

SENATE OF PENNSYLVANIA
PUBLIC HEARING
IMPACT OF GASOLINE ADDITIVES ON FUEL SUPPLIES
& THE ENVIRONMENT

HEARING OF THE SENATE ENVIRONMENTAL RESOURCES AND
ENERGY COMMITTEE

Before: SENATOR MARY JO WHITE, Co-Chairman
SENATOR RAPHAEL MUSTO, Co-Chairman
SENATOR EDWIN ERICKSON
SENATOR JOHN PIPPY
SENATOR ANTHONY WILLIAMS
SENATOR J. BARRY STOUT

Staff: Patrick Henderson, Executive Director
Richard Fox, Executive Director

Date: April 5, 2006, 9:06 a.m.

Place: Room 8E-A, East Wing
Capitol Building
Harrisburg, Pennsylvania

By: Debra L. Heary, RPR
Notary Public

2

1 SENATOR WHITE: Good morning. I'll call to
2 order this meeting of the Environmental
3 Resources and Energy Committee. There will not
4 be any votes today. This is an informational
5 session for the benefit of the members of the

6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11

And we want to hear from interested parties concerning the impact of gasoline additives on fuel supplies and the environment.

There's been a lot of talk about MTBE and ethanol, and we may be making some decisions about these issues in the future. And I think it is incumbent upon this group to inform ourselves about the various issues.

We will please ask speakers to stay as close to schedule as possible and leave a little bit of time for questions, because I'm sure there will be some questions.

Session is scheduled to start at 11. We rarely start on time but usually close to that time.

So with that, Senator Musto, do you have any opening remarks?

SENATOR MUSTO: I have none.

MR. HENDERSON: Our first witness today is³

Dan Desmond, deputy secretary, Department of Environmental Protection.

SENATOR WHITE: Good morning, Mr. Desmond.

MR. DESMOND: Good morning. Chairman White, Chairman Musto, and members of the committee, it is my privilege to testify today on methyl-tertiary-butyl-ether, ethanol, and issues related to their environmental and market impacts.

As you know, some of these issues were discussed in Secretary McGinty's April 14th,

Hearing April 5'06 Transcript.txt
12 2004 testimony concerning a ban on the sale of
13 the gasoline additive MTBE. And our views in
14 that respect remain the same.

15 However, important developments have
16 occurred on the part of the Federal Government
17 and industry itself in the past 18 months. And
18 we believe it's important to review these
19 additional developments.

20 As stated in our 2004 testimony, MTBE is a
21 synthetic--

22 SENATOR WHITE: Excuse me, Mr. Desmond,
23 what was that -- was that testimony before this
24 committee or--

25 MR. DESMOND: Yes.

4

1 SENATOR WHITE: It was a House committee, I
2 believe.

3 MR. DESMOND: I'm sorry, I stand corrected,
4 the House Environmental Resources and Energy
5 Committee. All right, very good. This is a
6 complex set of information.

7 As stated in our 2004 testimony, MTBE is a
8 synthetic, organic ether that's used -- has been
9 used as a gasoline additive since 1989. It was
10 originally added as an octane enhancer and as a
11 replacement for lead.

12 The 1999 Federal Clean Air Act amendments
13 created a federal reformulated gasoline (RFG)
14 program in order to improve air quality in our
15 nation's worst ozone nonattainment areas.

16 In Pennsylvania, the RFG program is
17 mandated in the five county Philadelphia area.

18 These counties originally were designed as
19 severe nonattainment areas under the old
20 one-hour ozone national ambient air quality
21 standard and are currently under the new
22 eight-hour standard reclassified as moderate
23 nonattainment areas. The Pittsburgh area also
24 has a special fuel requirement that we will
25 discuss later in this testimony.

5

1 The RFG program requires specially
2 formulated gasoline blends to ensure that
3 significant reductions in ground-level ozone
4 forming pollution when it is used in vehicles.

5 Part of the RFG program is a requirement
6 that the fuel contain no less than two percent
7 by weight of oxygen.

8 It's important to point out that specific
9 oxygenates are not now mandated and never were
10 mandated; that is, specific chemical oxygenates
11 were never predesignated.

12 However, factors including economics and
13 perhaps availability has led refiners and
14 importers including the owners of refineries to
15 use MTBE to meet the oxygen requirements.

16 To meet this oxygen weight requirement, up
17 to 11 percent of the volume of typical gallon of
18 RFG is composed of methyl-tertiary-butyl-ether.

19 RFG has been an important part of our
20 overall strategy for the five-county
21 Philadelphia area to reduce toxics and
22 automotive exhaust emissions causing the
23 formation of ground-level ozone.

24 In fact, during the past ten years, as much
25 as one-quarter of the smog forming emission 6

1 reductions from highway vehicles have come from
2 the use of cleaner gasoline.

3 RFG has reduced the toxic pollution from
4 gasoline by one-third, its use we believe has
5 lowered the cancer risk and respiratory effects
6 that people would suffer as a result of exposure
7 to this pollution.

8 Experts continue to disagree, however, how
9 much, if any, of this benefit is attributable
10 only to the use of an oxygenate. The RFG
11 program is administered and enforced by the
12 Federal Government.

13 Now, in recent years, there have been
14 numerous incidents of substantial drinking water
15 and ground water contamination and attendant
16 high remediation costs which has led to bans of
17 MTBE in states like California, New York, and
18 recently Connecticut.

19 To date, 25 states have enacted MTBE bans.
20 At very low concentrations, MTBE's odor and
21 taste are noticeable in drinking water.

22 To attain Pennsylvania cleanup standards,
23 MTBE concentrations in ground water must be no
24 more than 20 parts per billion.

25 Compared to other components of gasoline, 7

1 MTBE dissolves and spreads more readily and
2 rapidly in ground water and it does not degrade
3 easily.

4 Consequently, leaks from dispensing sites,
Page 5

5 pipelines, underground storage tanks have in
6 some instances forced wells to close and
7 incurred millions of dollars in cleanup costs
8 both nationally and in Pennsylvania. And it has
9 been the result of numerous litigation that has
10 followed as a result of this pollution.

11 In 2003, the U.S. Department of Interior's
12 geological survey with cooperation of
13 Pennsylvania Department of Environmental
14 Protection completed a comprehensive evaluation
15 of the extent of MTBE contamination in the
16 Commonwealth's ground water.

17 We found in over 350 samples about
18 11 percent were contaminated with MTBE. And
19 those that were more directly associated with
20 the leaking of underground storage tanks,
21 22 percent were found to be contaminated with
22 this chemical.

23 Survey results of the southeastern part of
24 Pennsylvania alone where RFG is used year-round
25 show that up to 21 percent of the ambient
8
1 samples and 45 percent of leak associated ground
2 water samples were impacted by MTBE.

3 And while the vast majority of detections
4 were well below the 20 parts per billion the
5 survey found that MTBE contamination of the
6 Commonwealth's ground water is not the result of
7 exceptional occurrences nor is it completely
8 isolated to limited specific geographic areas.

9 Remediation costs have risen into the
10 millions. One example, the Blue Bell Gulf

11 cleanout located in Whippen Township, also in
12 Montgomery County.

13 A 1988 incident release of approximately
14 13,000 gallons of this gasoline from underground
15 storage tank system resulted in significant
16 ground water contamination.

17 And to date, nearly \$11 million has been
18 spent to determine the extent of the ground
19 water plume, provide water to affected
20 residents, temporarily relocate residents, and
21 design and construct a ground water treatment
22 system.

23 Years of operation and maintenance of the
24 ground water treatment system lie ahead along
25 with its associated costs.

9

1 Not all of the problems occur in the
2 southeast. Another example of significant MTBE
3 contamination occurred as a result of gas
4 station release in Lehman Township, Luzerne
5 County.

6 In the five-year period from 1993 to
7 1998, EPA expended nearly \$3 million to recover
8 over 10 million gallons of gasoline-contaminated
9 ground water, provide maintenance and
10 residential carbon filter systems, and furnish
11 bottled water. The release affected 50
12 residences and a school in the Lehman area.

13 From 1988 to the present, DEP has spent
14 approximately \$2.5 million constructing new
15 ground water treatment systems, providing and
16 operation and maintenance of treatment systems,

17 and continuing to maintain residential carbon
18 filter units and furnish bottled water.

19 As mentioned earlier, 25 states have
20 enacted MTBE laws. Some of those states in
21 specific areas are required the use of
22 reformulated gasoline or opted into the
23 reformulated gasoline program voluntarily.

24 In addition to the MTBE bans, the Federal
25 Energy Policy Act of 2005 removed the oxygen 10
1 content requirement for reformulated gasoline in
2 section 211(k) of the Clean Air Act.

3 This rule also removes requirements that
4 were included in the regulations to implement
5 and ensure compliance with the oxygen content
6 requirement. EPACT 05 also mandates a renewable
7 fuels standard including ethanol.

8 It is important to note that EPACT 05 did
9 not afford the industry any defective product
10 liability protection for the use of MTBE in
11 gasoline.

12 This provision in our view would have been
13 thoroughly unjust and unwarranted to allow an
14 entire industry to escape liability from
15 contamination associated with the use of its
16 product. And that particular provision was
17 strongly opposed by DEP.

18 At present, federal law requires that
19 gasoline used by motorists have lower volatility
20 in the summer than in the winter. This affords
21 significant air quality benefit by reducing the
22 emissions of ground-level ozone forming

23 chemical s.

24 This summer period runs from June 1 through
25 September 15 in any given year. To ensure that

11

1 the only fuel sold by retail outlets on June 1
2 is a summer fuel, Federal rules allow for a
3 transition period at terminals beginning May 1.

4 On May 1, terminals that provide fuel to
5 retail outlets can only offer summer fuels to
6 their customers. This in effect gives the
7 retail outlets a month to sell through their
8 winter fuel supply.

9 Terminals begin receiving their summer fuel
10 from refiners in mid to late April so that they
11 can meet their requirements to provide only
12 summer fuels effective May 1. These transition
13 requirements are the same for any gasoline
14 regardless of formulation. In years past, this
15 transition has been smooth and relatively
16 unnoticed by the consumer.

17 The winter to summer RFG transition this
18 year in 2006 though may be different, and there
19 are several reasons why.

20 Number one, the repeal in EPCACT 05 of the
21 oxygenate requirement for fuels; number two, the
22 federal renewable fuel standard; and thirdly,
23 what we believe are perceptions of adverse
24 liability by refiners and distributors
25 associated with the continued use of MTBE.

12

1 Barring any adverse comment about the
2 actual date of the repeal for the federal RFG

Hearing April 5'06 Transcript.txt
3 oxygenate requirement, on May 5 of this year
4 refiners will no longer be required to add
5 two percent by weight oxygenate to RFG.

6 This date is a few days after the May 1
7 federal regulatory requirement to have
8 summertime low volatility fuels in the
9 terminals.

10 It does not mean that RFG is no longer
11 legally required, however, in the five-county
12 Philadelphia area.

13 The repeal of the oxygenate requirement
14 simply means that the fuel will not fail any
15 standards for formulation if it doesn't have the
16 two percent by weight oxygenates.

17 RFG is still required, but the nature of
18 the formulation itself may change as refiners
19 choose alternatives.

20 As stated earlier, the refiners were not
21 afforded defective product liability protection
22 for MTBE under EPCRA 05. And our
23 conversations -- offline conversations with
24 virtually all of the major refiners that serve
25 this area suggest to us that they are

13

1 voluntarily and we believe quickly moving to
2 eliminate MTBE as a preemptive measure to reduce
3 potential future liability from water
4 contamination litigation costs.

5 As MTBE is used predominantly in
6 reformulated gasoline to meet the oxygenate
7 requirement and the oxygenate requirement will
8 be repealed, it holds that refiners may perceive

Hearing April 5'06 Transcript.txt
9 that it's in their best interest to remove MTBE
10 from the reformulated product.

11 The final piece of EPACT 05 requirements
12 for the federal renewable fuel standard -- EPACT
13 regulations for the implementing of the first
14 year standard require that the industry
15 collectively use almost four billion gallons of
16 ethanol.

17 With a voluntary removal of MTBE, refiners
18 believe that ethanol is the best alternative to
19 replace lost fuel and octane. Removal of MTBE
20 does, however, create a volume and octane
21 deficit which must be replaced.

22 Some of the advantages of ethanol include
23 ethanol from corn, for example, will increase
24 gasoline and -- will increase octane in gasoline
25 and reduce greenhouse gases by ten to

14

1 20 percent.

2 Ethanol from cellulose could cut greenhouse
3 gases by as much as 90 percent. And I want to
4 emphasize that newer means of extracting ethanol
5 from other cellulosic products including
6 agricultural waste, municipal waste, and the
7 like, there are very significant advances in
8 recent months suggesting that even more
9 cost-effective ways to produce ethanol are in
10 the near horizon.

11 We believe that this will be a
12 net-carbon-negative opportunity as these
13 technologies evolve. Ethanol is less hazardous
14 than MTBE and easier to remediate in the event

Hearing April 5'06 Transcript.txt
of a spill in local waterways.

15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

While ethanol by itself is nontoxic, the scientific community indicated that more study is needed to determine the full environmental effects.

I want to talk just a little bit about the perception of ethanol and its so-called energy balance. There has been a lot of information and perhaps disinformation circulating in and out of the academic community among observers and environmentalists regarding what is the net

15

energy balance for the production of ethanol. That is, how much energy do you put into it compared to how much energy do you get out.

Well, if you look at it in comparison to gasoline, you use nearly one and a quarter units of energy going into gasoline for every unit of energy you get out.

According to the U.S. DOE Department of Energy Information Administration, about .74 units of fossil energy are used to produce corn-based ethanol and only .2 units of fossil energy would be used to produce cellulosic ethanol.

Ethanol has energy advantages. Clearly there are some air quality concerns, and I want to emphasize that in the absence of clear guidelines from EPA and more definitive scientific evaluations of what these air quality concerns may be, we can only indicate that there may be a slightly negative effect on air quality

Hearing April 5'06 Transcript.txt
as regards certain toxic components.

This is not to take away from the considerable greenhouse gas benefits that the use of ethanol would entail.

There is some concern also that widespread
16
use of ethanol and RFG might reduce the current significant overcompliance that's been achieved with the RFG program as a whole.

But federal requirements under the Mobile Source Air Toxics Rule should prevent, we believe, increases in air toxics emission.

This program establishes refinery-specific baseline of emissions resulting from the use of refined gasoline, either RFG or conventional.

Based on the average of each refinery's estimated emissions from their use of gasoline of certain toxic compounds over a three-year period -- and this period was 1998 through the year 2000 -- refiners must ensure that for each subsequent year the gasoline produced from the refinery results in emissions less than the baseline.

There has been some indications from California, which has a special blend of RFG, that the ethanol may cause an increased evaporative emission from the vehicle's fuel system due to ethanol's tendency to degrade and permeate plastic fuel hoses and seals not designed to accommodate ethanol.

And again, I must emphasize that there are
17
hundreds of thousands of vehicles that have been

2 produced that are compliant for the use of
3 ethanol fuels up to an 85 percent blend.

4 This is a trend we think that will
5 continue, and these concerns will not in our
6 view be as significant in future as they may
7 have been in the past.

8 There are also some reports of overall
9 increases in NOx emissions. Neither of these
10 claims has been verified from the Department and
11 the EPA has provided no guidance as to how we
12 might effectively model these emissions from
13 ethanol RFG blends, but we have been told that
14 such a guidance will be made available later
15 this year.

16 As refiners have some flexibility on how to
17 formulate RFG, there's no one set formula, and
18 minor changes to the formulation may alter the
19 nature of these emissions.

20 These formulas can vary not only by refiner
21 but by refinery and by each batch produced by a
22 refinery. This makes emissions estimation all
23 the more difficult.

24 Bureau of Air Quality is monitoring the
25 area of emissions estimation from using fuels 18

1 containing ethanol. And as I said, as EPA
2 guidelines become available, we will focus more
3 in on those guidelines and be able to report
4 more accurately what is likely to happen.

5 Though it warrants continued monitoring
6 based on the following figures and departmental
7 conversations with sources from outside

8 government, particularly in the refinery and
9 distribution terminal industry, it appears that
10 we should have sufficient supplies in
11 Pennsylvania to meet the increased demand from
12 this coming driving season.

13 According to industry sources,
14 Pennsylvania's costal port in Philadelphia also
15 increases our flexibility in obtaining ethanol
16 as compared to other states that rely solely on
17 rail or barge or truck delivery.

18 According to 2002 data -- and this is the
19 most recent available from U.S. Department of
20 Energy's EIA -- U.S. consumed 215,000 barrels
21 per day of MTBE and 58,000 barrels per day
22 imported, for a total of 273,000 barrels per
23 day. That's 4.2 billion gallons of MTBE per
24 year.

25 According to EIA, U.S. ethanol producers
19
1 have the capacity to produce roughly 4.3 gallons
2 per year in 2006.

3 The United States imported more than 150
4 million gallons of ethanol in 2005, and a
5 greater volume is expected to be imported this
6 year, mostly from Brazil. This would leave the
7 U.S. with about 4.5 billion gallons of ethanol
8 capacity.

9 In 2004, we consumed 4.7 billion gallons of
10 motor gasoline, all grades. And assuming that
11 ethanol is used to replace MTBE at a 10 percent
12 volume ratio, we would need more than
13 130 million gallons of ethanol for

14 Pennsylvania's fuel requirements.

15 We have a 535 million gallon per year
16 potential in cellulosic ethanol alone coming
17 from sustainable harvested small diameter
18 thinnings from the timber industry. These are
19 real numbers. Data was coordinated directly
20 based on output results from the Pennsylvania
21 Hardwoods Council.

22 Currently, there's several ethanol plants
23 proposed in Pennsylvania with a cumulative total
24 of 290 million gallons per year. Typically,
25 these plants would produce 60 million gallons a
20
1 year.

2 Most of them currently that we have seen
3 proposed to use corn, but at least one here in
4 Pennsylvania proposes to use municipal waste
5 cellulosic material in a closed reactor to
6 produce the ethanol product from synthesis gas.

7 In 2004, the U.S. used 3.4 billion gallons
8 of ethanol-blended fuel. Our staff will
9 continue to monitor ethanol prices and supply.
10 And as I said, based on our conversations -- and
11 these are numerous phone conversations and
12 meetings with people in the industry all over
13 our state -- we see no immediate problems with
14 adequate ethanol.

15 However, there are some challenges. When
16 blended with gasoline, ethanol does have the
17 tendency to exhibit some chemical effects as a
18 result of that blending. It can phase separate.

19 It is hydroscopic; that is, it can absorb

20 water either from the atmosphere or if you have
21 a tank that's contaminated with water, it can
22 mix and absorb water.

23 And this provides -- causes a corrosion
24 risk in pipelines. That's why the so-called
25 RBOB ethanol-ready RFG is shipped through

21

1 pipelines to the terminals and then ethanol is
2 splash blended at the distribution terminals
3 before it is sent out into the marketplace.

4 And the terminals have been this past year
5 investing in specially-lined tanks and taking
6 other precautionary measures so that they can
7 use ethanol as a mixed splash blend product at
8 the terminal level with no adverse effects.

9 One of the unusual properties of ethanol is
10 that in its pure form it has a very low
11 volatility (Reid Vapor Pressure) of only about
12 2.3 pounds per square inch compared with
13 summertime RFG at about 6.8 pounds per square
14 inch. And summertime conventional is up at 7.8
15 pounds per square inch.

16 But mixtures of products are not only
17 linear. Even as ethanol has a comparatively low
18 volatility as a pure product, adding small
19 amounts, one percent or more by volume, could
20 increase overall fuel volatility above required
21 limits.

22 Refiners and gasoline blenders are afforded
23 under Federal regs an additional one pound per
24 square inch Reid Vapor Pressure (that is RVP)
25 only if they blend ethanol into conventional

1 gasoline in volumes of nine to ten percent.

2 Even then, refiners must make a base
3 conventional gasoline that can accommodate the
4 ethanol induced RVP increase and must not blend
5 ethanol into regular conventional gasoline.

6 Given that ethanol could increase the
7 overall volatility of gasoline, it would be
8 unlikely, mostly for competitive reasons, that
9 it would be blended with RVP 7.8.

10 And as you know, RVP 7.8 is required in
11 Pennsylvania and the Pittsburgh area during the
12 summer months to help reduce ground-level ozone
13 formation. The RVP 7.8 gasoline program in
14 Pittsburgh does not allow an additional 1 psi
15 RVP for ethanol blends further adding to the
16 difficulty in making ethanol blended RVP 7.8
17 fuels.

18 Data from OPIS though oil price information
19 service indicates that 10 percent ethanol blends
20 have been and are currently available in
21 Pittsburgh during the winter months, as is in
22 most of the rest of Pennsylvania except the
23 Philadelphia RFG area.

24 But this is not due to any mandates but
25 because ethanol is available to the markets, and

23

1 refiners can receive federal tax credits from
2 its use.

3 I've already discussed the RBOB. I'll move
4 ahead in the interest of time--

5 SENATOR WHITE: I would like to ask you to

Hearing April 5'06 Transcript.txt
6 wind up so there's time for questions. You've
7 given us a lot of good stuff. That's why I've
8 let you go on because this is very interesting.

9 MR. DESMOND: Okay. Well, given that it's
10 apparent that our petroleum industry has made a
11 voluntary decision to replace ethanol with MTBE
12 as a blender with ethanol, we will monitor
13 closely, as we have been, the impacts on not
14 only refiners but especially terminals, because
15 that's where the most critical bottleneck is
16 right now, making sure that the distribution
17 terminals have the kind of storage tank and
18 other infrastructure necessary to blend this.

19 So I appreciate your patience and your time
20 with what arguably is an extended testimony. I
21 have with me today if you have specific
22 technical questions colleagues from the
23 Department of Energy, our deputy secretary for
24 the Bureau of -- Department of Air Recycling &
25 Radiation Protection and also some of his

24

1 technical staff.

2 So if there are things that go beyond my
3 knowledge base, I'll happily ask them to join.

4 SENATOR WHITE: I suspect that what we will
5 do because of the time constraints is that as
6 members have additional questions created by
7 this testimony, we may submit them to you in
8 writing and ask for a response because of time
9 if that's agreeable to members.

10 I do have a couple of questions. You
11 mentioned the costs of spills. But how

Hearing April 5'06 Transcript.txt
12 different is that from just the garden variety
13 gasoline spill that has costs associated with
14 it?

15 Obviously all of these costs are not simply
16 associated with the MTBE in gasoline. It's
17 cleanup, right?

18 MR. DESMOND: Yes, but--

19 SENATOR WHITE: Do we have data in the
20 numbers of spills and costs and do you have any
21 idea how much incremental cost simply to the
22 MTBE?

23 MR. DESMOND: I do not, but we will
24 certainly find out if that information is
25 available. However, it's important to note that
25

1 not all spills are created equal.

2 There are some chemicals that when spilled
3 in the ground naturally degrade and you have a
4 molecular disscorporation into less harmful
5 constituents, whereas there are high persistence
6 chemicals including MTBE that can remain for a
7 long time and can be particularly challenging to
8 remove from ground water.

9 SENATOR WHITE: I'm aware of that. But I
10 guess there are spills and there are spills.

11 MR. DESMOND: There are spills and there
12 are spills.

13 SENATOR WHITE: But obviously any gasoline
14 spill can be costly to clean up once it hits the
15 ground water.

16 MR. DESMOND: Indeed.

17 SENATOR WHITE: So I'm not sure where the

18 trade offs are here. I guess the bottom line is
19 this is somewhat frightening for consumers of
20 gasoline to make sure that we aren't going to
21 have shortages and see price spikes beyond what
22 we're already seeing.

23 Is this the kind of thing where perhaps we
24 should just let the marketplace work this out?
25 I mean, it sounds as if some of it is already
26 happeni ng.

1 There are economics, there are
2 considerations of liability, there are going to
3 be supply issues. I was not aware that you had
4 to splash blend ethanol at terminals--

5 MR. DESMOND: You do, yeah.

6 SENATOR WHITE: So there are obviously some
7 real challenges here and consumers are going to
8 be nervous.

9 MR. DESMOND: To date, Senator, the
10 observable marketplace; that is, those that we
11 can readily see at the crude oil intake level at
12 refiners and at terminals and even at retail
13 stations, appear to be handling this transition
14 in an encouraging manner.

15 However, I must point out there is an
16 unobservable part in the marketplace that is
17 perhaps problematic not because of MTBE but
18 because their activities are not in the light of
19 day.

20 At the New York Mercantile Exchange level,
21 when you do futures on wholesale commodity fuels
22 like gasoline, we know what that price is. But,
23

Hearing April 5'06 Transcript.txt
for example, in the week after Hurricane

24
25

Katrina, the commodity traders behind the scenes

27

1
2
3
4

who were then supplying the terminals from the
contracts ran up the price here in the
Harrisburg area 70 cents a gallon virtually
overnight.

5
6
7
8
9
10
11

And I know that various states attorneys
generals are looking into that. I think we will
have less of an issue regarding price and
adequate supply attributable to the use of
ethanol as opposed to commodity speculators who
may want to exploit perceived fears or concerns
associated with the use of ethanol.

12
13
14
15
16

And we need to be vigilant, looking at all
aspects of the industry so that we've got a good
handle on the impact of this switch over to
ethanol blends and what it may portend for our
future.

17
18
19
20

SENATOR WHITE: Well, it's always very
difficult for us as a state to protect gasoline
prices because it's a commodity and it moves in
state commerce.

21

MR. DESMOND: Yes.

22
23
24

SENATOR WHITE: So there's not a lot we can
do other than I guess look for illegal price
gouging or that sort of thing.

25

MR. DESMOND: Yes.

28

1
2
3
4

SENATOR WHITE: But speculation on the
commodities markets is certainly beyond our
powers to control.

MR. DESMOND: Yes. But plenty of sunshine

5 on the behind the scenes transaction could help
6 serve as a throttle against unwarranted price
7 gouging.

8 SENATOR WHITE: Sunshine is good. One last
9 question and I'll let other Senators ask you.
10 About a month ago, the state of Wisconsin was
11 considering a 10 percent ethanol mandate.

12 And because they're a big corn growing
13 state, they were trying to help their farming
14 economy and at the same time reduce reliance on
15 foreign oil.

16 And the Wisconsin Department of Natural
17 Resources weighed in and said that doing so
18 would worsen the state's ozone problem. And it
19 became a fight between urban and rural Wisconsin
20 as to who was going to win out here.

21 The Wisconsin regulators said that if they
22 were going to replace this -- use this
23 10 percent ethanol replacement that they would
24 have to mandate additional regulatory burdens on
25 stationary services we have just heard recently²⁹

1 in another context.

2 How would we-- Is this an argument perhaps
3 for using the MTBE and taking better steps to
4 avert spills and releases?

5 MR. DESMOND: Well, currently, Senator,
6 MTBE is authorized for use in the Commonwealth.
7 And in the absence of an outright ban, refiners
8 could, at their election, continue to use MTBE
9 and be legally in compliance.

10 SENATOR WHITE: And take the risks

11 associated with it?

12 MR. DESMOND: And take the associated
13 risks. However, regarding the situation in
14 Wisconsin, as I testified earlier, until we get
15 some clear guidelines from EPA as to how to
16 monitor and model MTBE blends, and given that
17 there are numerous formulations for RFG --
18 there's not a single chemical formula -- we
19 won't know yet what the impacts are until we
20 have more definitive information and guidance.

21 And I wouldn't want to get out ahead of
22 those guidelines and speculate on what the
23 emissions consequences might be.

24 SENATOR WHITE: You're talking from the
25 ethanol blends?

30

1 MR. DESMOND: Yes.

2 SENATOR WHITE: Sounds like Wisconsin
3 didn't have such reservations then.

4 MR. DESMOND: Well, if they have a magic
5 source of information as to what the guidelines
6 would be, it would be instructive to know that.
7 But until we find out what those guidelines are,
8 we're going to continue to be cautious in
9 forecasting any consequences in this event of
10 ethanol.

