampling)	2006 Tonnes CO_2 per MWH	2006 Reported Emissions (1000s of tonnes CO_2) Purchased Energy Not Included	2012 Estimated Free Allowance Allocations (1000s) Merchant Power Not Included	Percent coverage of 2006 historic emissions	2012 Market Value of First Year Surplus or (Shortfall) $ Millions at $15 per tonne	2012 Benefit or (Shortfall) $/MWH
PG&E	0.013	430	7,384	1717%	$ 104	$3.13
Exelon	0.068	10,386	36,971	356%	$ 398	$2.61
Entergy	0.264	30,457	36,024	118%	$ 84	$0.73
Florida P&L	0.332	46,978	47,086	100%	$ 2	$0.01
Constellation	0.346	16,948	16,765	99%	($ 3)	($0.06)
PSEG	0.360	22,583	21,795	97%	($ 12)	($0.19)
Dominion	0.500	51,693	41,151	80%	($ 158)	($1.53)
Westar	0.708	18,422	12,303	67%	($ 92)	($3.54)
Wisconsin Energy	0.722	20,921	13,841	66%	($ 106)	($3.66)
Southern	0.740	149,238	97,704	65%	($ 773)	($3.83)
Xcel	0.768	61,402	39,512	64%	($ 328)	($4.11)
DTE Energy	0.785	33,663	21,456	64%	($ 183)	($4.27)
AEP	0.826	154,561	96,419	62%	($ 872)	($4.66)
MidAmerican	0.860	65,438	40,126	61%	($ 380)	($5.00)
ALLETE (Purchased Power Included)	0.986	10,647	6,185	58%	($ 67)	($6.21)
Great Plains	0.995	20,412	11,817	58%	($ 129)	($6.29)
ALLETE (unadjusted)	1.036	6,278	3,580	57%	($ 40)	($6.60)
Basin Electric Coop	1.101	18,102	10,100	56%	($ 120)	($7.32)
Great River Energy	1.130	11,714	6,475	55%	($ 79)	($7.62)

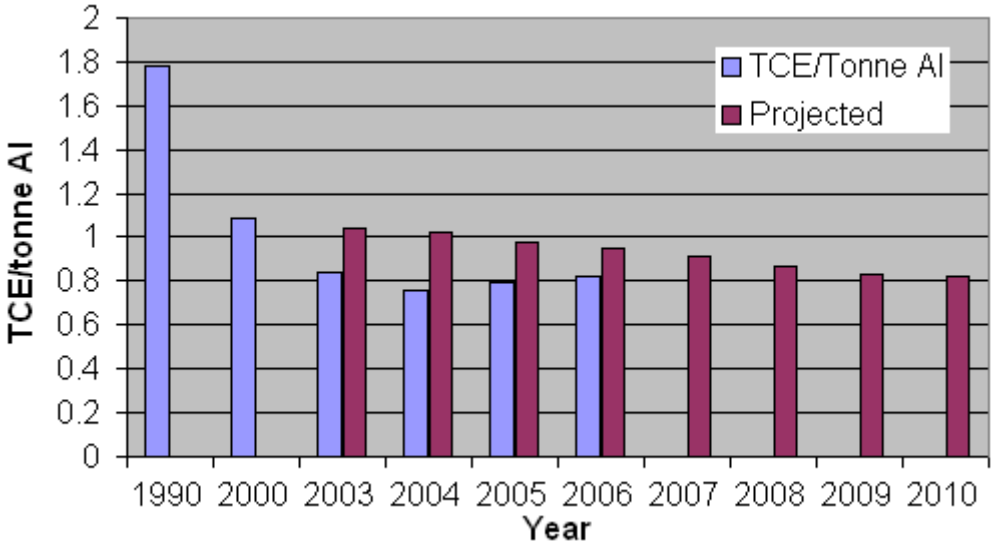
http://www.nrdc.org/air/pollution/benchmarking/default.asp

Reference: Data derived from PSEG/NRDC/CERES Top 100 Utility Emissions 2006. Cost of WM renewables and power purchase emissions not included.

