

BUSINESS

MONEY • ENERGY • TECHNOLOGY • WORK

Markets

▼ TSX Composite	25.98	9038.49
▼ Dow Jones	5.10	10585.12
▲ Nasdaq	5.34	2143.57
▼ TSX Venture	37.08	1718.77

Currency

▼ Cdn dollar	0.75	83.73 US
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Energy

▼ West Texas	2.24	43.26 US
▼ NYMEX gas	0.602	6.811 US
▲ Alta. electricity	61.99	95.39 Cdn

COMING SATURDAY

The market's frenzies and foibles are revealed in John Morrissy's **Bulls and Bears**

COMING SUNDAY

David Parker is the Herald's man about town, digging out the stories behind the movers and shakers of Calgary's business world

THIS
WEEK
BUSINESS:

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FRIDAY, DECEMBER 3, 2004

The Alberta

55

Calgary-based companies trading on the TSX

Oil and Gas

Company	Close	Net Chg
Imperial Res	47.24	-2.65
Imperial Energy	10.35	-0.30
Imperial Energy	64.74	-1.94
Imperial Energy	32.01	-0.89
Imperial Energy	49.81	-2.34
Imperial Energy	45.20	-2.10
Imperial Energy	25.67	-1.33
Imperial Energy	74.35	-1.10
Imperial Energy	64.58	-2.36
Imperial Energy	44.94	-3.06
Imperial Energy	75.25	-2.05
Imperial Energy	38.61	-1.54
Imperial Energy	31.35	-1.45
Imperial Energy	42.14	-0.96

Industrials

Company	Close	Net Chg
Imperial NV	57.55	+0.24
Imperial	21.86	-0.10
Imperial	22.27	-0.45