11 SENATOR WHITE: This was excellent
12 testimony. Thank you.

13 MR. DESMOND: Thank you, Senator.

14 SENATOR WHITE: Senator Musto?

15 SENATOR MUSTO: Thank you, Madam Chair.
16 Good morning.

17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

MR. DESMOND: Good morning, Senator.

SENATOR MUSTO: Yes, very informative.

Given that terminals and retailers need to prepare to switch from MTBE to ethanol, is the Department doing anything to reach out to tank owners and retailers to alert them to steps they should be taking to get ready to receive ethanol?

MR. DESMOND: To my knowledge, I don't know³¹

that we've had any formal program of outreach. But if I may, I'd like to ask my colleagues from the Air Quality Bureau if we have any specific outreach initiatives. This is Deputy Secretary Tom Fiddler, head of our air, recycling & radiation waste program.

MR. FIDDLER: Good morning. We have not initiated any formal outreach efforts to tank owners or terminal operators.

In the calls that we've made to -- random calls to service station owners and also terminal operators, it appears that safeguards are being taken, that information is being shared by the industry.

As Senator White indicated, much of this, you know, can be managed by the market. What we've seen is that there is a lot of preparation at dispensing facilities in preparation for this.

Much of the infrastructure that needs to be in place to properly dispense ethanol-blended fuels is being incorporated and being taken care

23 of.

24 SENATOR MUSTO: I could understand
25 terminals having the information, but shouldn't ³²

1 we be concerned about retailers having necessary
2 information should a switch be necessary? From
3 what we're hearing this morning, there are
4 certainly many effects.

5 MR. FIDDLER: Very good point. We do, in
6 fact, know that there is special handling
7 requirements and dispensing requirements for use
8 of ethanol. And we'll certainly take that under
9 advisement.

10 But I do know that much information is
11 being shared by the associations as well as by
12 the industry itself.

13 SENATOR MUSTO: Would it be a
14 responsibility of the Department to notify
15 retailers or educate them to a certain degree?

16 MR. FIDDLER: We could certainly consider
17 that. We certainly have information on all of
18 the service station operators in the state and
19 we could provide that information.

20 SENATOR MUSTO: And you mentioned in your
21 testimony that several ethanol plants are
22 proposed in Pennsylvania. Do you have any idea
23 how soon one will be up and running?

24 MR. DESMOND: The construction of a plant
25 in the size that we've seen proposed would take ³³

1 in my estimation at least 18 months. Several of
2 them are beyond the planning stages. They've

Hearing April 5'06 Transcript.txt
3 actually selected sites and secured financing.

4 I don't know of any that have broken
5 ground. But it's safe to say that if we break
6 ground on an ethanol plant this year, it would
7 likely be towards the end of 2007 that these
8 larger plants would be producing product.

9 SENATOR WHITE: Does that include
10 permitting?

11 MR. DESMOND: That would include
12 permitting. The Department would fast track and
13 make a priority permitting for plants that use
14 renewable source materials as their feedstock.

15 SENATOR MUSTO: Thank you.

16 SENATOR WHITE: Senator Pippy?

17 SENATOR PIPPY: Thank you, Madam Chair.
18 Thanks for the testimony. Earlier you had
19 mentioned a spill is a spill is a spill, whether
20 it's MTBE or ethanol.

21 Are we looking or is the Department looking
22 at early detection or ways of detection for
23 underground storage tanks that are in proximity
24 of water supply storage as a cost effective way
25 to reduce the overall costs of spills? Is that

34

1 something we'll be seeing in the future?

2 MR. DESMOND: I'll defer to my colleague on
3 that.

4 MR. FIDDLER: Yes, there is regular leak
5 detection procedures that must be implemented at
6 dispensing stations. You know, there are
7 adequate safeguards.

8 As was mentioned earlier, it is a component

9 Hearing April 5'06 Transcript.txt
10 of a larger product issue and there are
11 safeguards and regular monitoring that's
12 required to ensure there's very early detection
13 if in fact there's a release from a controlled
14 facility.

15 SENATOR PIPPY: Do we keep statistics on
16 the performance, meaning we have wells, et
17 cetera, there's monitoring in place.

18 But I guess my question is in Maryland in
19 particular they've looked at increase of their
20 regulatory requirements, and it seems to be
21 effective.

22 Have we thought about doing any of that or
23 that's not the direction that the Department is
24 going? Are you completely satisfied with the
25 detection systems we have now and how they would
26 work in the future?

35

1 MR. FIDDLER: We have not considered taking
2 the same approach that the state of Maryland has
3 taken. They certainly have been much more
4 aggressive than we have here with respect to
5 releases of product containing MTBE.

6 We are satisfied we are capable of tracking
7 where, in fact, releases have occurred. There
8 is adequate monitoring of the extent of
9 contamination within those areas. There's
10 adequate requirements for notice if, in fact,
11 private well water supplies could potentially be
12 impacted as well as public water supply wells
13 could be impacted.

14 We can always do more, you know. But the

Hearing April 5'06 Transcript.txt
15 program that is in place seems to be working.

16 SENATOR PIPPY: Thank you. And I do
17 appreciate the testimony earlier. That is very
18 good.

19 SENATOR WHITE: Do we know what the impact
20 would be of ethanol spills? I think one of the
21 things that is curious, I had not realized that
22 the ethanol has to be transported to the place
23 of blending.

24 So it would seem with all the additional
25 movement of pure additive that perhaps there are
36
1 increased risks there.

2 MR. FIDDLER: Actually, some of the
3 characteristics of ethanol are in some cases
4 similar to MTBE with respect to its affinity to
5 water.

6 One of the issues with respect to MTBE is
7 it is a part of petroleum releases when released
8 from underground storage tanks associated with
9 service stations.

10 It does dive deeper into the ground water
11 system usually than the benzine component of the
12 product, which makes it particularly difficult
13 to remove from aquifer systems.

14 Do we have adequate information to allow me
15 to provide to you on behavior of ethanol? We
16 really do not, Senator, at this point.

17 SENATOR WHITE: I guess most of the
18 releases that I'm familiar with of MTBE have
19 been gasoline with MTBE as an additive.

20 MR. FIDDLER: Correct.

21 SENATOR WHITE: I'm concerned about what
22 the impact would be of releases of pure ethanol
23 that's being transported from the production
24 site to the blending site because I understand
25 they can't move it in the pipelines.

37

1 MR. FIDDLER: Correct. I understand your
2 point. I don't really have an answer to that
3 question, but we can look into it and provide
4 it.

5 SENATOR WHITE: Do you know if there have
6 been any spills of pure ethanol and if so what
7 the impact would be?

8 MR. FIDDLER: I do not. I do not know of
9 any pure ethanol spills that have occurred in
10 the Commonwealth.

11 SENATOR WHITE: Thank you. Senator
12 Williams?

13 SENATOR WILLIAMS: No.

14 SENATOR WHITE: Senator Stout?

15 SENATOR STOUT: Thank you, Madam Chair. In
16 your next to last paragraph of your testimony,
17 Mr. Desmond, you talk about the concern for the
18 terminals and refiners to the infrastructure.
19 How much infrastructure investment has to be
20 made to get ready to do this?

21 MR. DESMOND: I'm sorry, we don't have an
22 average figure. But that's an important
23 question and we can poll the industry and
24 perhaps gather that data and report to you on
25 that.

38

1 Essentially it would involve relining
Page 30

2 certain tanks that would store the ethanol while
3 it was awaiting an incorporation with the RBOB
4 product.

5 So principally, it's relining tanks and
6 making sure that pipes and valves are
7 anticorrosive in nature.

8 SENATOR STOUT: In your testimony, you said
9 it would take you about 18 months for an ethanol
10 plant to be constructed. How much investment is
11 required to build an ethanol plant here in the
12 Commonwealth?

13 MR. DESMOND: The numbers that we have been
14 seeing vary between \$30 and \$70 million. Those
15 are estimates so far.

16 SENATOR STOUT: Where would the feedstock
17 come from here in Pennsylvania for plants
18 located here in the Commonwealth?

19 MR. DESMOND: Depending on the nature of
20 the plant, if it's a cereal grain plant using
21 corn, it would come from both inside and outside
22 the Commonwealth as a commodity cereal grain.

23 If it is a plant using cellulosic material,
24 either using enzymes or using a synthesis gas
25 reactor, it could come from anything from

39

1 municipal waste to agricultural waste.

2 SENATOR STOUT: Now, you talk about a
3 certain supply from the market was coming
4 offshore.

5 MR. DESMOND: Yes.

6 SENATOR STOUT: Is there any fear we'd
7 become hostage like we are now to the oil OPEC

8 nations and so forth occurring in the offshore
9 production of ethanol? And who owns the
10 production offshore?

11 MR. DESMOND: Principally Brazil. They
12 made a decision 25 years ago to move to an
13 ethanol economy for their motor fuels and are
14 now a net exporter in the biofuel business.

15 However, Pennsylvania's growth in the last
16 few years in biofuels is nothing short of
17 astounding. And we are now, for example, one of
18 the leading states in the nation on biodiesel.

19 I believe that we will have a similar
20 success with ethanol-based fuels and especially
21 as the cellulosic technology becomes more
22 commercially attainable we're going to have
23 principally a Pennsylvania source for many of
24 our motor fuel components in the future.

25 That will keep energy dollars and energy 40
1 jobs here in the Commonwealth. We're very
2 sensitive to this and very confident that our
3 reliance on imports will be comparatively
4 short-lived.

5 SENATOR STOUT: Thank you, Madam Chair.

6 SENATOR WHITE: In light of that statement
7 though, despite the fact that the federal
8 government has removed the oxygenate
9 requirement, Pennsylvania would not support
10 such.

11 We could simply remove the oxygenate
12 requirement in Pennsylvania and let the industry
13 decide how they're going to make clean gas.

14
15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

MR. DESMOND: That is true.

MR. FIDDLER: That is true.

SENATOR WHITE: Would the Department support simply removing the oxygenate requirement?

MR. FIDDLER: We-- Basically, the RFG requirement would stand. And as the testimony indicated, there are a number of different criteria that must be met to meet RFG requirements. It could be basically up to the industry to decide how those requirements could be met.

41

SENATOR WHITE: Thank you. We really have gone over here, but I think as the first witness a lot of this is new information to us and it's extremely interesting. Senator Williams?

SENATOR WILLIAMS: Thank you. The last question. Has the industry suggested that they have an ability to provide these alternative types of fuel?

MR. FIDDLER: We believe they have that capability.

SENATOR WILLIAMS: And have they presented that in the format of a proposal or just ideas?

MR. DESMOND: We have had numerous offline conversations with industry officials to gather their views on readiness. And the consensus that we are hearing so far from the refiners, from the distributors is that they are ready to make the switch over to ethanol-blend fuels.

And to the best of our knowledge, there is

20 no present concern about that switchover. And I
21 will mention every time we switch over from
22 wintertime to summertime blends there are some
23 hiccoughs in the system as they wring out
24 supplies of the former compliant fuel. So that
25 happens all by itself.

42

1 But we don't anticipate any unusual events
2 related to the switchover to ethanol-blend
3 fuels.

4 SENATOR WHITE: Senator Williams, you might
5 want to ask that question of the next witness
6 who is Rolf Hanson, executive director of the
7 Associated Petroleum Industries of Pennsylvania.
8 Thank you, gentlemen. That is very informative.

9 MR. DESMOND: Chairman, thank you very
10 much, members of the committee, for the
11 opportunity to participate.

12 SENATOR WHITE: Good morning, Mr. Hanson.

13 MR. HANSON: Good morning, Chairman White,
14 Chairman Musto, members of the committee. My
15 name is Rolf Hanson. I'm the executive director
16 of Associated Petroleum Industries of
17 Pennsylvania. We represent over 400 companies
18 in the oil and natural gas industry as well as
19 the service companies that support our industry.

20 As a trade association representing
21 members, EPI does not collect information about
22 company's specific plans.

23 I would like to thank the chairman of the
24 committee for holding this hearing today. It's
25 a very important issue to the industry and

1 ultimately the consumers. And it's coming at a
2 good time. Congress just recently held a
3 hearing on this very issue a week ago.

4 And I think what I'd like to do in my
5 testimony to differ a little bit from
6 Mr. Desmond's is focus more on the logistical
7 impacts that this transition will have on
8 refiners, distributors, and on down to the
9 retail locations.

10 There are a couple of points that I'll
11 briefly touch on. I'll try not to be redundant
12 on some of the statements that were made
13 earlier.

14 As it was stated earlier, the Energy Policy
15 Act of 2005 eliminates the reformulated gasoline
16 oxygenate requirements in May of this year and
17 also sets a new renewable fuel standard
18 requiring that the industry use four billion
19 gallons of renewable fuel in 2006 and increasing
20 that amount to 7.5 billion gallons in 2012.

21 Roughly each year the increment will
22 increase by roughly 700 million gallons
23 primarily ethanol biodiesels.

24 Eliminating the RFG oxygen requirement is a
25 change in the law that the industry has long

44

1 supported as one that will add to refiner's
2 flexibility to produce gasoline. However, this
3 is a major fuel change and presents significant
4 challenges to fuel providers.

5 As it was stated earlier, MTBE has been

Hearing April 5'06 Transcript.txt
6 used in gasoline for over 20 years, initially
7 used at low levels for octane enhancement in
8 place of lead.

9 Greater quantities of MTBE were used in
10 gasoline as a result of the Clean Air Act. The
11 Act required the use of reformulated gasoline in
12 certain areas of the country with severe or
13 extreme air quality problems. As was mentioned
14 earlier, the five-county Philadelphia area is
15 one such region.

16 Under the Clean Air Act, RFG meets more
17 stringent requirements for VOC, NOx, and toxics
18 emissions than conventional gasoline. The Act
19 also required that RFG contain two percent
20 oxygen by weight. Again, this is the
21 requirement that was repealed in the Energy
22 Policy Act of 2005.

23 Generally, there were two main choices for
24 meeting the RFG oxygen mandate: Petroleum-based
25 MTBE or corn-based ethanol. MTBE became the
45 most commonly used oxygenate in areas near the
1 coast because of cost, transportation,
2 availability, and handling considerations.

3
4 Ethanol became the oxygen of choice in the
5 midwest, primarily due to favorable economics
6 and proximity to ethanol supply. Like MTBE,
7 ethanol can be used for octane enhancement and
8 as an oxygenate.

9 However, ethanol requires special handling
10 and transporting the substance to consumers. As
11 was mentioned earlier, ethanol is highly water

Hearing April 5'06 Transcript.txt
12 soluble. And because water and water vapor are
13 present in storage tanks petroleum pipelines,
14 ethanol must be transported separately from
15 gasoline via rail, truck, or barge.

16 Over 99 percent of the ethanol produced in
17 the U.S. is derived from corn. And
18 approximately 95 percent of the ethanol is
19 produced in five midwest states: Minnesota,
20 Iowa, Nebraska, Illinois, and Indiana. Those
21 five states also happen to be the top five corn
22 producing states in the U.S.

23 In 2005, the U.S. produced 3.9 billion
24 gallons of gasoline. And that accounted for
25 roughly 14 and a half percent of the total U.S. 46

1 corn crop. It would require roughly half of the
2 entire U.S. corn crop to provide enough ethanol
3 to replace just 10 percent of the total national
4 gasoline pool.

5 Under the energy act that passed Congress
6 last fall, the 7.5 billion gallon threshold that
7 refiners must meet by 2012 will account for
8 roughly 26 percent of the total U.S. corn crop.

9 As you start using more of the U.S. corn
10 crop, you start getting to other issues of
11 opposition from feedstock providers that use
12 that corn for feed for livestock operations.

13 So there was also a push in the energy bill
14 to provide more funding for the cellulosic
15 ethanol which was described earlier. That's not
16 as far along in the process as corn-based
17 ethanol has been.

18 Ethanol must be blended with gasoline at
19 product distribution terminals. To do so,
20 changes at distribution terminals must be made
21 to accept ethanol shipments by rail, truck, or
22 barge.

23 In addition, tanks at the distribution
24 terminals must be segregated and new tanks must
25 be constructed to store the ethanol. Finally, 47

1 blending equipment at the distribution terminals
2 must be upgraded or replaced in order to blend
3 ethanol with gasoline blend stock.

4 Making these changes may require securing
5 local, state, and federal permits. And that was
6 discussed a little bit earlier.

7 And an example I can give, I spoke with one
8 of our terminal operators last week. And they
9 just secured a permit to build two above-ground
10 storage tanks in their facility in
11 Mechanicsburg.

12 It took them two years to get the permit.
13 And these were local permits through the Borough
14 of Mechanicsburg it took two years to get. And
15 they were asked to provide water and sewer for
16 the Borough even though they were not connecting
17 into that system.

18 So as you look at how the progression of
19 ethanol will continue to rise through 2012, you
20 need to look how long the permitting is taking
21 as well as the construction of these extra
22 tanks.

23 Changes also must be made at retail service

Hearing April 5'06 Transcript.txt
24 stations. Before a changeover from MTBE to
25 ethanol-blended fuel, it will be necessary to 48
1 empty all fuel and water from storage tanks so
2 as not to render the ethanol-blended fuel
3 unusable.

4 At the refinery, gasoline blend stock must
5 be changed in order to accept ethanol and meet
6 RFG emissions requirements. As refiners move to
7 ethanol-blended RFG, they experience some loss
8 in production capability due to changes
9 necessary to accommodate ethanol's higher
10 evaporative properties and to counter
11 ethanol-blended gasoline's higher toxic
12 emissions and distillation characteristics.

13 I'd just like to point out, there is a
14 difference between the gasoline blend stock RFG
15 to be blended with MTBE and the gasoline blend
16 stock to be blended with ethanol, which is
17 referred to as RBOB. And it's--

18 SENATOR WHITE: Can you tell me what RBOB
19 stands for?

20 MR. HANSON: I do not know.

21 SENATOR WHITE: Does somebody know what
22 RBOB is?

23 MR. LEE: Reformulated blend stock for
24 oxygenate blending.

25 MR. HANSON: There we go.

49

1 SENATOR WHITE: Okay, RBOB.

2 MR. HANSON: So it is a different
3 refinement process. So refineries would need to
4 make the changes. It's not as easy as just

5 throwing a switch. So they have a need to make
6 those capital investments to do so.

7 As a result, some refiners may be able to
8 change the refinery processes in order to
9 produce the RFG to be blended with ethanol. And
10 others may be simply forced to decrease their
11 RFG production. Addressing these changes does
12 not only require refinery changes but may also
13 require refinery capital investments, again,
14 which would require local, state, and federal
15 permits.

16 At this time, little RFG is expected to be
17 produced without ethanol, even though the
18 oxygenates like ethanol are no longer required.

19 Replacing the octane previously provided by
20 MTBE is difficult and can reduce gasoline volume
21 if the octane is made up by refining processes.

22 And again, another example I point out, in
23 the midwest over the past years, conventional
24 gasoline has been blended at a 10 percent level,
25 primarily in their midgrade, their 89 octane

50

1 fuels.

2 And as right now, there's a supply
3 imbalance with ethanol. And so there's been
4 more ethanol diverted from the midwest to meet
5 the demands of switching over to RFG on the east
6 coast. So they're displacing the ethanol that
7 they're using in their conventional gasoline.

8 Now, in order to get that midgrade fuel,
9 they're blending a conventional 87 with a
10 premium fuel to get the 89. So now you do not

11 have ethanol displacing 10 percent of the
12 volume. So you're using more gasoline. It's a
13 hundred percent hydrocarbon fuel.

14 So that is increasing the supply of
15 gasoline now back out to the midwest. So it is
16 a tradeoff in that sense.

17 The Energy Information Administration
18 predicts that the availability of ethanol
19 storage and transportation may be an even
20 greater challenge during the first half of 2006
21 than finding additional ethanol supply.

22 They predict that the east coast RFG market
23 will consume an additional 90,000 barrels of
24 ethanol a day. That's two and a half times
25 greater than all the ethanol moved to the east

51

1 coast in 2005. And rail cars and barges simply
2 may not be available.

3 I've had discussions with some terminal
4 operators who are talking with rail companies,
5 and they just don't have enough rail cars
6 available on the lines right now.

7 And when you take that 90,000 barrels, that
8 equates to roughly just under 3.8 million
9 gallons a day of ethanol -- a day for the east
10 coast just in the RFG areas.

11 And if you think rail cars, trucks, or
12 barges, if you equate that just to trucks, the
13 average tanker truck is about 9,000 gallons.
14 That would be an additional 420 trucks on the
15 road a day hauling ethanol primarily from the
16 midwest to the east coast and Texas RFG markets.

17 SENATOR WHITE: They'll all be on 80 and
18 the turnpike.

19 SENATOR STOUT: Interstate 70.

20 MR. HANSON: We believe that to be
21 successful fuel transitions should be based on
22 the free and unfettered functioning of fuel
23 markets.

24 Market mechanisms are most effective in
25 providing companies with appropriate indicators
52
1 and ensuring a rapid response to changes in
2 market condition or transitional problems that
3 may occur.

4 Changes to these market indicators by
5 government, such as calling for waivers from
6 clean fuel regulations in light of concerns
7 about possible volatility in fuel prices will
8 only cause market uncertainty sending confusing
9 information to markets in transition which could
10 prolong the transition period.

11 While there are already mechanisms in place
12 to deal with true market supply disruptions,
13 governments have less authority to intervene
14 during a fuel transition under the provisions of
15 the Energy Policy Act of 2005.

16 For example, there's a specific provision
17 in there that states that states cannot ask for
18 a fuel waiver just because of higher prices due
19 to market conditions. It does allow waivers
20 under natural disasters and/or acts of God but
21 not because of supply/demand imbalances which
22 historically have caused price spikes.

23 SENATOR WHITE: What about shortages?

24 MR. HANSON: That would not be covered
25 under a waiver unless the shortage was caused

53

1 due to a natural disaster or act of God.

2 Since the policy act of 2005 did not call
3 for a national ordered phase out of MTBE,
4 individual companies are making individual
5 decisions on how best to deal with the end of
6 the RFG oxy mandate and the use of oxygenates.

7 The elimination of the oxygen mandate,
8 state MTBE bands, announcement by refiners,
9 pipelines, and marketers indicate a likely rapid
10 reduction in the use of MTBE.

11 Companies are taking into account various
12 factors such as customer preference, state laws,
13 pipeline decisions, distribution system
14 capabilities, and information from government
15 agencies such as EIA.

16 In the Congressional hearing that took
17 place on this issue about a week ago, the
18 Congressional research service issued a report
19 that indicated that 158,000 barrels a day of
20 MTBE is currently being used.

21 And just to give you an example of where
22 we're at in comparison to years ago, in 1999, 87
23 percent of the RFG in the country contained
24 MTBE. And in 2004, that number was down to 46
25 percent.

54

1 SENATOR WHITE: I'm sorry, could you give
2 us those numbers again?

3 MR. HANSON: In 1999, 87 percent of the RFG
4 contained MTBE. And in 2004, the number was
5 46 percent. Again, that's based on a
6 Congressional research service report.

7 If ethanol were substituted for that
8 158,000 barrels, we would need roughly 225,000
9 barrels a day of additional ethanol nationwide.
10 That's to displace the 158,000 as well as
11 meeting the four billion gallon obligation under
12 the renewable fuel standard that was also in the
13 Act.

14 However, some of the MTBE loss could and
15 likely will be made up through the use of
16 different compounds and increased gasoline
17 production. Moreover, the fuels market is
18 worldwide. So we assume that increased reliance
19 on imports is an option that some suppliers are
20 also considering.

21 Again, on the issue of imports, we may be
22 looking at import of RBOB and actual imports of
23 gasoline fuels as well as ethanol.

24 An obstacle with importing ethanol is years
25 ago Congress passed a provision probably driven ⁵⁵

1 by the agricultural community to place an
2 additional 54 cent a gallon tariff on any
3 imported ethanol. I believe that was done to
4 encourage use of domestic ethanol production.

5 So in addition to the one and a half
6 percent tariff on the price already, there's
7 also a 54 cent per gallon tariff on ethanol.

8 What has been done in the past is was

Hearing April 5'06 Transcript.txt
9 written into the law this tariff does not apply
10 if it comes from a Caribbean basin initiative
11 country. So essentially what is happening is
12 Brazil could send ethanol to a Caribbean country
13 and then the country could turn around and ship
14 it to the United States and not pay the tariff.

15 And that will probably have to happen more
16 at least in the beginning of 2006 until many
17 more of these ethanol plants come online later
18 this year. And right now in the midwest I
19 believe there are 11 additional plants that will
20 be coming online by the end of 2006.

21 We should keep in mind that while there is
22 a substantial volume of MTBE, it is still a
23 small component of the total reformulated
24 gasoline market and even a smaller portion of
25 the world fuels market.

56

1 We strongly support continued efforts by
2 EIA to monitor the supply and demand dynamics of
3 the market and provide timely updates on their
4 initial study, which they, I believe on
5 February 22nd they commissioned a study to look
6 at the supply and demand of ethanol and the
7 impacts. EPI and its members are happy to
8 collaborate in any such effort.

9 Lastly, what I just briefly want to touch
10 on is really where the rubber meets the road
11 here and that's regarding prices. I think it's
12 important to remember initially that we are
13 talking about ethanol being introduced to the
14 RFG market, which primarily is the five-county

15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Now, as we have to meet our increased renewable fuel thresholds in the energy act through 2012, that will spread out into conventional gasoline areas.

They're predicting that if all of the RFG was switched to ethanol this year, that would put us at about 4.2 billion gallons of renewable fuel. Well, by 2012, we have to use 7.5. So you're going to see ethanol used more in conventional gasoline throughout the country.

57

So what I'd like to do is just to give you a picture of what's happened with the price of ethanol since the first of the year primarily and it's been pretty constant as refiners have made the decision to move from MTBE to ethanol in the reformulated gasoline markets.

And that decision is primarily driven on the fact that the lack of a national phaseout of the MTBE and the lack of the liability provision in the energy bill has driven refiners to make that choice.

It's one thing to use the oxygenate when it was mandated -- an oxygenate was mandated under the Clean Air Act, but now that it is -- that requirement has been repealed to carry that liability, it's not something that refiners are choosing to do.

So what I've done is I took the most recent numbers I could to give you a pretty good picture. These are last Friday's, March 31st,

Hearing April 5'06 Transcript.txt
New York stock market prices.

21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

1

A gallon of pure ethanol was selling at \$2.58 a gallon. That's a gallon of pure ethanol. A gallon of unleaded RFG containing MTBE was selling for \$1.985. And a gallon of unleaded RBOB was also selling at \$1.985.

58

So let me first talk about the unleaded RFG with MTBE and unleaded RBOB. Those both were selling at \$1.985. However, keep in mind that the unleaded RFG already has the MTB oxygenate included in that price.

Unleaded RBOB is the same price without adding the ethanol component into it. And that gets back to my point about the difference between refining RBOB and refining RFG to be blended with MTBE. It's a different refining process. It costs more to refine the RBOB than RFG to be blended with MTBE.

And if you consider that you will take 10 percent of that ethanol price, considering it's a 10 percent ethanol blend, so you add 10 percent of the ethanol price so 25.8 cents and add it on top of the 1.985 and that gets you your ethanol plus -- 10 percent ethanol plus RBOB price of 241.4 a gallon as opposed to 1.985, which is RFG with MTBE.

So you're looking at a difference of about 25.8 cents blending it with ethanol instead of MTBE. So-- And primarily that's driven by the price of ethanol right now because there is a

59

supply imbalance. The demand for ethanol --

2 SENATOR WHITE: Is that a wholesale price?

3 MR. HANSON: That's stock market price so
4 actual price for delivery right then and there.
5 That's not a futures price.

6 SENATOR WHITE: But it wouldn't be the
7 price at the pump, it would be the price at the
8 rack.

9 MR. HANSON: Price at the rack. Then you
10 could figure in roughly 50 cents on top of that
11 for state and federal tax and then any margins
12 that a retailer/distributor would tack on to
13 that.

14 So that concludes my testimony. I'll be
15 happy to answer any questions.

16 SENATOR WHITE: Senator Musto? Senator
17 Williams, is it time for your question?

18 SENATOR WILLIAMS: I want to follow the
19 cost issue. We've heard a lot earlier about the
20 benefit to the environment, which is prices.
21 And since the conversation is around primarily
22 the area which I reside, Philadelphia County, I
23 am very concerned about the cost.

24 And I wasn't quite clear what I heard. Can
25 you-- I know this is not an exact science, but

1 I want to sort of get a feel for what my
2 consumer or my constituent would see at the
3 pump. What would you consider to be the
4 magnitude of difference either percentage or
5 actual price?

6 MR. HANSON: Well, as of last Friday, the
7 difference was 25.8 cents a gallon blending it

8 with ethanol from--

9 SENATOR WILLIAMS: So theoretically you're
10 saying I would say if it's \$1.95 at the pump,
11 add 25 cents on to that?

12 MR. HANSON: Yes. Now, one point I'd add
13 on to that, that high price ethanol is because
14 right now the demand has outpaced the supply.

15 And by the end of this year, we have been
16 told by the ethanol industry that with more
17 plants coming online that they supply will all
18 pace to the man thus bringing down ethanol price
19 thus would bring down that 25 cent differential
20 which you're seeing today.

21 SENATOR WILLIAMS: Will it ever return to a
22 neutral state?

23 MR. HANSON: I would say it would come back
24 down based on the supply of the RBOB blend stock
25 and the ethanol supply.

61

1 SENATOR WILLIAMS: The other question is
2 the -- that's a direct cost. There apparently
3 are a lot of indirect costs to this competition
4 for corn stock. So consequently, feedstock
5 competes in price for gas, which potentially can
6 drive up the cost for food.

7 Are you aware of what that information is
8 or can you point us to studies which would
9 suggest to us how we could determine what the
10 consequence would be?

11 MR. HANSON: Our organization have not done
12 that. That may be a question for the Department
13 of Agriculture.

14 But I know having worked in the midwest for
15 five years on this, I can say as states have
16 increased their ethanol production and more corn
17 has been going into ethanol production, it has
18 become a concern to livestock operators like
19 Cattleman's Association and what have you
20 because of that -- because now the price of
21 their feed corn is competing with the price of
22 corn--

23 SENATOR WILLIAMS: The Department is
24 sitting here. Do you all have that kind of
25 data?

62

1 MR. DESMOND: I'm sorry, we don't.

2 SENATOR WILLIAMS: Okay. Is there any
3 direction we can be pointed in to get that kind
4 of information?

5 Because basically what I'm concerned about
6 is 25 cent, 26 cent, 24 cent pop at a fuel pump
7 in a community that may argue that they can't
8 afford it, right next to a 10, 15 cent pop in
9 the cost for milk, beef, those kinds of related
10 items at the supermarket.

11 And I want to know do we have data that
12 would suggest what we're looking for in some of
13 the communities that I represent, that being
14 Delaware County and Philadelphia County?

15 MR. HANSON: Again, I believe the
16 Department of Ag is on the agenda later. They
17 may be able to answer that.

18 SENATOR WILLIAMS: Okay. Thank you.

19 SENATOR WHITE: I was under the impression

20 that these price impacts were largely going to
21 be felt by the RFG fuels.

22 But if I understood you correctly, the
23 investments that will have to be made by
24 refiners to meet the new demands of ethanol, for
25 example, as well as the requirement to use

63

1 renewables in regular in conventional gasoline
2 is probably going to spread this price pain
3 across the entire motoring public. Is that fair
4 to say?

5 MR. HANSON: Yes. One example I'd give you
6 is a terminal operator who is a member of ours,
7 they operate 13 distribution terminals in the
8 state. None of them are in the Philadelphia
9 area.

10 So they do not need to make any initial
11 capital investment dealing with the introduction
12 of ethanol into RFG. However, over the next few
13 years, they are going to need to install new
14 tanks, distribution lines, blending equipment at
15 all their terminals.

16 And they are in talks right now with
17 refiners to see what their long-term plans are
18 as far as making these introductions into the
19 market.

20 Going back to the permit situation, they
21 need to plan two or three years in advance
22 knowing that the permitting process may take
23 that long.

24 SENATOR WHITE: Are they ultimately going
25 to come to a situation -- I'm always concerned

1 about what I call Pennsylvania's two. I see
2 Pennsylvania as two distinct gasoline market
3 areas: The east, you know, principally in that
4 RFG corridor, if you will; and the west with
5 most of their gasoline supplies coming from Ohio
6 or elsewhere.

7 I'm wondering what -- if there will be
8 supply disruptions caused by fuels that can only
9 be sold in certain marketing areas, thereby
10 impeding, you know, the free flow of gasoline
11 across the state.

12 MR. HANSON: There is a provision that
13 would put in -- a boutique fuels provision that
14 was put in the federal energy act of last year.

15 And it specifically says that you cannot
16 introduce a new fuel into the pad, which is
17 Pennsylvania is in Pad 1. And if you cannot use
18 a fuel in your pad if it's not already being
19 used in the pad.

20 So if we were to switch to a fuel that was
21 really only used in Ohio, which isn't in our
22 pad, it would not be allowed under EPA's
23 guidelines.

24 So you only can introduce fuels that are
25 currently being used in the pad or your

65

1 distribution area.

2 SENATOR WHITE: Okay. So what does that
3 mean for western Pennsylvania?

4 MR. HANSON: Well, blending it in
5 conventional gasoline really the capital

Hearing April 5'06 Transcript.txt
6 investment will be at the terminal level because
7 it will be upon the terminal to set up the
8 deliveries of ethanol to their terminal.

9 They will still receive the gasoline via
10 pipeline from the refiner, and they will blend
11 it right there at the terminal. So it will be
12 to the terminal operator to make the capital
13 investment for the ethanol tank and the blending
14 equipment. And then it will--

15 SENATOR WHITE: And that will be for
16 conventional fuels as well as RFG.

17 MR. HANSON: Correct.

18 SENATOR WHITE: You mentioned that you
19 supported the withdrawal of the oxygenate
20 requirement. Would you also support that
21 happening at the state level?

22 MR. HANSON: The oxygenate requirement is a
23 federal -- RFG is a federal program, it's not a
24 state program. So it already is in place. The
25 state would not have to repeal anything. It's
66
1 already been repealed.

2 SENATOR WHITE: Okay. All right. I guess
3 I did not understand that. Thank you. Any
4 other questions?

5 SENATOR STOUT: Yes, Madam Chair. Previous
6 question is what we need to know what is the
7 projection of cost per gallon we're going to
8 have to face?

9 I know on the state level every time a
10 penny a gallon is added to the cost of fuel, it
11 produces \$65 billion a year. So how many cents

Hearing April 5'06 Transcript.txt
12 per gallon do you think it's actually going to
13 increase to our consumers?

14 MR. HANSON: Well, unfortunately, as a
15 trade association representing these companies
16 and anti trust laws, we don't do any prediction
17 of prices. All of our pricing information comes
18 from AAA or pricing services.

19 All I can do is point again to what the
20 price was as of Friday and I would expect that
21 price would come down as the supply/demand
22 imbalances cancel out.

23 SENATOR STOUT: Well, I know as you're well
24 aware with the spikes of the fuel costs last
25 fall and the profits from the major fuel

67

1 companies from this country how much more is it
2 going to cost to implement these investments to
3 meet the requirements in the refineries and the
4 future terminals, how many more dollars are
5 going to have to be invested to meet these
6 requirements?

7 MR. HANSON: Well, that will differ upon
8 the refinery and the distribution terminals. I
9 mean, depending on the size of the refinery --
10 we have refineries in this state that are 10,000
11 barrels a day and we have refineries in the
12 state that are 350,000 barrels a day.

13 So the capital investment would differ
14 depending on the size of the refinery and the
15 distribution terminals. The estimate that I had
16 from the distribution terminal operator who
17 owned and operated 13 terminals, they're

Hearing April 5'06 Transcript.txt
18 estimating \$28 to \$30 million to convert all 13
19 terminals to be capable to blend ethanol.

20 SENATOR STOUT: Has there any thought been
21 given now the main feedstock being corn for the
22 ethanol production and so forth -- but I've
23 heard other people say granola or grape seed and
24 so forth. Are there other alternatives for corn
25 for the feedstock for ethanol production?

68

1 MR. HANSON: Yes, there are. And that gets
2 back to my point that by 2012 they're predicting
3 that roughly 26 percent of the U.S. corn crop
4 would be used for ethanol production.

5 So they need to get away from corn and
6 start using the cellulosic ethanol technologies.
7 Again, cellulosic ethanol are low-value waste
8 products such as recycled paper, rice hulls,
9 switchgrass, you know, fast growing trees they
10 can grow on tree farms.

11 And there's been -- that technology is
12 coming rapidly. And there's been a lot of money
13 put into it in the federal energy bill to look
14 at and develop those technologies quicker.

15 SENATOR STOUT: Do you see a need -- I know
16 we have a -- United States has a reserve of
17 petroleum to meet the demands on the U.S.
18 economy or the military in the years. Do you
19 recommend a reserve to store ethanol for future?

20 If we have a drought from the midwest and
21 corn production is erratically impeded, do we
22 need to have some type of national reserve for
23 ethanol to meet our demands?

24 MR. HANSON: Interesting concept. I'm not
25 aware of any, but that may be something we may 69

1 be looking at as ethanol becomes a larger
2 portion of the total gasoline pool.

3 SENATOR STOUT: Thank you, Madam Chair.

4 SENATOR WHITE: One other thing we've been
5 talking a lot about price supply, availability,
6 and shortages, and we haven't really talked much
7 about the impact of the environment of the
8 switch from MTBE to ethanol.

9 Do you know maybe -- I mean, I'm asking the
10 wrong witness -- I know he did have something in
11 his testimony about environmental benefits of
12 the two. Do you have any opinions on that?

13 MR. HANSON: Well, from the information I
14 have, I don't think there's any question that
15 ethanol helps decrease carbon monoxide. I mean,
16 primarily that's originally why it was
17 introduced in the Minneapolis area was to reduce
18 our carbon monoxide problems.

19 There have been indications that it does,
20 when ethanol is blended with gasoline, it does
21 tend to increase VOCs or ozone precursors.

22 So I believe there are some tradeoffs. And
23 you alluded to Wisconsin. There was some
24 concerns that they raised and why they actually
25 ended up defeating that mandate. 70

1 SENATOR WHITE: So we don't appear to have
2 definitive information on what the net
3 environmental benefits are of the switch to
4 ethanol. Is that a fair statement?

5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10

MR. HANSON: I would say yes.

SENATOR WHITE: Thank you. Any other questions? Senator Pippy?

SENATOR PIPPY: Just one. You talked about earlier was mentioned the impact source of affinity for water the chemical reactions. It concerned me, are there reports -- and you may not be the person, but you're in front of the mic -- but are there reports that talk about the compatibility with ethanol with older engines, newer engines?

If we have seal problems with emissions in California, are we going to have a significant problem in Philadelphia six years from now with older cars? Is there any information available on that?

MR. HANSON: Again, having worked this in the midwest, it's come up just because primarily any car past, you know, 1985 can handle a 10 percent ethanol blend. So 97 percent of the cars can handle a 10 percent ethanol blend.

71

It's when you start talking about E85, which is an 85 percent ethanol blend, that's when you have to have a flex fuel car. And roughly three percent of the cars in the U.S. can handle the 85. But most all can handle at least up to a 10 percent--

SENATOR PIPPY: We won't have a significant impact particularly the water in the gas tank.

MR. HANSON: The only-- In states Hawaii and Minnesota that have ethanol mandates, they

11 do exempt classic cars and they exempt
12 snowmobiles and ATVs.

13 But even now snowmobiles and ATVs have
14 warranties that allow you to use a 10 percent
15 ethanol blend on the new models.

16 SENATOR WHITE: Thank you. Senator
17 Williams was called to his office, but could we
18 ask you please that if additional questions
19 arise that were not addressed that we could
20 submit them to you in writing, Mr. Hanson?

21 MR. HANSON: Absolutely.

22 MR. HENDERSON: Our next witness is Joe Lee
23 of Lyondell Chemical Company.

24 SENATOR WHITE: Good morning, Mr. Lee.

25 MR. LEE: Good morning, Madam Chairman,

72

1 members of the committee. Thank you very much
2 for asking me here today.

3 I guess the first thing I ought to do is
4 clear up RBOB, just to make sure that everybody
5 understood. It sounded like I answered a
6 question with a question.

7 But basically what RBOB is is they produce
8 a hydrocarbon-based gasoline component that can
9 be blended with ethanol such as that you have
10 spec gasoline at the pump.

11 And what they do is essentially because of
12 the vapor pressure properties of ethanol, they
13 produce a low vapor pressure RBOB to blend with
14 the high vapor pressure ethanol when it's put
15 together to produce spec gasoline at the pump.

16 SENATOR WHITE: So we were basically told

17 that you can't use the same gas to blend with
18 ethanol that you would use for MTBE to balance
19 out the vapors.

20 MR. LEE: Right. There's different
21 requirements. And that's as a result of having
22 to transport the ethanol other than through
23 pipelines in order to blend it at a terminal or
24 something like that before it can go into the
25 car. So if I've done that, I've probably

73

1 answered as many questions as I can.

2 Again, my name is Joe Lee. I'm vice
3 president of fuel for Lyondell Chemical Company.
4 Lyondell is a worldwide company with about
5 10,000 employees, revenues of about \$18 billion
6 in 2005.

7 It's probably maybe a little bit more
8 familiar to people in Pennsylvania by the fact
9 that we have a large research and development
10 facility out in New Town Square in Senator
11 Erickson's district, a place where I worked for
12 20 years when it was known then as Arco
13 Chemical.

14 So people in that facility have worked for
15 numerous years on fuels and fuel technologies,
16 some of which resulted in the reformulated
17 gasoline program that helped with the cleanup of
18 the air.

19 As I say, my responsibilities within
20 Lyondell are for the fuels businesses amongst
21 which is MTBE and the sister product that we
22 make in Europe principally, an ethanol-based

23 product of ETBE, which we sell to blenders and
24 refiners throughout the world.

25 And I think there's been a lot of

74

1 discussion in terms of the history of how MTBE
2 got to where it is in terms of first being a
3 replacement for lead in gasoline, an octane
4 improver, and then followed up by the ramp up in
5 usage with the Clean Air Act and the development
6 of the reformulated gasoline program.