Att't II

MN Power Analysis

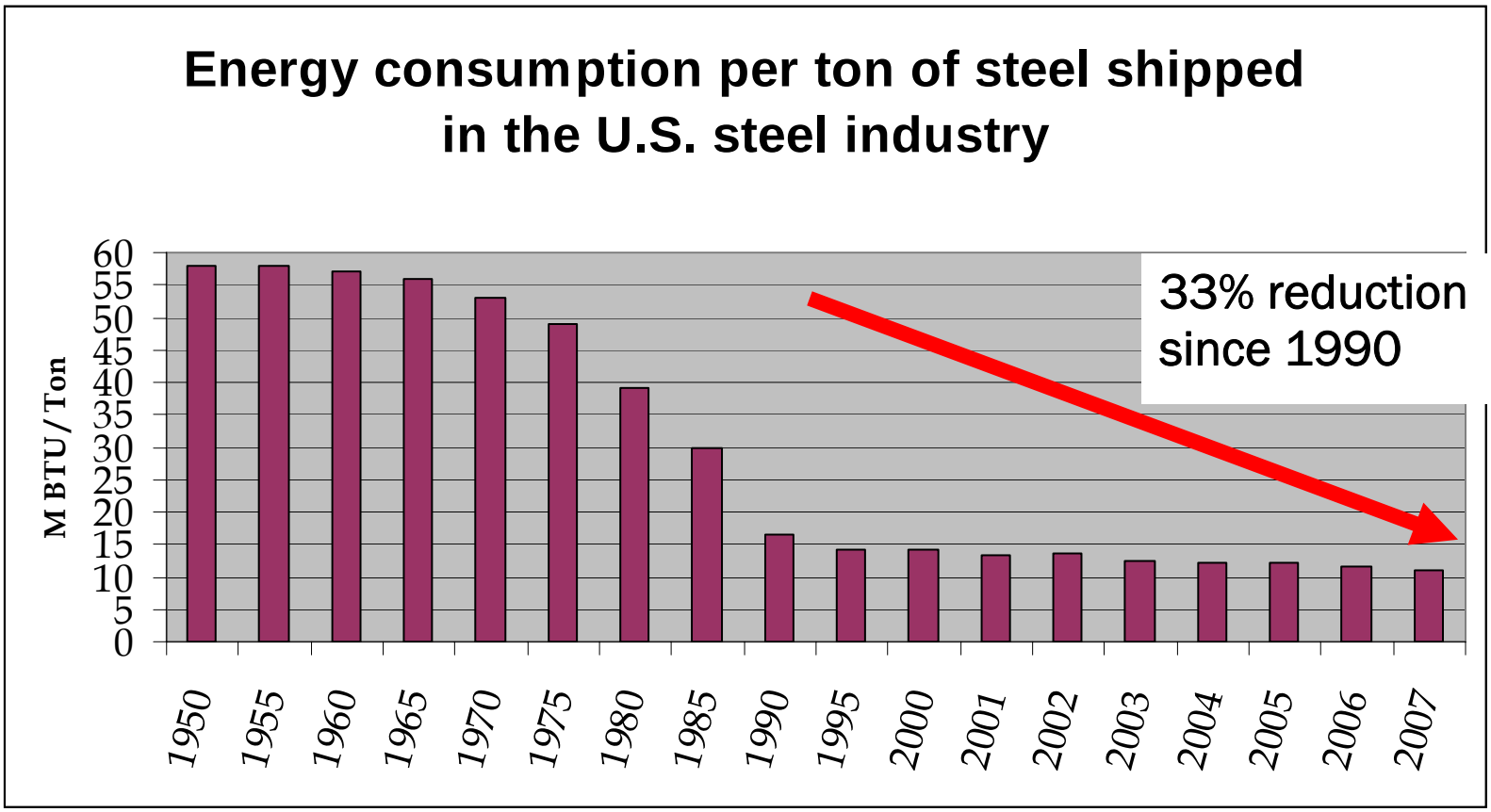
Attachment III
DOE's Climate VISION program – Primary Aluminum



TCE/tonne Al = Tonne of Carbon Equivalent per tonne Al

Note the flattening of the actual data and the projection. Source—Climate VISION Website

Attachment IV
Steel Industry Energy Efficiency Improvement



Note the flattening of the curve during the 2000's as performance approaches physical limits.

Source: AISI Statistics