

BIG OIL, BIG CORN:



*An in-depth
look at the
Volumetric
Ethanol
Excise
Tax
Credit*

Corn has been subsidized since the 1930sⁱ, but it was not until much later that the federal government first subsidized putting the staple crop into our car's fuel tanks. A fuel crisis in the late 1970s created demand for alternatives to importing oil from overseas. Ethanol, an alcohol made from fermented corn, was first subsidized in 1978 by exempting ethanol blended with gasoline from some excise taxes. Thirty-three years later, the ethanol industry is still receiving ever-growing government support for a market that matured long ago.

America has supported ethanol at every turn. When oil prices spiked in the 1970sⁱⁱ, policy makers looked for other avenues to supply the nation's automobiles with fuel. In the 1980s, subsidies and government support for ethanol production increased even as the market struggled. Though oil prices leveled off in the 1990s, the government continued to subsidize ethanol. The Energy Policy Act of 1992 allowed for a higher percentage of blending of ethanol and gasoline to take place, expanding and protecting the market further.



In 2004, the current major corn ethanol subsidy, the Volumetric Ethanol Excise Tax Credit (VEETC), was enacted, consolidating subsidies that existed at the time. The VEETC is the largest subsidy to corn ethanol, costing taxpayers billions of dollars each year. The tax credit is currently worth \$0.45 per gallon of ethanol blended with gasoline.ⁱⁱⁱ

This report by Taxpayers for Common Sense will demonstrate the multitude of problems the VEETC poses. We will discuss the other government policies that already ensure a market for ethanol, the exploding cost of the VEETC to taxpayers, the impact ethanol subsidies have on increasing the price of goods in other markets, and the environmental costs of ethanol production.

Extending the ethanol tax credit through 2015 will cost taxpayers \$31 billion.

Though the VEETC was set to expire at the end of 2010, Congress voted to extend this wasteful subsidy through 2011, adding to the years of support and tens of billions of dollars for a now mature industry. Extending the ethanol tax credit through 2015 will cost taxpayers \$31 billion. As the focus of Washington turns to our growing fiscal problems, the immediate repeal of the VEETC becomes even more important in the fight to save taxpayers billions.

The Basics of Biofuels and Ethanol

Ethanol is the most common kind of biofuel. It is made by turning corn into a grain alcohol that is then blended with gasoline and used in cars and other vehicles. Once the corn is harvested, it is sent to a producer who ferments the corn, creating ethanol. While ethanol has other uses, most ethanol in the United States gets blended with gasoline and sold at gas stations. The most common blend of ethanol is E10, or 10% ethanol and 90% gasoline.^{iv} Though many different raw materials can be used to make ethanol, corn comprises nearly all of commercial ethanol production in the United States.^v

There are other kinds of biofuels as well. Biodiesel can be made from soybeans, animal fats, or recycled cooking oils and is commonly mixed with petroleum diesel.^{vi} Alternatively, advanced biofuels,

legislatively defined as a renewable fuel not made from corn starch and with at least a 50% less than baseline lifecycle greenhouse gas emission (the baseline in this case being gasoline), includes ethanol made from sugars, starches, vegetative waste, and other materials.^{vii} Cellulosic ethanol is one well-known advanced biofuel. The federal ethanol mandate requires cellulosic ethanol to reduce greenhouse gases by 60%. It is made from cellulosic matter in plants, including corn stover (the leaves and stalks of corn plants), switchgrass, wood chips, and other plant wastes. Though it has received significant attention from Congress and the media, including subsidies of its own, production of cellulosic ethanol is not yet produced on a commercial scale.^{viii}

History of VEETC

The ethanol industry has had 33 years and tens of billions of dollars in government support. Congress began subsidizing ethanol during a fuel shortage in the late 1970s by exempting gasoline blended with ethanol from gasoline excise taxes and establishing a tax credit for ethanol use under the Energy Tax Act of 1978. The cost of the first ethanol tax credit fluctuated, rising and falling throughout the 1980s and 1990s. The tax credit started at \$0.40 for every gallon of gasoline blended with ethanol in 1978, and peaked in 1984 at \$0.60 per gallon.^{ix, x}