7 But all the while that that has been taking
8 place, MTBE has also become an essential
9 component to gasoline supplies in terms of
10 volumetrics and octane.

11 As was discussed earlier, the Philadelphia
12 and the five-county region there in the
13 reformulated gasoline program has probably
14 historically used about 11 percent MTBE in its
15 gasoline.

16 And again, that is a key volumetric to
17 consider particularly when we start looking at
18 today's role of a refinery utilizations are at
19 extremely high levels and as you've heard
20 earlier a lot of discussion in terms of what's
21 the impact of removal of this material from the
22 gasoline stream.

23 I think I'd like to just try to touch on
24 several of the points. A lot has been discussed
25 earlier, so I'll try to avoid repeating things.

75

1 But a lot has been said about the Federal Energy
2 Act and what it did and what it didn't do.

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
1
2
3
4
5
6
7
8

standard, which has, you know, principally been one of the reasons why many refiners have used MTBE in the past.

But it was removed at the time where the thought was that by removing it you would provide more flexibility to refiners to be able to produce reformulated gasoline however they saw fit, in the cheapest manner possible.

If there's probably a lesson out of the Energy Policy Act which is something for you to take under consideration for any bills in Pennsylvania as sort of a law of unexpected consequences.

While it was intended that this would be a way of providing more flexibility to allow refiners to make RFG more efficiently cheaper, in effect because of the removal of the limited liability discussions from the energy bill itself, now you see refiners moving from MTBE into ethanol.

And in fact, there's very little, if any, that I know clear RFG meaning RFG not made from ⁷⁶ oxygenate material being considered in the U.S. today.

So clearly, it's a case where you've moved from a case where you had an essential component in gasoline to one where people are moving more toward ethanol whereas it's probably not sufficient capacity for ethanol to replace the full volumetrics of MTBE today.

9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14

intended to do and what actually happened
sometimes can run afoul.

I know I heard a lot of questions today
about what's the price impact here.
Unfortunately, I don't have a particular study
in Pennsylvania, but I think maybe it's
instructive to look at what the state of
Maryland did when it was evaluating its bill in
terms of potentials for removal of MTBE.

And they did a cost impact to the citizens
there and estimated that it would cost the
citizens somewhere between \$174 and \$181 million
impact per year of the removal of MTBE from
their pool.

Now, they are somewhat smaller gasoline
pool. They are probably more RFG concentrated

77

than the state is here because as Senator White
said before, the split between east and west in
Pennsylvania.

But it did talk about roughly \$125 per
family impact in terms of the removal there.
Again, some of that could be alleviated in time
with the construction of new ethanol facilities,
but they're not available today.

I think probably it was better a question
to be answered by the previous speaker, but, I
mean, in terms of gasoline supply situation, I
think, you know, the question could be is
whether or not this is just a short-term
situation of a transfer from one set of specs to

15 another set of specs and that, you know, that
16 transition period would go rather quickly.

17 I think if you look at where we are in the
18 world today in terms of gasoline in terms of
19 increased demand across the world in places like
20 China and India and things like that, refinery
21 capacity utilizations are extremely high.
22 Margins in refineries are extremely high.
23 There's usually a pretty good indicator of how
24 tight things are.

25 Again, it's one of these things that, you 78

1 know, because of where we are with permitting in
2 the U.S. for new refinery construction here,
3 it's not a situation that I think is going to
4 pass real quickly.

5 What it will rely upon in the U.S. is more
6 imports or as we talked about before, we can
7 talk about ethanol from cellulosic or things
8 like that. But the key question there is what's
9 the cost of providing that gasoline to the
10 consumers?

11 Clearly if those were preferred ways of
12 making gasoline in times past from a cost
13 competitive standpoint, industry would have
14 found a way to incorporate those into the pool
15 today.

16 So I think while those options are out
17 there, while that technology is being developed,
18 I don't think anybody would suggest today that
19 it is a more cost effective way to produce
20 gasoline. It's just one that will help fill out

Hearing April 5'06 Transcript.txt
the volume when the time is needed.

And I was very interested in the comments from the members of the DEP. Clearly, I think that there have been issues and concerns raised about a switch from MTBE to ethanol in terms of

79

some issues regarding back sliding with regard to toxics with regard to volatile organic through either evaporative emissions from ethanol systems.

I think those are some concerns that were raised by the state of California when it was asking for its removal of the oxygen standard during its -- after it had banned MTBE, was still looking to try to remove all oxygenates from their system.

I think those kind of questions which clearly reside with the DEP and reside with the EPA I think those are issues that still need to be explored.

Federal Energy Act actually asked for a study to be done to look at what the effects of the alternatives would be from an environmental standpoint as well.

So I think even though that Energy Policy Act called out for that, they also gave a two-year period of time because again they did not anticipate there would be such a rush to move from one material to another. So a consideration to be taken there in terms of additional information still needs to be

80

developed.

2 Again, when Maryland had tried to evaluate
3 its bill, it had done a similar type of study to
4 look at not only just the impact on the RFG in
5 terms of the tailpipe emissions of gasoline but
6 also the offroad impacts and things of that
7 nature.

8 When they looked at MTBE containing fuel
9 versus both clear RFG and ethanol-based RFG, it
10 did show increases as a result of not everything
11 goes through a car, not everything comes out the
12 tailpipe, and the impacts of some of the
13 evaporatives, an increase of two to four percent
14 depending upon what the comparative gasoline was
15 for ozone precursors.

16 A consideration still, as the Clean Air Act
17 is still in full effect in the five-county
18 region around Philadelphia is still under an
19 ozone standard even though it's now the
20 eight-hour standard versus the one-hour
21 standard.

22 And probably the aspect I'd like to also
23 make sure this committee understood is that in
24 Europe the idea of having either-or of ethanol
25 or MTBE really isn't a question over there 81

1 because again, we work with ethanol suppliers in
2 France to produce as I say an ether version of
3 ethanol which has benefits because it is still
4 capable of being transported in pipelines, still
5 capable of being distributed without some of the
6 significant costs that you heard in terms of
7 conversions.

8 And again, it also produces a low vapor
9 pressure product so you also don't have the
10 negative effect of a direct blending ethanol
11 where you're pushing some of the other gasoline
12 components out to make room for the ethanol.

13 So in many cases, you look at the situation
14 in Europe, it's not that either-or situation.
15 There actually has been a cooperation between us
16 and ethanol farmers -- ethanol producers over in
17 Europe to be able to put the best of both
18 together.

19 And again, that's a consideration I think
20 is maybe a little bit difficult in today's
21 litigation environment in the U.S. but certainly
22 illustrates that from a technical standpoint,
23 from an efficiency standpoint, there are other
24 ways of producing gasoline using ethanol that
25 don't have to have some of the consequences on

82

1 the air as we talked about earlier.

2 And lastly, I go back to the same issue as
3 to why I'm probably here in the first place.
4 The whole issue about whether or not there is an
5 issue with regard to MTBE and ground water.

6 I think some excellent questions were
7 asked. I think the DEP gave a good description
8 of some of their concerns, but we go back to
9 some of the same issues about where the major
10 source of the problem is in terms of leaking
11 underground storage tanks.

12 I think we've seen a progression over the
13 years since the Clean Air Act was initiated,

14 since the new tank regs were supposed to be in
15 effect by 1998 to the fact that we're still
16 trying to improve our underground storage system
17 today, I think the problem over time is one
18 that's been going down.

19 Some of the cases that were pointed out
20 earlier, for example, the Blue Bell case, I
21 think occurred in the late 1990s. So we have to
22 make sure that we're talking about a situation
23 which reflects today's case of underground
24 storage tanks, where the Department feels it
25 needs to be with regard to regulations, where it

83

1 needs to be with regard to monitoring and
2 design, and making sure that sort of best
3 practices of all of what's going on across all
4 the states are taken into account because that's
5 the only way to make sure that not only MTBE is
6 not contained in underground water but benzene
7 is not in ground water, xylenes aren't in your
8 ground water nor toluene is in your ground
9 water, all of which I'm sure the citizens here
10 would prefer not to have in their drinking
11 water.

12 So let me conclude, and I hope I've helped
13 catch up some of the time. I think if the
14 question comes down to an either-or situation
15 whether or not you need to have, you know, MTBE
16 for its benefits in terms of air quality issues
17 and gasoline supply or underground storage
18 tanks, I don't think you're faced with that kind
19 of question.

20 I think you can have both. I think if you
21 look to the tank regs and how well you design
22 those and monitor those and make sure that any
23 spills are identified quickly and cleaned up
24 quickly, that takes you a tremendous way toward
25 taking out any of the issues with regard to

84

1 ground water while still maintaining the
2 benefits of the supply pool of keeping MTBE.

3 SENATOR WHITE: Thank you, Mr. Lee.
4 Senator Musto questions? Senator Pippy?

5 SENATOR PIPPY: Actually, he already
6 answered it which was the economic impact with
7 technology. And it looks like it should be one
8 of those we have to continue to monitor.

9 MR. LEE: Right.

10 SENATOR PIPPY: I do appreciate the info,
11 and thanks for the update on Europe as well.

12 MR. LEE: I appreciate that. One thing I
13 didn't say about the Maryland study is that
14 actually when they looked at that cost
15 differential, they actually looked at it with
16 regard to the impacts of also cleaning up water
17 issues as well. So it's a net cost, not just a
18 supply-based cost on the cost of fuel.

19 SENATOR WHITE: It sounds as if from the
20 testimony of Mr. Hanson that a number of
21 refiners are -- for liability reasons are making
22 the switch voluntarily or on their own volition
23 from one oxygenate to the other. But it sounds
24 to me as if ethanol is not totally without
25 liability considerations either.

1 MR. LEE: I think that's something that as
2 you generally see over time it becomes -- when
3 it becomes in larger use, you'll see whatever
4 issues are going to develop out of that.

5 I know that there are some things that have
6 been identified with regard to the air issue and
7 things of that nature, but also questions about
8 what happens when you have a spill of ethanol
9 containing gasoline.

10 Apparently it seems like the bugs like to
11 chew up ethanol first, surprisingly enough, and
12 the question then becomes where does the plume
13 of benzene or any of the other components in
14 gasoline go.

15 So I think it's something that is out
16 there. I think people are aware of the issue.
17 Again, that issue itself would also be enhanced
18 if you had good tank regs as well, so I don't
19 want to create a scare out of one issue when I
20 think you can also manage it if you look at the
21 tank regs carefully.

22 SENATOR WHITE: We certainly have improved
23 our tank regulations over the years. I mean,
24 there's no doubt about that.

25 MR. LEE: I believe so.

1 SENATOR WHITE: But I think leaks as they
2 were spills and, you know, accidental tank
3 overturning or somebody simply leaving a valve
4 open by mistake.

5 I think it would be interesting if the

Hearing April 5'06 Transcript.txt
6 Department has those statistics to see what the
7 spill record has been in recent years since the
8 new regulations have gone into effect because I
9 agree with you I think most of those--

10 MR. LEE: If there's not a direct
11 comparison because there's not a history there,
12 I think there are analogies to shipping by
13 pipeline versus shipping over the road and by
14 rail and things like that to sort of put an
15 incident rate that might give you some
16 indication of what some differences may be.

17 SENATOR WHITE: Does Lyondell have any
18 plans to get into the ethanol business in the
19 United States and would it be possible or why
20 can't we make MTBE here?

21 MR. LEE: Good question. One, we don't
22 have any immediate plans to be investing in
23 ethanol. We think that a lot of those are
24 driven out of, you know, agricultural interest
25 trying to put together a program that includes
87 their feedstock and producing the ethanol.

1 We're there to be able to facilitate the
2 conversion of that to gasoline components if
3 necessary in the same way that we don't produce
4 methanol ourselves in order to make MTBE.

5 We would clearly think and we've had a lot
6 of policy discussions with people from
7 Washington about the benefits of switching from
8 MTBE to ETBE because it does effectively allow
9 you to incorporate more materials into the
10 gasoline pool.
11

12 In our estimation, it would impact the
13 ability to bring on the addition of about four
14 average-size refineries of gasoline. And if you
15 look at all the considerations down in
16 Washington over how to get additional gasoline
17 into the pool, it's probably one of the few
18 items that we know of that can bring any
19 materials in the short term.

20 SENATOR WHITE: So instead of trying to
21 build additional conventional refineries, this
22 would expand the gasoline supply I guess
23 considerably without the need for full scale
24 refineries.

25 MR. LEE: That would be a way of producing ⁸⁸

1 it without having to expand refining capacity,
2 yes. Again, the--

3 SENATOR WHITE: What are the obstacles
4 besides money?

5 MR. LEE: Well, I think that the litigation
6 issues are serious enough for some people to
7 make it a nonstarter if they think that they're
8 going to be faced with similar type of issues,
9 not for the issues of whether or not they
10 produce it and it spills, whether or not they
11 clean up, but just that they would be guilty for
12 just producing it in the first place, which is
13 sort of where we were going with the limited
14 liability, not to shield people who spill the
15 stuff from the responsibilities of cleaning it
16 up, but because the decision to actually have it
17 incorporated in gasoline, that should not be in

Hearing April 5'06 Transcript.txt
itself a reason for liability.

And unless we have some movement in Washington on something like that, I still see a relatively high obstacle to get past that unfortunately.

SENATOR WHITE: Yes. Any other questions?

SENATOR STOUT: Yes, Madam Chair. Exactly what do these changes -- how do they impact

89

Lyondell's operation here in the Commonwealth of Pennsylvania? Will this result in a decrease of employment here in the Commonwealth or do you see an expansion?

MR. LEE: No, I don't think -- as every problem also creates opportunities for R&D facilities, I think we have clearly worked with the people in New Town Square more on what do we do as alternatives.

So we keep them gainfully employed in terms of trying to work through the situation with us in terms of alternatives. So I don't see a direct impact on jobs within the state from our standpoint.

Now, I think a lot of legitimate questions were raised in terms of the cost of gasoline. What does that do to, you know, people wanting to make investments and things of that nature in terms of just general economic issues, which again, we as a company that, you know, have -- we'll see lower earnings as a result, we'll just have to take that into consideration when we do expansions and things like that. But for the

Hearing April 5'06 Transcript.txt
24 facilities in New Town Square, I don't see a
25 direct impact on this issue.

90

1 SENATOR STOUT: Thank you, Madam Chair.

2 SENATOR WHITE: Thank you, Mr. Lee.

3 MR. LEE: Thank you.

4 MR. HENDERSON: Our next witness is Jeffrey
5 Garis, organizer for the Campaign for Clean Air
6 & Clean Water.

7 MR. GARIS: Good morning. I want to thank
8 this committee and especially you, Senator Mary
9 Jo White, Chairperson, for the opportunity to
10 speak today. My name is Jeff Garis. I'm the
11 organizer of the Campaign for Clean Air & Clean
12 Water.

13 I'm going to deviate a bit from my written
14 testimony in the interest of time. I'm aware of
15 the session beginning.

16 Let me just say first that I am not
17 speaking as a scientist. I am not speaking as
18 an official with any Commonwealth agency. I'm
19 not a representative of Petro Chemical or
20 petroleum industries.

21 But I am here today speaking on behalf of a
22 special interest. And that is a special
23 interest in which I am deeply invested. And I
24 am talking about the fact that I am a father of
25 two middle school age children who are pupils in

91

1 Pennsylvania public schools.

2 And I must say that it is the thought of
3 the kind of Pennsylvania that they will inherit
4 that I will pass onto them that is a driving

5 force for me in this issue.

6 And I think that it is clear that there are
7 serious problems with the continued use of MTBE.
8 We can talk today about issues about the cost
9 and about what the cost of conversion might be,
10 but I think that we have to focus first and
11 foremost on the fact that MTBE is costing
12 Pennsylvanians millions of dollars in terms of
13 cleanup costs and it is disrupting the lives of
14 people particularly in southeastern Pennsylvania
15 when they discover that there is MTBE in their
16 drinking water.

17 MTBE is a known -- is listed by the U.S.
18 Environmental Protection Agency as a possible
19 human carcinogen. And it has been conclusively
20 demonstrated that it is carcinogenic in animals.

21 It has also been demonstrated that MTBE
22 dissolves much more easily and rapidly and is
23 absorbed much more quickly than other components
24 of gasoline.

25 So when we talk about the costs of cleanup ⁹²

1 when there is an MTBE leak versus, well, what
2 would be the cost of cleaning up if it were just
3 a gasoline leak, the problem is that MTBE, once
4 it enters the ground water moves much more
5 quickly.

6 So there are places like in Plumstead
7 Township where they have increasing levels of
8 MTBE in their public water supply, but we're not
9 seeing the other components in gasoline in that
10 testing. That is because MTBE travels so much

11 more quickly.

12 It is much more expensive to clean up a
13 spill that involves MTBE than a standard
14 gasoline spill.

15 It's also been demonstrated that breathing
16 small amounts of MTBE for short periods of time
17 can cause nose and throat irritation.

18 There have been problems with people who
19 have been service station employees. Even some
20 people pumping their own gasoline have reported
21 problems of headaches, nausea, dizziness, and
22 mental confusion.

23 MTBE is a problem in Pennsylvania. It is a
24 problem that has been recognized across the
25 country. There are now 25 states that have

93

1 banned MTBE or are in the process of banning
2 MTBE.

3 When we talk about the issue of cost, there
4 is no where in this country, California, New
5 York where MTBE has been banned and there has
6 been a significant price increase due to the
7 phaseout of MTBE. There is no evidence in any
8 of these states that a price increase has
9 occurred. And yet we continue to hear the
10 concerns about 25 cents a gallon increases.

11 What you did not hear this morning when you
12 heard from people speaking on behalf of gasoline
13 interests is the fact that nine months ago the
14 price of ethanol was substantially less.

15 And in fact, there was a lot of evidence to
16 suggest that states that replaced MTBE with

17 ethanol actually could see a four to five cents
18 decrease in the price of fuel.

19 So I think that when we talk about what the
20 impact is in terms of price -- and I'm not here
21 as an advocate for ethanol. I'm simply talking
22 about the fact that we need to get rid of MTBE
23 -- but it is clear that other alternatives are
24 being developed rapidly and that there is this
25 very short-term increase.

94

1 If you watch television you've seen the
2 commercials for go yellow talking about people
3 using E85 fuel. It's being heavily promoted.
4 Of course, there is an increased demand for
5 that. And there will be an increase in the
6 amount of production for that.

7 So I think that it has to be recognized
8 that, you know, to simply say, well, switching
9 over to ethanol is going to cost 25, 50 cents a
10 gallon more to the consumer is simply not true.

11 And in fact, it was only about two weeks
12 ago that AAA questioned the most recent increase
13 in the price of gasoline in Pennsylvania. And
14 what they were being told was that it was a
15 conversion over from MTBE to ethanol that was
16 part of the responsibility -- was a responsible
17 party for increasing the price of gasoline.

18 AAA responded by saying that that did not
19 even begin to explain why there was a sudden
20 increase in the price of gasoline and that MTBE
21 conversion over to ethanol alone could not
22 simply explain that increase in price.

23 The process of remediation, I've met with
24 and I've talked with families, communities where
25 MTBE has been found in their drinking water. 95

1 Their lives are turned upside down. In some
2 places and some people there's a different level
3 of sensitivity and awareness of the presence of
4 MTBE.

5 I have in my written testimony kind of an
6 anecdotal story about a family in Hilltown
7 Township where they had a private well and the
8 mother in the family began to say, you know,
9 there's something that does not smell right with
10 this. This water tastes funny, it smells like
11 turpentine.

12 The father in this particular family didn't
13 notice anything and said I don't think there's a
14 problem. I think it's in your head.

15 She was persistent about it. Eventually,
16 they had the water tested and lo and behold they
17 had the presence of MTBE above the 20 parts per
18 billion that is considered to be the action
19 level for the Pennsylvania DEP.

20 As a result of that, more investigation was
21 done. They were having bottled water delivered
22 into their home, filtration systems installed,
23 repeated testing of their well, repeated testing
24 of their water, training in how to change the
25 filtration systems. 96

1 What was determined was that there was a
2 gasoline station up the block that was leaking

Hearing April 5'06 Transcript.txt
3 gasoline from an underground storage tank.

4 To make matters worse as they pursued this,
5 they discovered that in fact the alarm system
6 that was to alert the service station to a leak
7 in its underground storage tank, when it began
8 to indicate that there was a leak, the problem
9 was solved by service station employees simply
10 shutting down the alarm system. And months and
11 months went by while this continued to leak
12 underground.

13 This family to this day cannot drink the
14 water out of their tap. Yes, they're being told
15 that it has less than 20 parts per billion of
16 MTBE, which is roughly the equivalent of a
17 tablespoon of MTBE in the water in an
18 Olympic-size swimming pool. That is all you
19 need to have that 20 part per billion level
20 reached.

21 This family, you know, as I said, is still
22 using bottled water, is still using filtration.
23 This is years later. The cleanup process is
24 still going on.

25 And because they're below 20 parts per
97 billion at a press conference that we did last
1 summer in Hilltown Township where this family
2 lived, one of the journalists said, well, if
3 it's now below 20 parts per billion, what's the
4 concern then? It's not considered above the
5 action level.
6

7 And this individual simply said, does
8 anyone here want to come over to my house and

Hearing April 5'06 Transcript.txt
9 drink some of the water out of my sink? Does
10 anybody here want to have their children
11 drinking the water out of this sink at low
12 levels for an extended period of time of a
13 substance that is a possible human carcinogen?
14 Needless to say, there were no takers.

15 This has become a problem in communities
16 like Plumstead Township where last summer they
17 discovered that there was MTBE in several public
18 and private wells and in businesses and homes in
19 the community.

20 Tests of a private well supplying water to
21 a grocery store in Plumstead Township revealed
22 MTBE contamination at three times higher levels
23 than the action level set by the DEP.

24 This is a grocery store. We're talking
25 about produce being washed. We're talking about
98
1 water being used on a regular basis in a grocery
2 store.

3 But that was not even as bad as the next
4 grocery store down the road where the water
5 supply was found to have MTBE levels more than
6 37 times those deemed to be safe.

7 And at the gas station that was believed to
8 be responsible for the problem and where
9 remediation and testing is still taking place to
10 determine the extent of it, a shallow well near
11 the underground storage tank revealed MTBE
12 levels that were more than 100 times greater
13 than the permissible standard.

14 This stays in the water. This is perhaps

Hearing April 5'06 Transcript.txt
15 part of the reason why as it travels in the
16 underground aquifers that in the U.S. geological
17 survey report on Pennsylvania water in ambient
18 ground water samples from 350 locations around
19 the state, more than 10 percent contained MTBE
20 in it.

21 I have with me today materials from a right
22 to know request that we filed last year with the
23 Pennsylvania Department of Environmental
24 Protection.

25 There was a question earlier I know about 99
1 how many spills are there, how many of these
2 leaks have occurred. In that particular report
3 that we had which was on public water supplies,
4 19 counties had MTBE in their drinking water
5 supplies. Those were being tested on a regular
6 basis.

7 The largest number of them were found in
8 Bucks County, Pennsylvania, where this has
9 become a problem.

10 To the extent that in December the
11 Plumstead Township board of supervisors after
12 months of dealing with public inquiries, public
13 questions, diversion of their attention from
14 other municipal issues to dealing with how would
15 they handle this MTBE crisis, they passed a
16 resolution calling on you folks, calling on all
17 the senators of Pennsylvania, all the
18 representatives to take action to ban MTBE in
19 Pennsylvania.

20 As I said, you know, I'm not here to speak

Hearing April 5'06 Transcript.txt
21 in support of any particular industry. I'm not
22 here to speak to terms of what ultimately are
23 the cost factors, at what point do we say the
24 public health matters above and beyond what
25 could be a temporary increase in price.

100

1 I'm simply here to say on behalf of many
2 people that I've worked with and many people
3 that I've met that MTBE needs to be phased out
4 in Pennsylvania.

5 And the Campaign for Clean Air & Clean
6 Water and, in fact, many environmental groups in
7 this state are calling for passage of Senate
8 Bill 824 introduced by Senator Joe Conti of
9 Bucks County, which is called the MTBE
10 Prohibition Act.

11 That was introduced before the Federal
12 Energy Bill was passed, which completely
13 eliminated the RFG program. There is no mandate
14 to put oxygenates in gasoline as a result of
15 that action.

16 So this legislation, 824, was introduced
17 before the elimination of the RFG program had
18 been passed. As a result of that, my only
19 comment on critique of Senate Bill 824 is in
20 light of the elimination of the RFG, I think
21 that it's clear that a much shorter phaseout
22 period for banning MTBE should be implemented.

23 Senate Bill 824 calls for a five-year
24 phaseout. Every other state in 25 states that
25 have passed these bans have generally done this

101

1 on a two-year conversion phaseout period.

2 So if I were going to say that I had any
3 additional suggestions beyond passing Senate
4 Bill 824, it would be amend it to have a
5 two-year phaseout as opposed to a five-year
6 phaseout.

7 As I said, you know, I'm not a scientist,
8 but I've been working face-to-face with people
9 who have experienced this.

10 I don't think that we need to necessarily
11 know what kind of replacements we could put into
12 gasoline to increase octane levels, to increase
13 oxygen levels.

14 But I do think that we can agree that it is
15 in the interest of the public good, in the
16 interest of the environment of Pennsylvania and
17 the future that we leave for our children that
18 action be taken to ban MTBE in Pennsylvania.
19 Thanks.

20 SENATOR WHITE: Questions?

21 SENATOR STOUT: Yes, one question. I know
22 you stated that you are not advocating for one
23 type or another type, but if we -- going to the
24 ethanol-based fuels, do you foresee any
25 difficulty that's going to be encountered with
102
1 the use of ethanol?

2 MR. GARIS: Are you asking me about
3 ethanol?

4 SENATOR STOUT: Yes.

5 MR. GARIS: Again, you know, we don't have
6 a position on ethanol. Our position is banning
7 MTBE in Pennsylvania.

8 I think a couple factors need to be
9 recognized. One is that the RFG program has
10 been phased out. So the mandate to put
11 oxygenates into gasoline is no longer present.
12 So that's one factor right there.

13 The second point that I would have along
14 with is that is that my understanding of the
15 Federal Energy Bill that was passed last summer
16 is that there is substantial funding and a
17 substantial call for significant increase in
18 ethanol production in this country.

19 And from what my understanding is, from
20 what I've heard, from what I've seen of I
21 believe six to eight plants that are being
22 proposed here for Pennsylvania to produce
23 ethanol so that we wouldn't be shipping it from
24 the midwest, my impression is that we could get
25 rid of MTBE.

103

1 And if someone wants to replace it with
2 another oxygenate, then I think that ethanol
3 production would increase to go along with that.

4 SENATOR STOUT: In your study of the
5 cleanup of the MTBE sites, what do you project
6 is the financial requirement to remediate those
7 sites?

8 MR. GARIS: Financial cost of remediation,
9 I have here information that was a projection
10 made in May of 2005. I'll just share that with
11 you. Several U.S. companies that make or use
12 MTBE have been lobbying heavily for a limit on
13 their liability to clean up contaminated water.

14 They did not get that in the energy bill.

15 Environmentalists say that the cleanup
16 costs could total \$29 billion, but industry and
17 other officials say the cost is closer to
18 \$8 billion.

19 The fact of the matter is we are talking
20 about significant costs. Now, that's across the
21 country. But Pennsylvania is one of the states
22 that has had problems with MTBE clean up.

23 So my understanding is that in places like
24 the Orvilla Road site in Hatfield Township where
25 there was a leak from a service station there

104

1 that the cleanup costs went over \$10 million in
2 that particular situation based on information
3 that I got from the DEP.

4 SENATOR STOUT: Thank you, Madam Chair.

5 SENATOR WHITE: Thank you, Senator. It's
6 my understanding that what has actually been
7 removed is the oxygen requirement not the
8 obligation to make clean fuels.

9 MR. GARIS: Yes, I'm sorry. I misspoke on
10 that. It is the oxygen.

11 SENATOR WHITE: And also the Energy Act put
12 in the renewables requirement. So we're still
13 going to have to make clean gasoline, it's a
14 question of how we do it.

15 I am certainly sympathetic to anybody who
16 has been impacted by any type of petroleum
17 spill. That is never a good thing to happen to
18 a community.

19 But what I find kind of ironic is that what

20 is bad for the water is good for the air. And,
21 you know, so here we are with those tradeoffs.
22 But I appreciate you coming here today. I
23 appreciate hearing from you. And we will
24 certainly take your testimony under advisement.

25 MR. GARIS: I have a very brief response to ¹⁰⁵

1 that question about air quality. I think it is
2 important that we have clean air. And I would
3 simply point to the fact that in one of the test
4 cases where we can see a state that has banned
5 MTBE and did switch to something else, the state
6 of California, on the area of the San Joaquin
7 Valley in the south coast in the first year
8 following their phaseout of MTBE -- and they
9 chose to use ethanol -- they actually had the
10 fewest exceedents days ever for peak
11 concentrations of smog forming emissions.

12 So I think it is clear that we can protect
13 both our water supply and our air supply without
14 using MTBE. Thank you.

15 SENATOR WHITE: Well, that would certainly
16 be our goal. Thank you. Our final witness?

17 MR. HENDERSON: Our next witness is Michael
18 Pechart of the Department of Agriculture.

19 MR. PECHART: Madam Chair, Chairman Musto,
20 Senator Stout, good morning. On behalf of the
21 Pennsylvania Secretary of Agriculture Dennis
22 Wolff, I appreciate the invitation and
23 opportunity to present the issues on ethanol and
24 MTBE from the perspective of our department, the
25 Department of Agriculture.

1 To begin this discussion, I think it's
2 important to recognize the steps Pennsylvania
3 has taken to decrease our reliance on petroleum
4 and increase our utilization of renewable ag
5 energies further solidifying and providing for
6 our national security.

7 Governor Rendell and Secretary Wolff
8 believe that Pennsylvania's agricultural sector
9 can contribute significantly to meeting our
10 state's energy needs and that Pennsylvania's
11 assets give us a unique role in building our
12 nation's energy platform.

13 We must cut our petroleum imports by
14 harvesting energy from crops grown on American
15 soil. And there can be no argument in the
16 sustainability of that model and strategy.

17 Pennsylvania is taking the lead and that is
18 demonstrated by the fact that we recently opened
19 our first commercial biodiesel production
20 facility that will produce two to three million
21 gallons of biofuels a year.

22 Additionally, with state support, the first
23 east coast biodiesel injection blending facility
24 opened in Pennsylvania. We expect within a year
25 to be producing tens of millions of gallons of
1 biofuels.

2 I would also note that Keystone Biofuels
3 right across the river in Shireman's Town
4 recently shipped the first load of biodiesel in
5 Pennsylvania. About 7,000 gallons was shipped.

6 Also Governor Rendell created the Renewable
7 Ag Energy Council through executive order and
8 that council is made up of agricultural
9 interests, academia, state and federal agencies,
10 the PA legislature, renewable energy development
11 companies, and users of renewable energy.

12 And that council is focusing on bringing
13 together all aspects of renewable energy
14 development, whether that be financing, the
15 public relations aspects of it, the technology
16 aspects, and the research aspects.

17 While Pennsylvania is a corn deficit state
18 that imports 50 percent more corn than we
19 produce, we feel that the development of a
20 destination ethanol plant, which is a plant that
21 produces products that are used locally -- that
22 would be used locally in Pennsylvania is a
23 concept that can provide both economic and
24 environmental benefits to Pennsylvania's farmers
25 and to our rural economy.

108

1 On the subject of a ban of MTBE, we feel
2 that the lack of federal support for MTBE from a
3 liability standpoint has already caused fuel
4 suppliers to move away from the product as a
5 gasoline additive.

6 MTBE's ability to move through ground water
7 systems as was recognized this morning along
8 with its odor and potential as a carcinogen have
9 made it problematic as a fuel additive. Ethanol
10 is a logical alternative to its favorable energy
11 ratio and its ability to be produced locally.

12 Corn yields 2.75 gallons of ethanol per
13 bushel to make a viable renewable fuel. While
14 90 percent of ethanol is currently made from
15 corn, ethanol can also be produced locally from
16 plant starches, sugars, and other cellulose
17 products.

18 This will help ensure that energy dollars
19 and jobs stay within the Commonwealth as opposed
20 to being spent on fuel from out-of-state
21 suppliers.

22 As indicated today, ethanol presents
23 challenges to fuel blenders since it has an
24 affinity for water and thus cannot be
25 transported through existing fuel pipelines.

109

1 The challenge becomes providing enough
2 ethanol for blending with gasoline using
3 predominantly rail and truck transport
4 mechanisms. Having enough ethanol at key
5 blending locations around Pennsylvania will be a
6 difficult hurdle for the industry to overcome.

7 And I would just step aside and note for a
8 second that as we are growing our biodiesel
9 production in Pennsylvania, one of the hurdles
10 we are working through right now is to get to
11 biodiesel you need to have soybeans and be able
12 to crush them.

13 And we have a limited number of crushing
14 facilities in Pennsylvania right now that are
15 reaching their maximum. So one of the goals is
16 going to be to develop additional crushing
17 companies or businesses in Pennsylvania that can

Hearing April 5'06 Transcript.txt
18 crush these beans.

19 And we'll encounter similar hurdles in the
20 ethanol industry, not with crushing but with the
21 input channels that go into the production of
22 ethanol.

23 Local production would provide locally
24 manufactured sources of ethanol that would help
25 simulate the local economy by providing jobs to
110
1 help meet market demands and keeping money in
2 local economies through local sales.

3 And I would note in Schuylkill County where
4 one of our proposed ethanol plants is under
5 consideration, the principals of the company
6 that are considering the plant held a public or
7 a town meeting to help educate the public on
8 what ethanol production is and answer questions.

9 And a majority of the persons that attended
10 that town meeting were actually there interested
11 in jobs and what job opportunities may be
12 available at the plants. So there's a lot of
13 excitement as far as ethanol production from a
14 job standpoint.

15 Local corn prices would be improved for
16 producers that refuse to sell PA grown corn to
17 the plant with the balance being provided by
18 rail just as rail corn supplements local
19 supplies for existing farming operations in
20 Pennsylvania.

21 The benefits do not stop here since the
22 concept of a destination ethanol plant includes
23 improved economics for coproduct markets in the

Hearing April 5'06 Transcript.txt
east.

24

25

Pennsylvania's strong dairy industry -- and 111

1

our dairy industry is 40 percent of our entire

2

agricultural industry -- uses significant

3

amounts of dried distillers grains today for

4

dairy rations to provide a substantial protein

5

source in the total ration.

6

Locally produced distiller's grains could

7

be sold directly to farmers as a wet ration and

8

the balance dried for sale to feed producers of

9

other livestock industries, namely poultry and

10

hog rations.

11

Carbon dioxide that is normally vented to

12

the atmosphere in midwest and western ethanol

13

plants could be captured and sold as a commodity

14

for companies on the east coast that are right

15

now really having trouble finding adequate

16

supplies of carbon dioxide for food processing,

17

beverage, and industrial markets.

18

Collectively, these benefits would improve

19

local agricultural markets without compromising

20

existing crop rotations or federal conservation

21

programs.

22

To promote ethanol use, we need to create

23

market stability through incentives that trigger

24

production. Refiners are already making the

25

switch from MTBE to ethanol and terminals and 112

1

retailers are preparing the infrastructure.

2

While initial production plants would

3

evolve through sound business planning and

4

capital investments, the incentives would ensure

5 that additional ethanol production would have
6 good market stability.

7 For example, incentives that would
8 stimulate annual production over 100 million
9 gallons of ethanol would ensure market support
10 for ethanol production over the baseline limit.

11 To further support ethanol, an effort
12 should be made to make the fuel available for
13 state and federal fleets at the curb. Having
14 the fuel available and being used will create
15 consumer confidence and familiarity necessary
16 for acceptance.

17 And that's one of, I think, our bigger
18 drawbacks or stumbling blocks today is a lot of
19 consumers are hearing about this renewable
20 energy whether it's ethanol or biodiesel or
21 biogas but just don't really understand what it
22 is and what it can do and its benefits.

23 Having fuel available and being used will
24 create consumer confidence. And you can look at
25 states like North Carolina where 24 curbside

113

1 ethanol pumps are available to consumers.

2 Like Pennsylvania, they have very little
3 ethanol production in the state but have created
4 demands simply through making the product
5 available. We should look to this and other
6 examples to create similar markets here.

7 Having discussed the benefits of corn-based
8 production of ethanol, I would also like to say
9 that our real challenge is to move technology
10 from corn-based production to cellulose-based

11 production of ethanol using conversion
12 technologies that change plant cells to sugars
13 and the sugars to ethanol.

14 This technology would allow us to conduct a
15 sustainable harvest of excess plant residues
16 from crops or secondary forestry production to
17 produce ethanol from existing crops as well as
18 specific alternative energy crops like
19 switchgrass.

20 And the hard wood industry in Pennsylvania,
21 as I'm sure you're aware, is one of our leading
22 sectors in the agricultural industry. And they
23 have a tremendous amount of interest in
24 cellulose-based ethanol because right now
25 they're timbering the forests and the plots and

114

1 the excess, the roughage that is not taken to
2 the mill for lumber often lays in the forest.
3 And there's a tremendous amount, I think as
4 Deputy Secretary Desmond indicated this morning,
5 of feedstock for ethanol lying in our forests.

6 By diversifying feedstocks, we can make
7 ethanol part of Pennsylvania's renewable energy
8 program by promoting locally produced energy
9 sources to provide heat and power from
10 indigenous and homegrown resources that become
11 the energy that gives something back to our
12 communities.

13 Local resource development and use will
14 create development in rural areas that
15 collectively will help revitalize our local
16 populations and reduce our dependence on foreign

17 energy sources. Thank you for the opportunity
18 to provide these comments here today.

19 SENATOR WHITE: Thank you. Senator
20 Williams had to leave, but he had a question
21 from earlier that was about the competition for
22 corn between architectural interests and ethanol
23 plants and its impact on for example the price
24 of milk and meat at his local market and the
25 price of gasoline.

115

1 Do you have any-- You seem to indicate you
2 don't think there's competition for that
3 material?

4 MR. PECHART: I don't think so, not in
5 Pennsylvania. Right now, as I indicated in my
6 comments, over 50 percent of our corn needs are
7 imported from out of Pennsylvania.

8 For farmers, for a majority of farmers that
9 are growing corn right now in Pennsylvania, they
10 are mostly dairy farmers. And they are in
11 September taking the corn and running it through
12 a 4H harvester and putting it in a silo or in a
13 bunker to be fed to dairy cows as a ration.

14 SENATOR WHITE: So they're largely
15 providing their own?

16 MR. PECHART: They're actually providing
17 their own corn. A lot of the corn that's put in
18 the poultry and hog feed is imported from out of
19 state.

20 We do have a pretty good grain farming
21 industry in Pennsylvania, but we're by far not
22 anywhere near being a nation leader in actual

23 grain production.

24 But there's a lot of land out there right
25 now that may not be in corn. And the reason it 116

1 may not be in corn is because corn is only \$2 a
2 bushel right now whereas alfalfa or other
3 products that are grown on those fields may be a
4 little more profitable for the farmer.

5 I think it all comes down in the end if
6 farmers are able to receive a fair and
7 competitive price for their corn, they're going
8 to put more corn out.

9 SENATOR WHITE: Right. You talk about
10 using cellulose as a feedstock which is very
11 interesting. But are these ethanol plants
12 feedstock specific? In other words, can an
13 ethanol plant use varying feedstock? Can the
14 same plant use corn and then use waste timber?

15 MR. PECHART: I don't believe so. I think
16 the answer to that question is no. And right
17 now in Pennsylvania--

18 SENATOR WHITE: No, they are not so they
19 are specific to a specific feedstock?

20 MR. PECHART: I believe that is correct.
21 We have several plants right now proposed, and
22 they're all looking at corn. There are a few
23 plants, one in Clearfield County, that is being
24 considered that would take waste materials, wood
25 and other products, and create ethanol from 117
1 that.

2 In the same regard, Penn State University

Hearing April 5'06 Transcript.txt
3 has done some extensive research on all types of
4 feedstocks whether it's actual manure from
5 farms, switchgrass, poplar trees, corn stalks
6 that are left in fields, and are finding there
7 are different techniques that can be used to get
8 to an ethanol product.

9 Some work, some don't work. So there's a
10 lot of technology that needs to be done on the
11 cellulosic side to catch up to the traditional
12 grain side of ethanol production.

13 SENATOR WHITE: When you talk about
14 incentives to trigger production, are you
15 talking about subsidies?

16 MR. PECHART: No, not necessarily. And
17 I'll use an example from the Pennsylvania
18 perspective here on the biofuels side and
19 specifically on the soy diesel side.

20 In Pennsylvania, we have approximately five
21 to six companies right now that have plants
22 either built or producing biofuels, soy diesel.
23 And we've been trying to assist those companies
24 through federal grants and state grants to get
25 up and running and to find markets for their

118

1 products. So no, to answer your question, no,
2 we're not talking subsidies. It's more in the
3 line of grants that--

4 SENATOR WHITE: Guarantees them a market
5 for their product?

6 MR. PECHART: Yes.

7 SENATOR WHITE: Thank you. Anyone else?
8 Thank you. That concludes our hearing this

9 Hearing April 5'06 Transcript.txt
10 morn ing. I thi nk thi s i s one of the more
11 i nterest ing hear i ngs that we' ve had. And I
12 appreci ate everyone' s parti ci pati on. Thank you
13 very much.

14 (The proceedi ngs concl uded at 11: 23 a. m.)

15
16
17
18
19
20
21
22
23
24
25

119

CERTI FI CATI ON

I hereby certi fy that the proceedi ngs and
evidence are contai ned fully and accurately i n the
notes taken by me on the wi thi n proceedi ngs, and that
thi s copy i s a correct transcript of the same.

Dated i n Harri sburg, Pennsylvani a thi s 25th day
of April , 2006.

Debra L. Heary, Notary Publ ic
Regi stered Professi onal Reporter

(The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or supervision of the certifying reporter.)