ENCANA DISMISSES KYOTO



Energy stocks slide as oil tumbles

Program selling adds

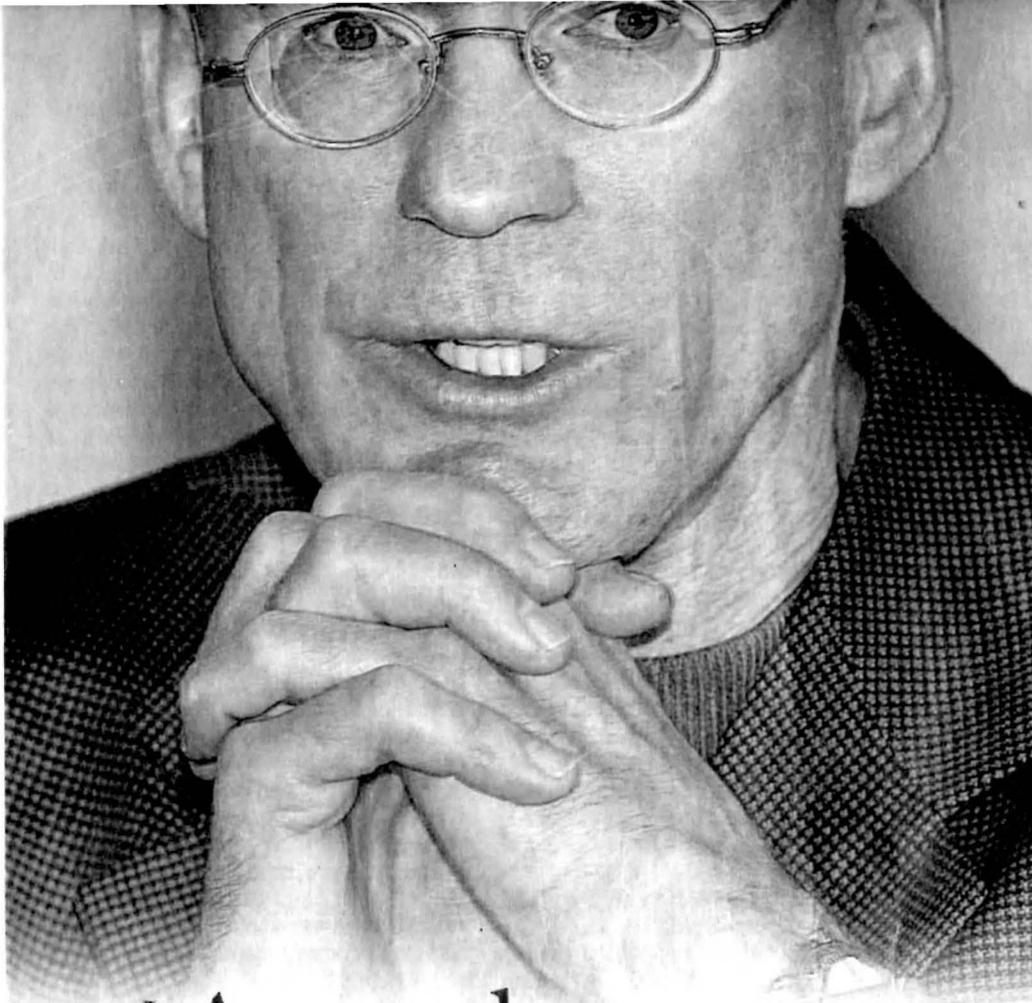
Closing price

Crude's Thursday close was the lowest in two months

est Pete	74.35	-1.10
anada	64.58	-2.36
khstn A	44.94	-3.06
la	75.25	-2.05
Energy	38.61	-1.54
n Enrg	31.35	-1.45
il Sands	42.14	-0.96

Industrials		
	Close	Net Chg
ny	57.55	+0.24
NV	21.86	-0.10
ail	38.27	-0.46
e	57.85	+0.85
k Sys	20.85	-0.40
Res	23.00	-0.78
Grp A	10.25	-0.25
n Wrld	6.59	-0.20
Trnsprt	44.00	-0.50
ystems	38.25	-0.65
Drill	70.70	-3.85
ommB NV	22.31	+0.51
	12.00	-0.06
ta	18.04	+0.26
anada	29.05	-0.10
Well	54.61	-1.64
t Air	12.57	+0.41

Trusts		
	Close	Net Chg
ny	16.75	-0.22
rg Tr un	21.60	-1.01
incm	12.78	-0.30
Enrg un	16.98	+0.43
k un	17.35	-0.05
alk REIT	26.06	-0.94
sta Enrg	11.00	-0.04
Pwrlnc	59.36	-1.99
Sands	39.53	-1.31
s Res un	81.75	-3.66
Cdn un	10.85	+0.05
go LP	8.87	+0.06
lms	21.61	-0.70
a Incm un	13.10	-0.18
a Ppln	18.34	-0.26
wthEnBun	14.88	-0.26
nd un	25.06	-0.70
/est En	10.71	-0.21
nt un	4.86	-0.17
ost un	28.00	-1.03
Plus un	34.23	-0.17
pPwr LP	18.99	-0.35
on un		



Accord just 'rhetoric': Gwyn Morgan

PAUL HAAVARDSDRUD
CALGARY HERALD

Despite Russia's decision to ratify the Kyoto protocol last month, EnCana Corp. boss Gwyn Morgan on Thursday brushed off any implications the treaty's

world in front of us that we know of," Morgan said.

What's more, he also believes much of the fuss and finger pointing of the global warming debate has been misdirected.

"By far the largest issue facing the world in terms of car-

Dean Bicknell, Calgary Herald
"There is no carbon-free world in front of us that we know of," says EnCana CEO Gwyn Morgan.

carbon dioxide.

"I think the world will have to be nuclear," Morgan said.

"But not in my lifetime."

More pressing for EnCana is the outlook for natural gas prices.

Following the multi-billion-dollar sale of its British oil assets, fully 75 per cent of EnCana's production now comes from natural gas, a portion the company expects to increase over the next few years.

In simple terms, that means if gas prices stay high, as con-

oil tumbles

Program selling adds to crude's fall

GEOFFREY SCOTTON
CALGARY HERALD

The carnage in world crude prices deepened Thursday, taking its toll on Canadian oil stocks as the Toronto Stock Exchange's oil and gas index plummeted more than 56 points — or three per cent.

A sea change in sentiment around the outlook for supply that took hold Wednesday tightened its grip, cutting \$2.24 US per barrel or nearly five per cent from the near-month oil futures contract on the New York Mercantile Exchange, which closed at \$43.25 US, its lowest close since Sept. 10.

"When you're looking at the sentiment and the emotion that comes with it, that can change on a dime," said Scotia Capital's managing director of equity trading, Fred Ketchen. "Quite often, it does."

Speculators, who had bid oil higher during the fall and helped to lift crude to a record close of \$55.17 US per barrel on Oct. 26 abandoned ship as the crude price broke through sev-

Closing price

Crude's Thursday close was the lowest in two months



Source: Bloomberg

eral technical markers — including a Nov. 15 low of \$45.25 US per barrel — and sell programs kicked in.

"The strength of the price decline we've seen reflects the influence of the technical models being used by the large speculative funds," said Judith Dworkin, chief economist at Ross Smith Energy Group Ltd.

"Once WTI (West Texas Intermediate oil) breached a key retracement level, that triggered more selling."

The original selloff was prompted by a series of reports this week of higher-than-expected oil product stocks — particularly heating oil — in the U.S.