During the 1980s, Congress passed a variety of measures to help increase ethanol production, including loan guarantees for ethanol facility construction, a tariff on foreign-produced ethanol, and other benefits for domestic ethanol producers and blenders. Despite the favorable subsidies, many ethanol producers went out of business in 1985, with a mere 595 million gallons of ethanol being produced that year.^{xi}

Starting in some cities in the 1980s and at a national level in the 1990s, ethanol and ethanol products were used to oxygenate gasoline to combat smog in cities. Also, gasoline blended with 5.5% and 7.7% ethanol was allowed, and major U.S. auto manufacturers began mass production of flex-fuel cars, or cars that could use E85 (85% ethanol, 15% gasoline). By 1995, ethanol production had reached 1.5 billion gallons.^{xii} For comparison, today there are more than 8 million flex-fuel vehicles in operation.^{xiii} As of 2008, the latest federal data available, there were approximately 238 million vehicles on the road.^{xiv}

It was not until 2004 that the VEETC was enacted, replacing and consolidating the traditional ethanol subsidies of the last quarter of a century. In 2004, the American Jobs Creation Act implemented the VEETC to replace the gasoline excise tax exemption and tax credit in place with a combined blender tax credit.^{xv} This reduced some opposition to the ethanol subsidies because instead of reducing tax revenue to the highway trust fund, which pays for roads and transit, the new tax credit reduced tax revenues to the general treasury. The 2008 Farm Bill reduced the VEETC from \$0.51 to \$0.45 per gallon, but the subsidy still came with a hefty price tag, costing U.S. taxpayers \$5.16 billion in 2009.^{xvi} VEETC was scheduled to expire at the end of 2010, but Congress extended the tax credit another year just before its December termination, setting the sunset date for the end of 2011. As the ethanol market grows, VEETC is likely to grow to an annual cost of \$6.75 billion by 2015 unless Congress lets the subsidy expire or cancels it outright.^{xvii}

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The Renewable Fuel Standard - A Guaranteed Market

There are a variety of government policies which affect the ethanol market and make the VEETC redundant. Most important is the policy which mandates a market for ethanol. The Energy Policy Act of 2005 created a Renewable Fuel Standard (RFS) to require transportation fuel to contain a mandated amount of renewable fuel blended with gasoline. This mandated amount set the bar at 4 billion gallons in 2005, and due to the Energy Independence and Security Act of 2007 (EISA), will continue to increase to 36 billion gallons of renewable fuel.^{xviii} In 2009, RFS mandated 11.1 billion gallons of biofuels be used, of which 10.5 billion could be a conventional biofuel like corn ethanol. Domestic ethanol production exceeded that mandate in 2009 and 2010.^{xx}

Going forward, the RFS mandate allows up to 12 billion gallons of conventional ethanol in 2010, scaling up to 15 billion gallons by 2015 (see chart). The mandate for conventional ethanol caps at 15 billion gallons, though the mandate for advanced biofuels will continue to rise for years after that.^{xxi} This mandate will guarantee an ethanol market regardless of whether or not the VEETC is in place.

Year	RFS Mandate for Conventional Ethanol (billion gallons) ^{xix}
2008	9.0
2009	10.5
2010	12.0
2011	12.6
2012	13.2
2013	13.8
2014	14.4
2015	15.0

Ethanol Subsidies

Ethanol subsidies have significant economic, agricultural, and environmental impacts that make it clear they should be ended.

Despite its primary use as a gasoline additive, it only contains about two-thirds of the energy a gallon of gasoline can provide. This blend costs taxpayers \$1.78 to provide the equivalent energy of a gallon of gasoline.^{xxii}

On top of the \$0.45 tax credit that goes to blenders for every gallon of ethanol they mix with gasoline, there are other tax credits and supports for the ethanol industry. Small producers of ethanol receive an extra \$0.10 per gallon of ethanol they produce on their first 15 million gallons. There is also a biodiesel tax credit which gives \$1.00 to blenders for every gallon of biodiesel they mix, with a similar small producers tax credit.^{xxiii} The biodiesel tax credit expired at the end of 2009 but was reinstated at the end of 2010. It was passed retroactively for 2010 and will expire in 2011 unless Congress extends it again.^{xxiv} For advanced biofuels, companies receive \$1.01 for every gallon of cellulosic ethanol they blend with gasoline.^{xxv} On top of this, there are tariffs and duties protecting the domestic ethanol market.

Subsidies for ethanol don't exist in a vacuum; they increase costs and prices in other markets. As the subsidies increased the ethanol market, the incentives for farmers to grow more corn for ethanol has increased. Since corn is a main ingredient in livestock feed and many consumer food products, ethanol subsidies raise the price of food to consumers.^{xxvi} Because subsidies to ethanol blenders increase demand for corn from farmers, the Congressional Budget Office (CBO) estimates that subsidies are responsible for about 20% of the increase in corn prices in 2008, a year in which consumers saw a drastic rise in price per bushel from \$3.39 to \$5.14.^{xxvii} The effect of increased corn prices is an increase in the price of meat, since corn is often used as animal feed, and an increase in the price of other food like soybeans since more acreage is shifted to corn production.^{xxviii} The Department of Agriculture reported nearly a doubling of feed prices between 2006-2008^{xxix}, due in part to rising corn use.^{xxx}

The High Cost of VEETC

The VEETC has cost taxpayers billions of dollars over its lifetime and the price tag has kept increasing every year. When Congress passed the RFS in 2005 and expanded the ethanol mandate even further in 2007, they created space for a much larger ethanol market.

As the ethanol market continues to grow, taxpayers will lose out even more if the VEETC is extended. Since 2005, the cost of the VEETC to taxpayers has nearly quadrupled as ethanol production has grown. Assuming ethanol production meets the RFS every year and the VEETC is renewed by Congress as it currently exists, the VEETC will cost \$6.75 billion a year by 2015. From 2004, when the VEETC was first passed, until 2015, the year several members of Congress have proposed extending the VEETC until, this tax credit will cost taxpayers more than \$55 billion!

Year	Escalating Cost of VEETC to Taxpayers
2004 (actual)	\$1,450,000,000 ^{xxxI}
2005 (actual)	\$1,500,000,000 ^{xxxii}
2006 (actual)	\$2,570,000,000 ^{xxxiii}
2007 (actual)	\$3,320,000,000 ^{xxxiv}
2008 (actual)	\$4,410,000,000 ^{xxxv}
2009 (actual)	\$5,160,000,000 ^{xxxvi}
2010 (actual)	\$5,680,000,000 ^{xxxvii}
2011 (projected)	\$5,670,000,000
2012 (projected)	\$5,940,000,000
2013 (projected)	\$6,210,000,000
2014 (projected)	\$6,480,000,000
2015 (projected)	\$6,750,000,000 ^{xxxviii}
Total	\$55,140,000,000

Taxpayer Money Goes to Big Oil

A subsidy for ethanol sounds like something that would help the hard working farmer make ends meet. Yet this ethanol subsidy does not go into the pockets of family corn farmers, agro-businesses, or even ethanol producers. Instead the benefits go to fuel blenders. Blenders, often large oil and gas companies such as Shell Oil,^{xxxix} count the tax credit against income tax payments to the U.S. Treasury. This treatment has cost U.S. taxpayers \$21.14 billion in forgone tax revenues over the last five years.

The National Journal estimated that BP, the oil company responsible for the 2010 oil spill in the Gulf of Mexico, could have gained as much as \$600 million in 2010 from blending ethanol and gasoline together, something the RFS already requires blenders to do.^{xl} There have also been reports that subsidized ethanol and gasoline blends are being exported to other countries.

Furthermore, ethanol producers have stated publically that the VEETC does not affect them at all. Valero, a major producer of ethanol, said that ending the VEETC would not reduce biofuel production “by one barrel.” They said the tax credit is only going to refiners and blenders, so the VEETC is “almost irrelevant” for ethanol producers.^{xli}

VEETC is Unnecessary

The VEETC was originally established to create a profitable industry for corn ethanol and raise the necessary funds to overcome the initial investment costs for the new technology, which it did. Today, ethanol is a mature industry with technology that is now clearly understood.^{xlii} The conventional ethanol fuel industry no longer needs to depend on the VEETC for its existence.

Various government agencies agree that the VEETC is no longer needed to encourage ethanol production. The Congressional Research Service (CRS) has indicated that the RFS will increase demand for ethanol,^{xliii} and the CBO suggests that the RFS already makes ethanol marketable.^{xliiv} Accordingly, the Government Accountability Office (GAO) concludes that since the RFS guarantees a market for corn ethanol, taxpayers no longer need to support ethanol through the VEETC.^{xliv}

Based on current ethanol production levels, GAO projects that the VEETC does not stimulate ethanol production beyond the government mandate.^{xlvi} The CBO supports this conclusion, finding that the RFS mandate determines production levels and so the VEETC no longer increases production.^{xlvii} Fundamentally, when ethanol production does not exceed the RFS mandate, the mandate is binding. As a result, the VEETC is duplicative with RFS in creating demand for ethanol. RFS already ensures that any ethanol produced below the mandate has a market.

The ethanol industry is mature. GAO concludes that subsidies cannot be legitimized to establish or expand the ethanol industry, which has already invested in production facilities and is capable of meeting RFS requirements. GAO notes that many economists now agree that the VEETC should be phased out or eliminated altogether.^{xlviii} A study by the Center for Agricultural and Rural Development at Iowa State University made similar conclusions. It found that elimination of the VEETC would have only a “modest” effect on the ethanol market.^{xlix} Another study done at Iowa State University found that “ethanol production would have expanded quite rapidly even without subsidies” from 2005 to 2009.^l

The government is already protecting the ethanol industry in other ways. On top of the RFS mandate for ethanol, a duty on ethanol imports and a tariff also protect the domestic ethanol market.^{li} Passed in 1980, the United States imposes a \$0.54 per gallon duty on imports plus a tariff worth 2.5% of the ethanol’s value. This kept ethanol imports before 2006 below 200 million gallons annually. Even when oil prices spiked in 2008 and ethanol became cost competitive, ethanol imports only grew to 500 million gallons, a small percentage of overall ethanol demand.^{lii}

Ethanol and the Environment

A variety of practices in the ethanol industry make ethanol’s environmental benefit questionable. Most notably, ethanol is an inefficient and costly way to reduce greenhouse gas emissions. Ethanol refineries use large amounts of fossil fuels to distill ethanol and turn it into a usable product.^{liii} This decreases the amount of greenhouse gases that the corn grown to make ethanol pulls out of the atmosphere. A CBO report went so far as to say that “because the production of ethanol draws so much energy from coal and natural gas, it can be thought of as a method for converting natural gas or coal to a liquid fuel that can be used for transportation.”^{liv} Furthermore, both independent groups and government agencies have found it nearly impossible to agree on the impact land use changes from increased corn production has on greenhouse gas emissions.^{lv} When new land or idle cropland is planted to produce more corn for ethanol, the capacity that land once had to counteract the release of greenhouse gases decreases. Any positive impact ethanol has when it replaces a petroleum product has to overcome the negative impact from expanding farmland to produce more corn. Estimates about the amount of time it takes to offset land use changes range from 14 to 500 years.^{lvi} Whatever the number, the extent to which ethanol reduces greenhouse gasses remains unclear.

“Because the production of ethanol draws so much energy from coal and natural gas, it can be thought of as a method for converting natural gas or coal to a liquid fuel that can be used for transportation.” –Congressional Budget Office

Ethanol isn’t environmentally sustainable for other reasons too. The inflated value of corn from the VEETC encourages large-scale agriculture.^{lvii} Increased land use for corn can strain the groundwater

supply of areas that are heavily dependent on irrigation. Corn, which needs a large supply of nitrates in fertilizers, has been linked to “dead zones” in the Gulf of Mexico. Nitrate-laced runoff depletes oxygen in the waters, leaving a projected 8,500 square miles of the Gulf uninhabitable for much marine life this summer, projected to be the largest “dead zone” on record.^{lviii, lix}

Recent Legislative Developments on the VEETC

As the VEETC neared its scheduled expiration date of December 31, 2010, ethanol proponents and special interests pushed hard on Capitol Hill to keep it in place. Despite its clear economic, environmental, and commodity pricing problems, proponents succeeded in extending the VEETC for another year. Now the VEETC will expire December 31, 2011, just weeks before the Iowa caucuses. Even though the ethanol industry is mature and the VEETC does not promote greater production, presidential candidates will likely be climbing over each other to support ethanol for political gain. However, Congress can make sure they are on the side of the taxpayer, rather than the Iowa polls, and let this tax credit expire.

Over the last year several attempts have been made to enact legislation that would extend this wasteful policy. In March of 2010, a bill to extend the VEETC, the cellulosic ethanol tax credit, the small blender’s credit, and the tariff on ethanol through 2015 was introduced in the House. The bill, named the Renewable Fuels Reinvestment Act, was sponsored by Representative John Shimkus (R-IL) and Representative Earl Pomeroy (D-ND).^{lx} Additionally, in April of last year, Senators Chuck Grassley (R-IA) and Kent Conrad (D-ND) introduced companion legislation in the Senate entitled the Grow Renewable Energy from Ethanol Naturally Jobs Act. The bill was cosponsored by Senators Tom Harkin (D-IA), John Thune (R-SD), Ben Nelson (D-NE), Mike Johanns (R-NE), and Tim Johnson (D-SD).^{lxi} Though neither bill was considered on the floor of either chamber, they demonstrate how much support this massively wasteful ethanol subsidy has in Congress.

The Obama Administration continues to remain supportive of keeping the VEETC in place, too.^{lxii} On October 22, Secretary of Agriculture Tom Vilsack urged members of Congress to pass “a fiscally responsible short-term extension of the Volumetric Ethanol Excise Tax Credit.” He also instructed rural development officials to provide matching funds for up to 10,000 ethanol blender pumps and storage systems over the next five years.^{lxiii} Furthermore, on October 13, 2010, the Environmental Protection Agency (EPA) partially granted a waiver request to increase the percentage of ethanol that can be blended with gasoline and used in automobiles. Based on that decision, any model year 2007 car, light-duty truck, or medium-duty passenger vehicle could use E15 gasoline, or gasoline composed of 15% ethanol and 85% gasoline. Previously, cars were only allowed to use up to E10 gasoline. On January 21, 2011, the EPA handed down the other part of their decision on E15, allowing use by model year 2001 and newer cars, light duty trucks, and medium-duty passenger vehicles.^{lxiv} A study by the Food and Policy Research Institute at the University of Missouri from 2009 showed that this step would increase demand for ethanol further, making VEETC even more redundant.^{lxv}

There has also been some discussion in Congress about a reduced VEETC. In July of 2010, the House Ways and Means Committee circulated a draft bill with a 20% cut in the ethanol tax incentive to appease those who did not want to extend the VEETC. The draft would change the tax credit from \$0.45

to \$0.36 per gallon and extend the VEETC for one year.^{lxvi} Senator Jeff Bingaman (D-NM), chairman of the Energy and Natural Resources Committee, also began expressing skepticism of the VEETC and its heavy cost to the government.^{lxvii}

Earlier this year the House voted to deny subsidies for ethanol infrastructure in a continuing resolution for FY11 spending (ultimately a different bill was enacted into law). In addition, Senators Tom Coburn (R-OK) and Dianne Feinstein (D-CA) introduced a bill to repeal the VEETC. At release of this report, the bill has nine bipartisan cosponsors. There have been several other efforts targeting ethanol subsidies, but while welcome, none has succeeded as yet.

Swapping Subsidies for Corn Ethanol Will Not Help Taxpayers

Meanwhile, the ethanol industry has proposed a plan that phases out the VEETC but then asks taxpayers to foot the bill supporting infrastructure for the industry instead. Sensing rising opposition to wasteful ethanol subsidies, Growth Energy, a group formed in 2008 to advocate on behalf of ethanol companies, got out in front of other ethanol and corn groups and proposed a plan in the summer of 2010 to phase out the VEETC and shift the funds to support more flex-fuel cars, specialized blender pumps, and loan guarantees for ethanol pipelines.^{lxviii} Since then, groups across the industry, such as Renewable Fuels Association, American Coalition for Ethanol, and the National Corn Growers Association, have joined Growth Energy to create a long term proposal for federal ethanol money. In the meantime, they called for a one-year extension of VEETC through 2011 until more comprehensive legislation could be passed.^{lxix} Secretary Vilsack supports the ethanol industry proposal.^{lxx}

The plan by Growth Energy, entitled the “Fueling Freedom Plan” would phase out the VEETC while having the federal government instead spend taxpayer dollars on ethanol infrastructure. Because ethanol is too corrosive for vehicles and infrastructure designed for petroleum^{lxxi}, it degrades standard car engines and pipelines more quickly than normal, requiring specially manufactured flex-fuel cars, blender pumps at gas stations, and pipelines to transport the ethanol. Growth Energy proposes that the VEETC funds be redirected to retailers as tax credits to install 200,000 blender pumps and as federal loan guarantees for ethanol pipelines. Their plan would go further still and have the government require all automobiles sold in the United States to be flex-fuel vehicles, meaning automobiles could use up to E85 in their tanks. This could mean as many as 120 million flex-fuel vehicles would be built under their proposed mandate.^{lxxii}

But ethanol infrastructure would just be another huge bill for the taxpayer. The National Association of Convenience Stores, an international trade association comprised of more than 2,200 member companies and more than 1,800 retail suppliers, calculated that the cost for an average individual gas station owner to completely retrofit their equipment for E85 ethanol use by replacing two underground storage tanks and four fuel dispensers would be \$200,000. In 2009, the average single convenience store’s pre-tax profits were \$33,000, hardly enough to pay for new ethanol infrastructure without substantial government support.^{lxxiii}

It's Time to Change Course

The VEETC subsidizes large oil and gas companies who blend ethanol with gasoline. Ethanol producers and blenders already benefit from government mandates, small producer credits, a tariff on ethanol, and an increase to higher ethanol blend in automobiles. The VEETC only adds to the layers of subsidies for corn ethanol. If the VEETC is not phased out or eliminated, the GAO estimates it will cost taxpayers \$6.75 billion a year by 2015, when the RFS mandates that up to 15 billion gallons of corn ethanol be blended with U.S. gasoline. Congress should stop the bottomless pit of subsidies for the ethanol industry and END the VEETC now.

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ⁱ Agricultural Adjustment Act of 1933, Pub. L. No. 73-10, 48 Stat. 31

ⁱⁱ U.S. Energy Information Administration, "Annual U.S. Crude Oil First Purchase Price," August 6, 2010. http://tonto.eia.doe.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=f000000__3&f=a

ⁱⁱⁱ Government Accountability Office, "Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue," March 2011. <http://www.gao.gov/new.items/d11318sp.pdf>

^{iv} Government Accountability Office, "Biofuels: Potential Effects and Challenges of Required Increases in Production and Use," August 2009. <http://www.gao.gov/new.items/d09446.pdf>

^v Congressional Budget Office, "Using Biofuel Tax Credits to Achieve Energy and Environmental Policy Goals," July 2010. <http://www.cbo.gov/ftpdocs/114xx/doc11477/07-14-Biofuels.pdf>

^{vi} Government Accountability Office, "Biofuels: Potential Effects and Challenges of Required Increases in Production and Use," August 2009. <http://www.gao.gov/new.items/d09446.pdf>

^{vii} The Energy Independence Security Act of 2007, Pub. L. No. 110-140, § 201, 121 Stat. 1519.

^{viii} Congressional Budget Office, "Using Biofuel Tax Credits to Achieve Energy and Environmental Policy Goals," July 2010. <http://www.cbo.gov/ftpdocs/114xx/doc11477/07-14-Biofuels.pdf>

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^{xi} Ibid.

^{xii} Ibid.

^{xiii} Renewable Fuels Association, "E85," Accessed June 7, 2011. <http://www.ethanolrfa.org/pages/e-85>

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^{xvii} Government Accountability Office, "Biofuels: Potential Effects and Challenges of Required Increases in Production and Use," August 2009. <http://www.gao.gov/new.items/d09446.pdf>

^{xviii} Ibid.

^{xix} United States Environmental Protection Agency, "EPA Finalizes Regulations for the National Renewable Fuel Standard Program for 2010 and Beyond," February 2010. <http://www.epa.gov/otaq/renewablefuels/420f10007.pdf>

^{xx} Renewable Fuels Association, "Statistics," <http://www.ethanolrfa.org/pages/statistics>

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