SEE OIL, PAGE E10

TECHNOLOGY

A computer that can feel your pain

MARKETING

Adidas

cdn un	81.75	-3.66
ago LP	10.85	+0.05
lins	8.87	+0.06
a Incm un	21.61	-0.70
ia Ppln	13.10	-0.18
wthEnBun	18.34	-0.26
nd un	14.88	-0.26
Vest En	25.06	-0.70
nt un	10.71	-0.21
lost un	4.86	-0.17
+Plus un	28.00	-1.03
aPwr LP	34.23	-0.17
on un	18.99	-0.35

just 'rhetoric': Gwyn Morgan

PAUL HAAVARDSRUD
CALGARY HERALD

Despite Russia's decision to ratify the Kyoto protocol last month, EnCana Corp. boss Gwyn Morgan on Thursday brushed off any implications the treaty's hard-won legal clout may carry for Calgary's oilpatch.

The world, he said, still runs on oil, a reality that's not going to change due to an international agreement.

"First of all I don't think it's political reality, it's political rhetoric," Morgan told the Calgary Herald's editorial board.

EnCana, the largest energy company in Canada, was at the forefront of lobby efforts to convince Ottawa to pass on the environmental treaty, which gained the final support needed to become legally binding with Russia's signature.

Regardless of Kremlin support, Morgan suggested it's a pipe dream to think the accord is going to slow the global petroleum economy.

Powered by emerging forces such as China and India, some forecasts put world oil use jumping 50 per cent over the next 20 years, he noted, meaning oil and gas will be as relevant decades from now as it is today.

"There is no carbon-free

world in front of us that we know of," Morgan said.

What's more, he also believes much of the fuss and finger pointing of the global warming debate has been misdirected.

"By far the largest issue facing the world in terms of carbon dioxide (emissions) isn't oil and gas — it's coal," he said.

Under the terms of the Kyoto protocol, Canada will be called on to cut carbon dioxide emissions by six per cent below 1990 levels by 2012.

Written assurances from Ottawa that no industry will bear undue economic harm due to those requirements have served to calm oilpatch fears related to the treaty.

Even if Kyoto did carry ominous tidings for the petroleum industry, EnCana, the largest natural gas producer in North America, would be better able to weather the storm than many other resource companies, he said.

Burning natural gas releases fewer of the carbon dioxide emissions behind global warming than other options such as coal or oil.

Indeed, he noted the only viable emissions-free choice that can generate enough energy to meet the world's current needs is nuclear power, which carries with it a slate of issues beyond

world in front of us that we know of," says EnCana CEO Gwyn Morgan.

carbon dioxide.

"I think the world will have to be nuclear," Morgan said.

"But not in my lifetime."

More pressing for EnCana is the outlook for natural gas prices.

Following the multi-billion-dollar sale of its British oil assets, fully 75 per cent of EnCana's production now comes from natural gas, a portion the company expects to increase over the next few years.

In simple terms, that means if gas prices stay high, as consensus opinion expects, EnCana wins. If prices fall, however, the company will feel the squeeze longer and harder than its more diversified counterparts.

It's a bet Morgan has no problem making.

"I probably have the least worries of any CEO in the oil and gas business," he said.

Others note that EnCana's strategy, while well-received by the investment community during a recent flurry of corporate presentations, still carries risks.

"I would definitely, if I were him, be worried about the price of the commodity, particularly over the long term," said Jim Hall, a fund manager at Mawer Investments in Calgary.

"The other (worry) would be execution. This has become a manufacturing operation, that's the theory, and every manufacturing operation has operational issues."

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SEE OIL, PAGE E10

TECHNOLOGY

A computer that can feel your pain

Soon they will
um, ah, even
laugh and sigh

MICHAEL STROH
THE BALTIMORE SUN



Herald Archive, Bloomberg

IBM is looking for ways to make computers emotional.

N.Y., which plans to introduce a version of its commercial speech synthesizer that incorporates the new technology.

It is also one of the hardest problems to solve, says Sundaram, who has spent months tweaking his laugh synthesizer. And the sound? Mirthful, but still machine-made.

SEE SPEECH, PAGE E10

Shiva Sundaram spends his days listening to his computer laugh at him. Someday, you may know how it feels.

The University of Southern California engineer is one of a growing number of researchers trying to crack the next barrier in computer speech synthesis — emotion. In labs around the world, computers are starting to laugh and sigh, express joy and anger, and even hesitate with natural ums and ahs.

Called expressive speech synthesis, "it's the hot area" in the field today, says Ellen Eide of IBM's T.J. Watson Research Center in Yorktown Heights,

From: **120** * Non-stop. One way to:

