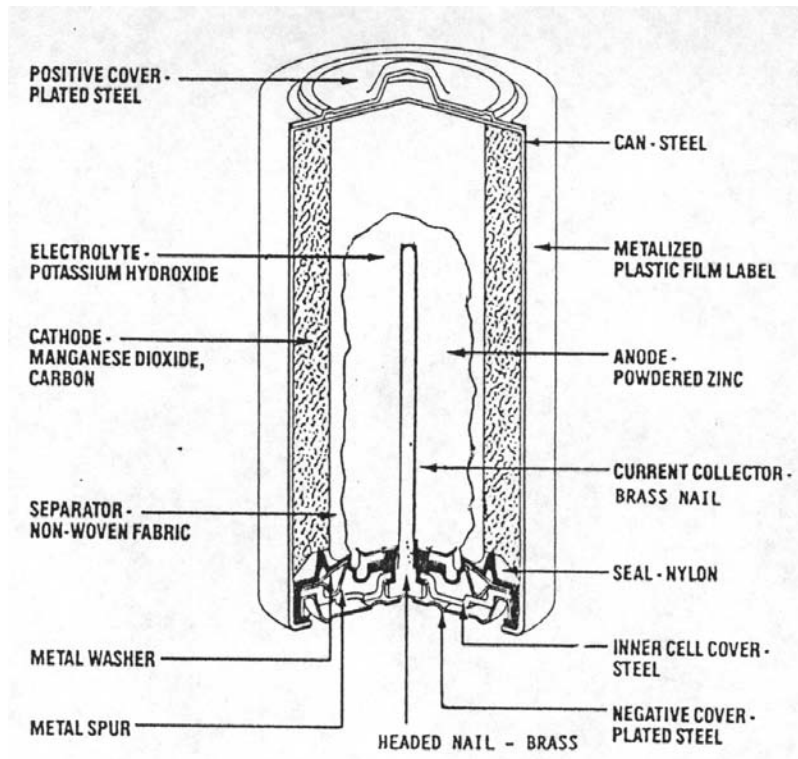


2012 Household Battery Market Review



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αβ • Alpha Beta Planning

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U.S. Household Battery Market 2012

Overview

We now have full year 2012 U.S. Nielsen data along with 3 additional years of back data for comparison, based on the Nielsen enhanced panel, which adds Wal-Mart, Clubs (not including Costco), Military stores and Dollar Stores. The previously missing outlets turn out to be worth considerable more than expected, so market size estimates have increased substantially. Based on an estimated 72% coverage for the new panel, our latest U.S. market estimates are below. Recent trends are not much different than prior estimates, but with a larger base. Shares, as we shall see later are substantially different.

We now estimate a total consumer market for household, replaceable, batteries of almost \$3.7 billion and 4.4 billion in units. Unit trends are -5.8% for 2012 and -2.2% for a 3 year compound average growth. Value trends are somewhat better due to the impacts of pricing. For product stewardship evaluation, that yields approximately 280 million pounds of batteries, not including their packaging, that will eventually enter the waste stream if not recycled.

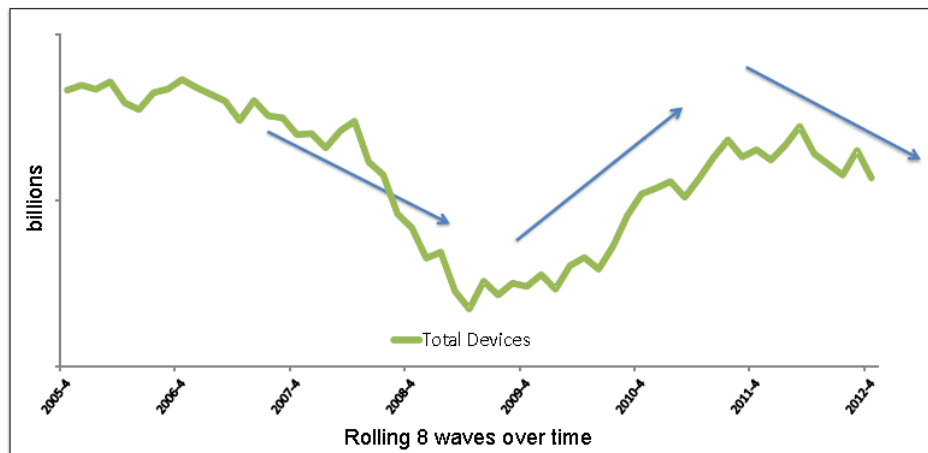
	2009	2010	2011	2012	3 Yr CAGR
Sales \$ (millions)					
General Application Batteries					
Rechargeable					
Nickel Metal Hydride (Rechargeable)	175	160	150	140	-6.9%
Disposable					
Alkaline	3,060	2,970	3,030	3,100	0.4%
Zinc Carbon	95	90	75	75	-8.4%
Lithium Primary	425	400	380	365	-4.9%
Total Disposable	3,600	3,500	3,500	3,500	-0.4%
Total General Application Batteries	3,800	3,600	3,600	3,700	-0.7%
		-3.8%	0.4%	1.4%	
Units (millions)					
General Application Batteries					
Rechargeable					
Nickel Metal Hydride	60	55	50	50	-7.7%
Disposable					
Alkaline	4,220	4,470	4,250	3,990	-1.9%
Zinc Carbon	265	260	230	230	-4.6%
Lithium	140	135	130	125	-4.2%
Total Disposable	4,600	4,900	4,600	4,300	-2.1%
Total General Application Batteries	4,694	4,900	4,700	4,400	-2.2%
		4.9%	-5.3%	-5.8%	

*Does not sum due to rounding

Average batteries purchased per household in 2012 were 38, down from 41 in 2009. While consumer electronics devices continue to grow, many are designed with built-in rechargeable batteries either for

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device miniaturization or for the higher power drain capabilities of rechargeable systems (see the accompanying Energizer device chart showing household battery device tracking)



Source: IPSOS 2012 U.S. Device Inventory

Segment importance is relatively stable with long terms trends for alkaline unit importance increasing while zinc carbon continues its long term decline. Lithium primary has also seen recent declines due to the continued conversion of cameras from primary to built-in rechargeables, the device where lithium had its best value advantages vs. alkaline.

	2009	2010	2011	2012
Shares of General Application Batteries				
<i>Dollar Basis</i>				
General Application Batteries*				
Rechargeable				
Nickel Metal Hydride	4.6%	4.3%	4.1%	3.8%
Disposable				
Alkaline	81.5%	82.2%	83.4%	84.3%
Zinc Carbon	2.5%	2.4%	2.0%	2.0%
Lithium	<u>11.3%</u>	<u>11.1%</u>	<u>10.5%</u>	<u>9.9%</u>
Total Disposable	95.4%	95.7%	95.9%	96.2%
Total General Application Batteries	100.0%	100.0%	100.0%	100.0%
<i>Unit Basis</i>				
General Application Batteries*				
Rechargeable				
Nickel Metal Hydride	1.3%	1.1%	1.1%	1.1%
Disposable				
Alkaline	90.0%	90.9%	91.2%	90.8%
Zinc Carbon	5.7%	5.2%	4.9%	5.3%
Lithium	<u>3.0%</u>	<u>2.7%</u>	<u>2.8%</u>	<u>2.8%</u>
Total Disposable	98.7%	98.9%	98.9%	98.9%
Total General Application Batteries	100.0%	100.0%	100.0%	100.0%

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We can see how differential pricing by segment has affected dollar importance vs. unit importance. The price ratio chart below that also shows how NiMH (Nickel Metal Hydride) rechargeables are becoming an increasingly better value vs. alkaline (and this does not even look at the significant increases in NiMH capacity [battery life], while alkaline has seen little improvement). Lithium values vs. alkaline are also improving as alkaline pricing has increased and lithium pricing has declined slightly.

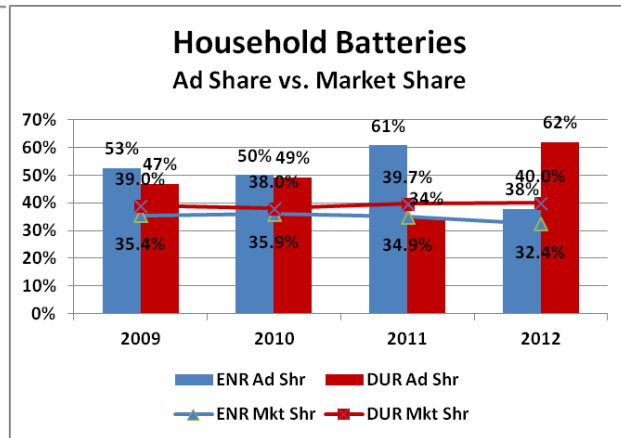
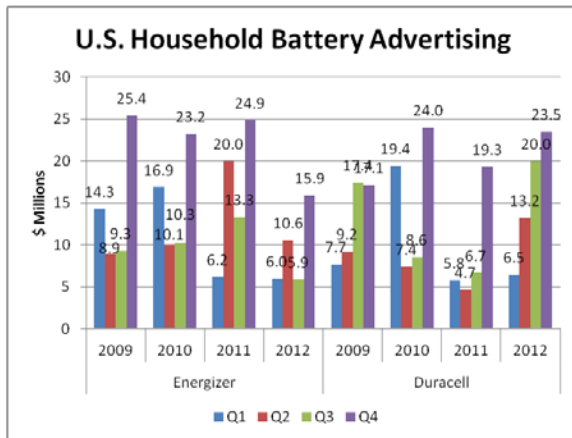
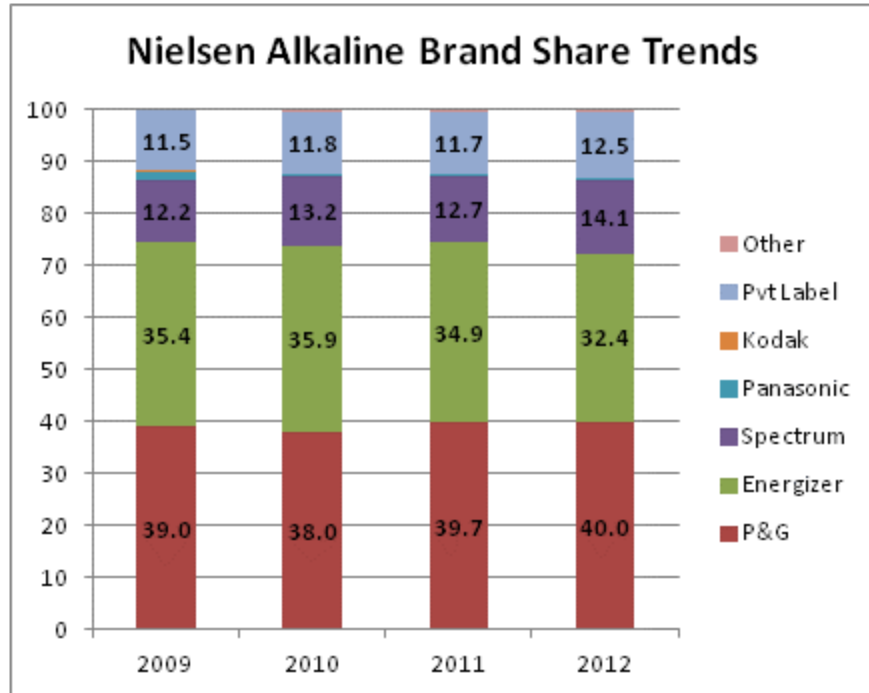
	2009	2010	2011	2012	CAGR
Pricing					
General Application Batteries*					
Rechargeable					
Nickel Metal Hydride					
(Rechargeable)	2.811	2.883	2.856	2.883	0.8%
Disposable					
Alkaline	0.726	0.664	0.712	0.778	2.4%
Zinc Carbon	0.357	0.337	0.315	0.316	-4.0%
Lithium	3.000	2.960	2.951	2.939	-0.7%

	2009	2010	2011	2012
Key Price Ratios				
NiMH/Alkaline	3.9	4.3	4.0	3.7
Alkaline/Zinc Carbon	2.0	2.0	2.3	2.5
Lithium/Alkaline	4.1	4.5	4.1	3.8

Alkaline

Alkaline shares with the new panel reflect a weaker Duracell and Private Label along with a stronger Rayovac due to their presence in Wal-Mart which had been previously been excluded from the panel. Rayovac gained share in 2012 at the expense of Energizer as Wal-Mart shifted space in retaliation for Energizer leading a price advance 2 years in a row. Duracell was basically stable, while Private Label was also up almost a point. The Duracell gains were insignificant, given the large advertising increases in Q3 and Q4, 2012, unmatched by Energizer. Duracell put significant funding behind the Duracell Duralock product introduction based on P&G policy to support such a launch. This advertising bump was surprising in some ways, given the track record of recent years where advertising has had little impact on shares. Energizer recognized this after their 2011 advertising weights did not produce any gains and planned 2012 accordingly. Until there is a meaningful consumer message (which Duralock was not), absent from this category for years now, ad spending is not likely to produce its historical gains.

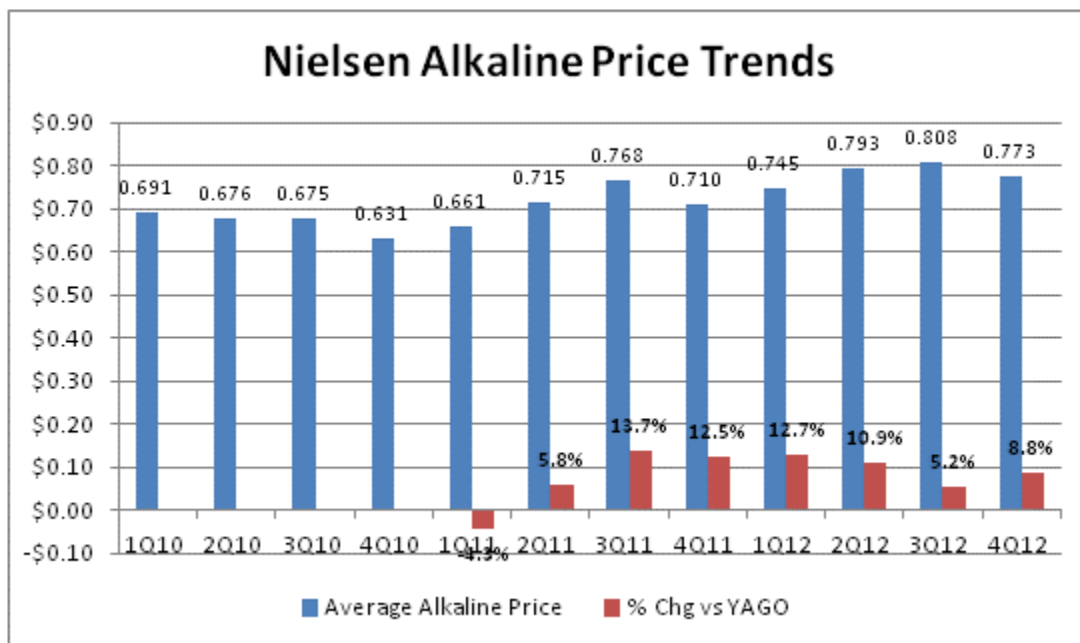
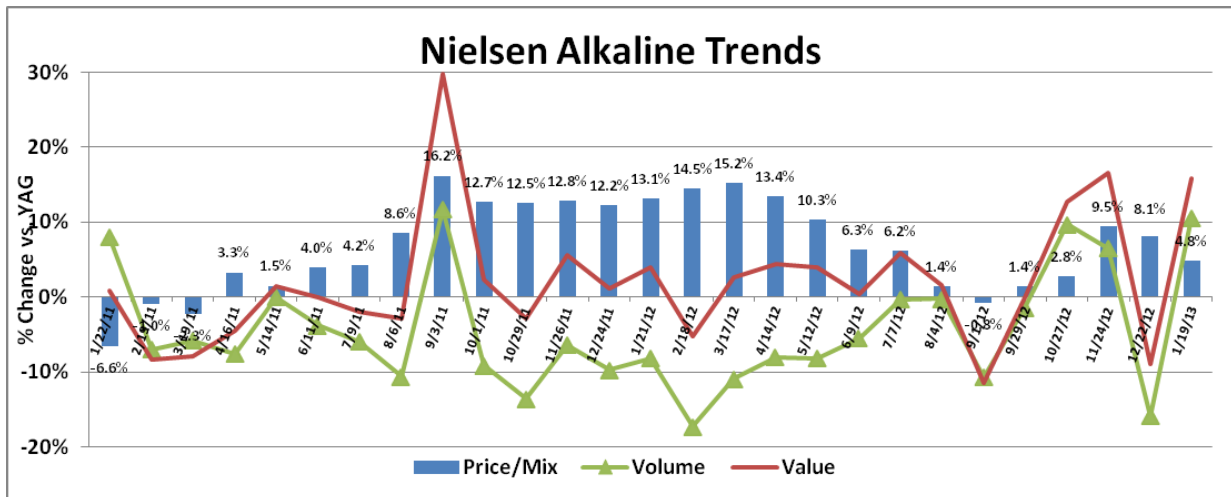
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Alkaline Pricing

We have 2 charts on alkaline price trends. The 1st chart includes data from the old panel with new panel data starting in June 2012 and showing the deleterious impacts of price war on alkaline until 2010 and 2011, the 2nd reflects only data from the new enhanced Nielsen Panel and shows price impacts as the Q1 price increases of 2011 and 2012 work their way through the system. There has been no price increase announcement thus far for 2013. If we do not see an increase, this will limit the ability of the battery companies to recover margin lost during the price war years. Energizer, the leader for the last 2 years is probably now cautious about taking price based on last year's Wal-Mart retaliation. Justification is also harder as commodity prices have stabilized for each of the 4 major commodities used in alkaline battery production: steel, zinc, EMD (manganese) and graphite (see commodity section below).

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Commodity Prices

Materials are about half the fully loaded cost for an alkaline cell, the balance being overhead, labor and equipment amortization. Steel, Zinc, EMD (Electrolytic Manganese Dioxide) and Graphite comprise about 95% of those material costs.

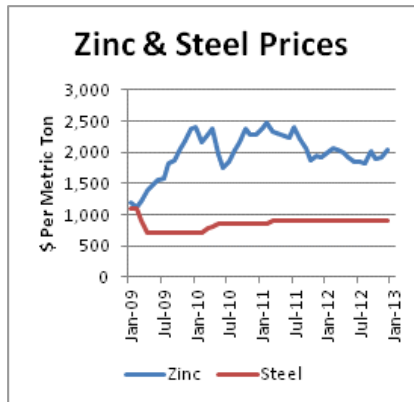
Alkaline Materials Cost Impact

Steel	30%
Zinc	21%
EMD (MnO2)	32%
Graphite	12%
Total	95%

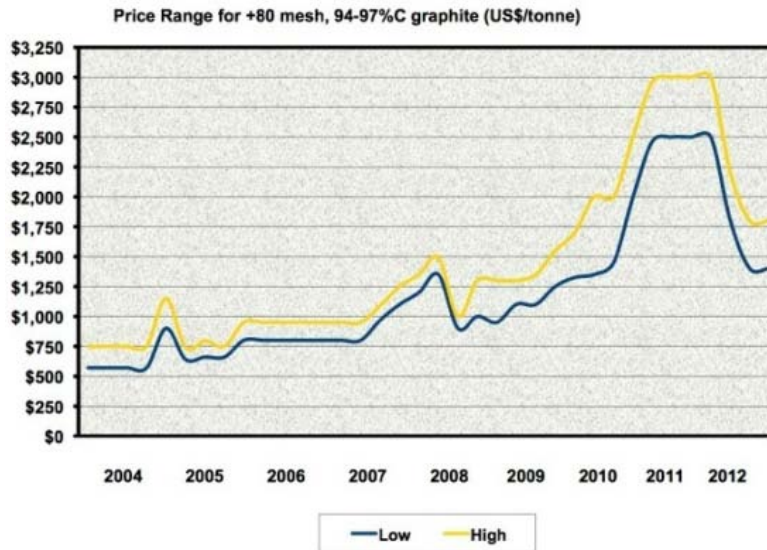
These costs have been relatively stable for the past year. Graphite had climbed through 2011 but has come down significantly since. Zinc prices has climbed through mid-2011 but then fell and have

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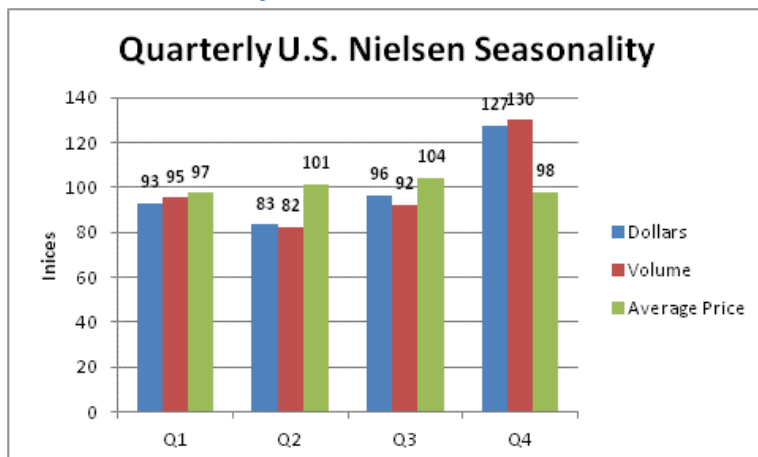
stabilized since. Steel has now been stable since early 2011, and EMD after coming off a spike in 2009 was slowly climbing through 2011, but stabilized in 2012 and since declined modestly.



Graphite



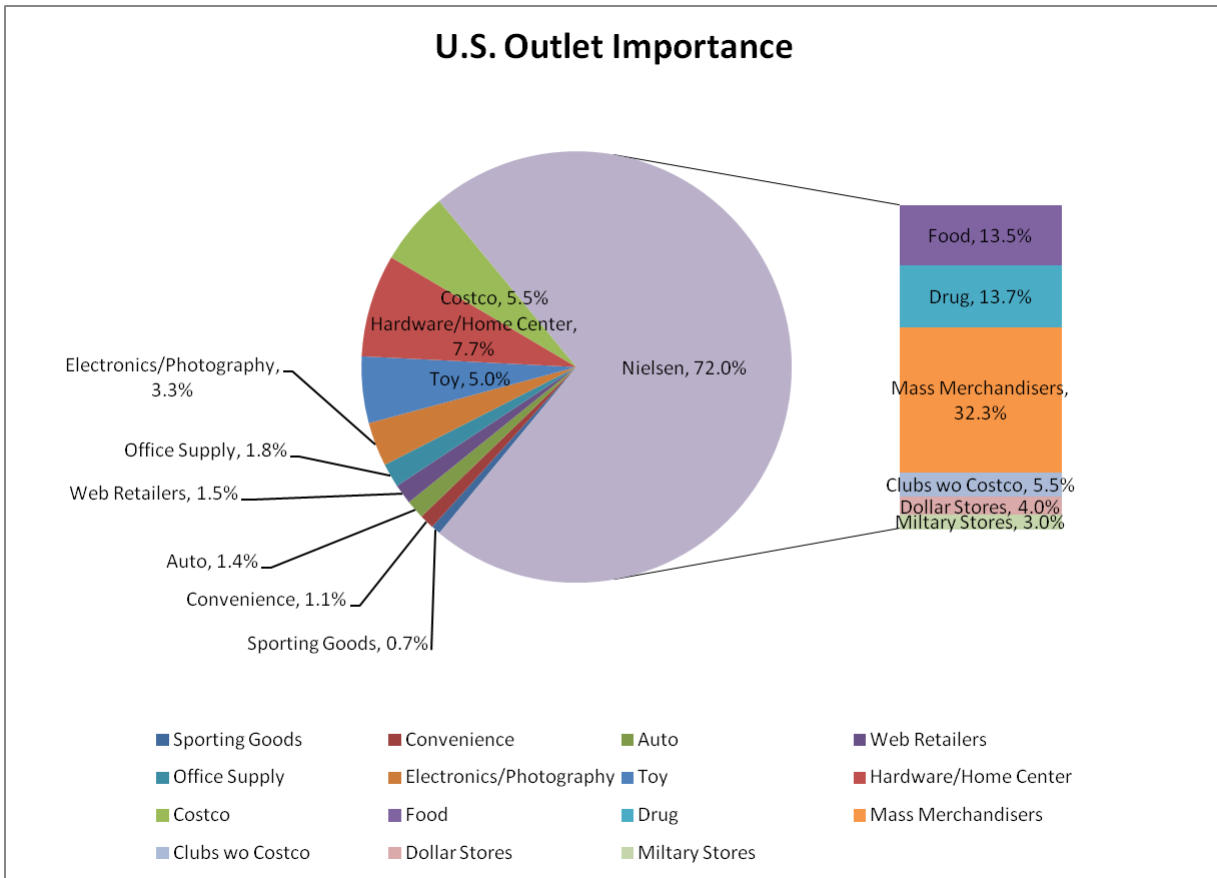
Alkaline Seasonality



Seasonal Impacts for the first 3 quarters are minimal, with strong 4th quarter seasonality, mostly in December and dominated by the week before Christmas and the week after Christmas.

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Channel Mix

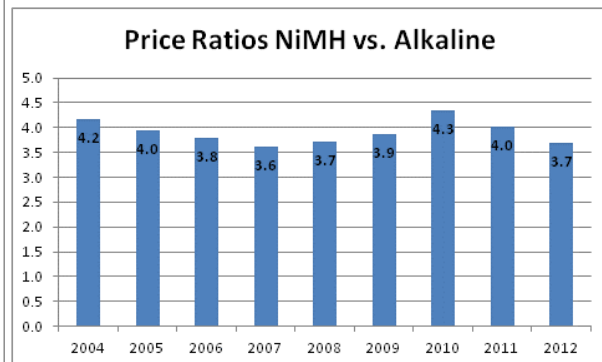
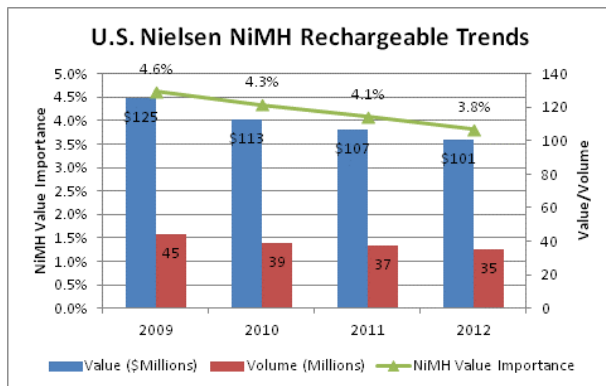


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Rechargeables

Household size rechargeable batteries, predominantly AAs and AAAs, also show declines in volume, affected by the same device trends leading to built-in rechargeables that affected alkaline. The impact is somewhat greater proportionately, since the types of devices that have switched are precisely the higher drain devices that benefit most from the value of Nickel Metal Hydride high drain performance vs. alkaline. While rechargeables would be ripe for a major marketing effort based on their value vs. primary (disposable) batteries, the major U.S. battery companies have no incentive to promote the cannibalization of their alkaline products. At 3.7:1, rechargeable pricing vs. alkaline is also still too high for mass conversion, a result of the alkaline price wars that only ended 2 years ago and have still left alkaline relatively lower in price than historical relationships. NiMH pricing has also increased as a result of key performance improvements such as low self discharge (shelf life) and significantly increased capacities bringing these batteries almost up to the performance of alkaline at low drain (and much better at higher drains). These benefits have not yet been adequately communicated to consumers by the 3 major battery companies.

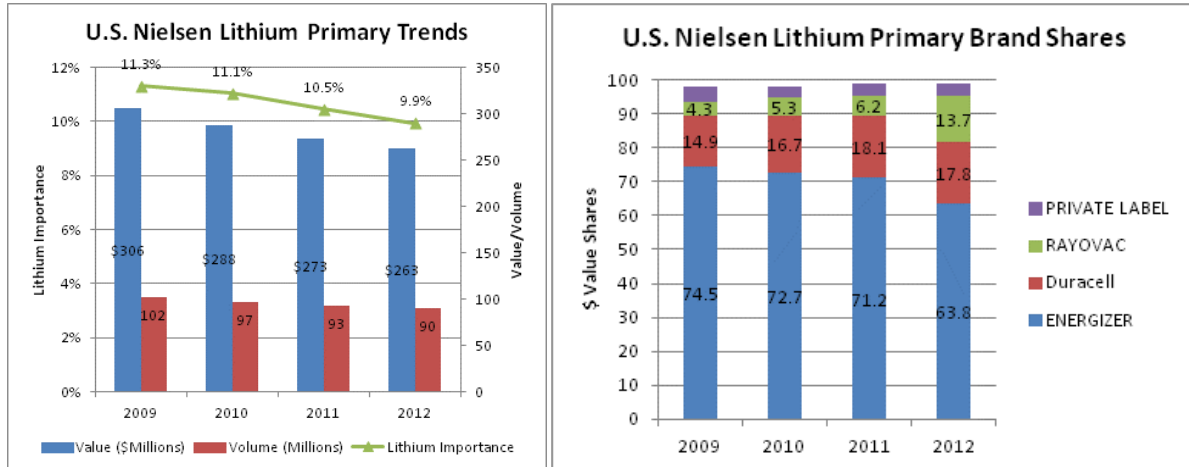
Market values in these charts are Nielsen; adjusted for coverage, the Nickel Metal Hydride replaceable market should be values at about \$140 million (this does not include built-in NiMH batteries)



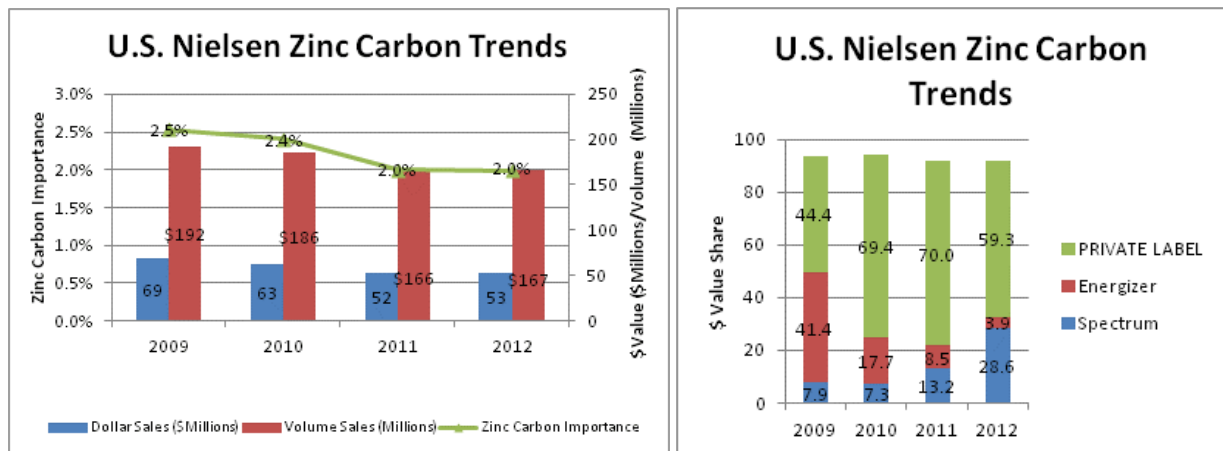
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Other General Application Segments

Lithium Primary is dominated by the Energizer E2, lithium iron disulfide available in AA, AA and 9 volt. However, this segment also includes some lithium primary photo and watch batteries from all companies.

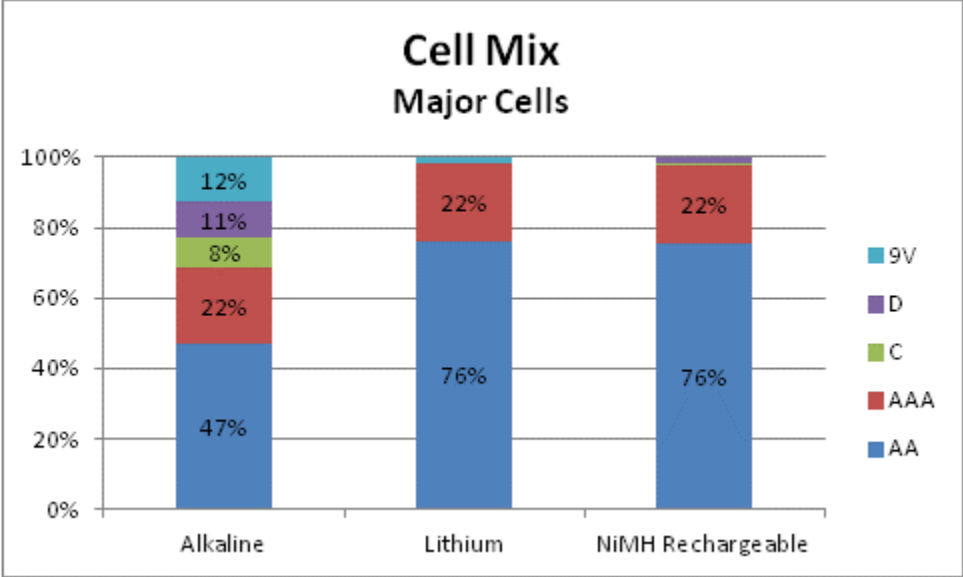


Zinc Carbon importance continues to decline with these batteries now in Wal-Mart, Dollar stores and only a handful of other outlets. Energizer, with their Eveready brand has largely withdrawn since the contribution from this business hardly justifies having them in the line in the U.S.



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Major Cell Mix

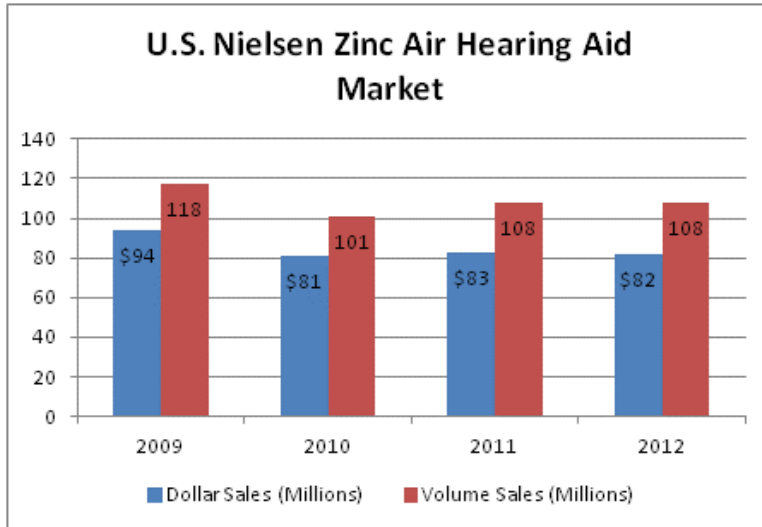


AAs and AAAs now account for almost 70% of the alkaline unit volumes. For Lithium and Rechargeables that importance is at 98%.

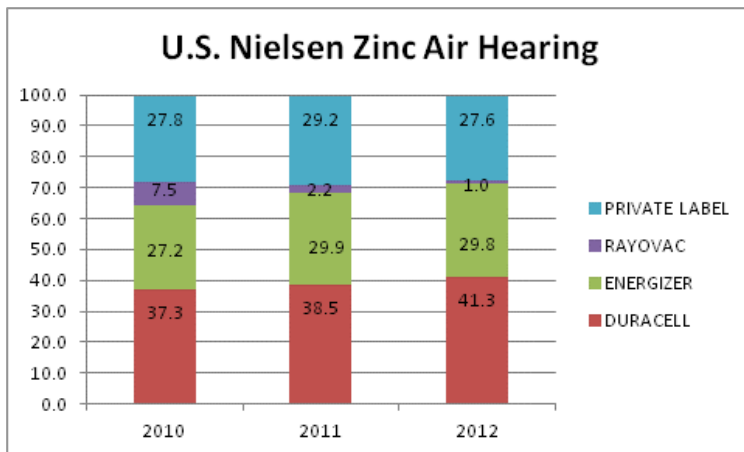
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Specialty Products

Zinc Air Hearing Aid Batteries



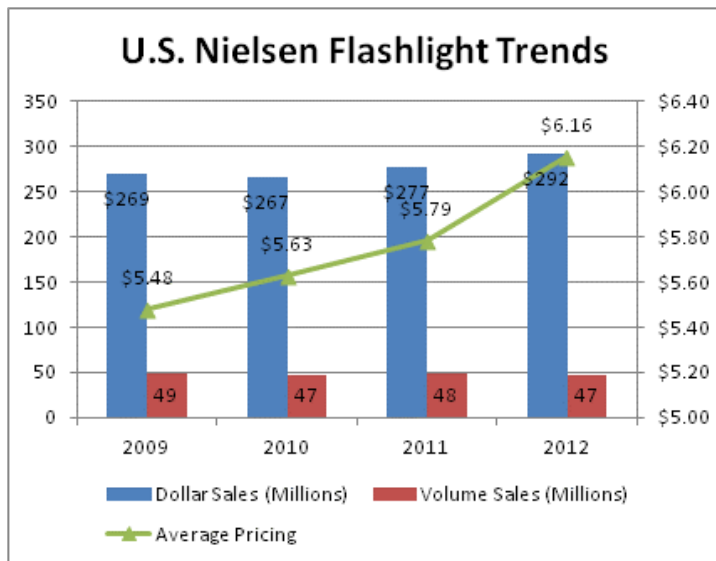
We show U.S. Nielsen market sizes. The total market including audiologist sales (and Radio Shack) is probably about 60 to 70% higher or about \$138 million and 180 million button cells. The audiologist market is still dominated by Spectrum with their Loud'n'Clear brand, so their shares which have been dropping substantially Nielsen outlets are probably about 23 overall. Other brand shares are reduced accordingly.



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Flashlights

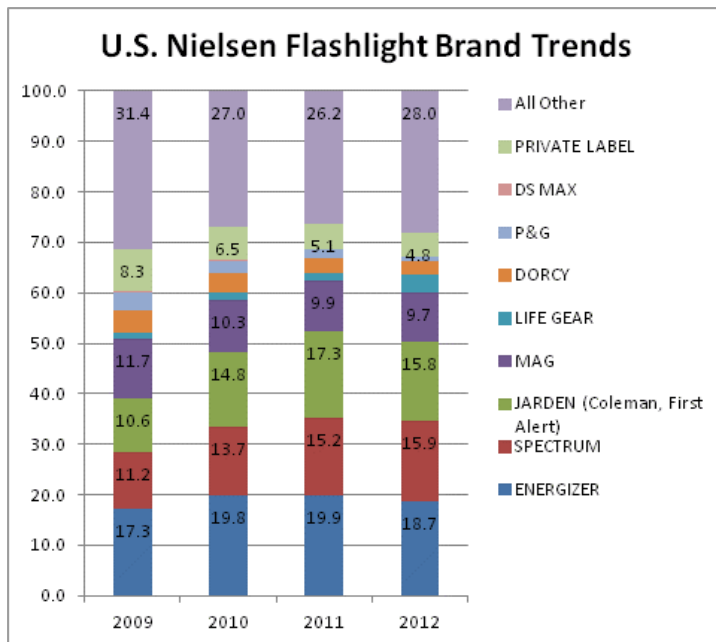
While flashlight units have been stable for the last 4 years, market values have climbed in concert with pricing. This is Nielsen data, based on a 72% coverage factor for the Nielsen enhanced panel, the "all outlet" flashlight and lantern market should be about 40% higher. Pricing seems to be driven by improved and more rugged lights, including expensive tactical type flashlights; inclusion of batteries also seems to be a factor. Flashlights are also increasingly smaller, using more AAs vs. Ds than they did historically. We do see the impact on Ds during hurricanes when older less used flashlights are brought out of pantry storage for use. Flashlights have also simultaneously become brighter as they also need fewer battery replacements due to the substantial conversion to LED bulbs over the last 10 years. LED flashlights are now about 80% of lights sold vs. only 10% 5 years ago. Expect to see this impact on batteries for another few years before it levels off.



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they also need fewer battery replacements due to the substantial conversion to LED bulbs over the last 10 years. LED flashlights are now about 80% of lights sold vs. only 10% 5 years ago. Expect to see this impact on batteries for another few years before it levels off.

The level of competition in flashlights is radically different from the competition of battery companies in their battery markets with well over 100 brands sold in the U.S. See that all other brand number at 28%. The brand leaders are Energizer, Spectrum, Jarden and Mag. P&G brand presence is insignificant.



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Key Companies

This aggregates all Nielsen segments for the big 3 U.S. Battery companies for ease in looking at the total company perspective.

U.S. Nielsen Enhanced Panel

Energizer Nielsen History by Segment

<u>Value Basis Shares</u>					<u>Retail Value (\$Millions)</u>			
Segment	2009	2010	2011	2012	2009	2010	2011	2012
Alkaline	35.4	35.9	34.9	32.4	781	768	761	723
Zinc	41.4	17.7	8.5	3.9	28	11	4	2
Lithium	74.5	72.7	71.2	63.8	228	209	195	168
NiMH	43.0	44.9	42.8	45.4	54	51	46	46
Zinc Air	21.2	27.2	29.9	29.8	20	22	25	24
Flashlight	17.3	19.8	19.9	18.7	47	53	55	55
Total	39.1	38.9	38.6	39.0	1,152	1,099	1,093	1,118
% Ch YAG						-4.6%	-0.6%	2.4%

P&G Nielsen History by Segment

<u>Value Basis Shares</u>					<u>Retail Value (\$Millions)</u>			
Segment	2009	2010	2011	2012	2009	2010	2011	2012
Alkaline	39.0	38.0	39.7	40.0	860	813	865	893
Zinc	0.0	0.0	0.0	0.0	-	-	-	-
Lithium	14.9	16.7	18.1	17.8	46	48	49	47
NiMH	15.7	14.2	17.6	15.6	20	16	19	16
Zinc Air	34.3	37.3	38.5	41.3	32	30	32	34
Flashlight	3.6	2.5	1.9	1.0	10	7	5	3
Total	33.0	32.6	34.5	35.0	972	921	977	1,004
% Ch YAG						-5.3%	6.1%	2.8%

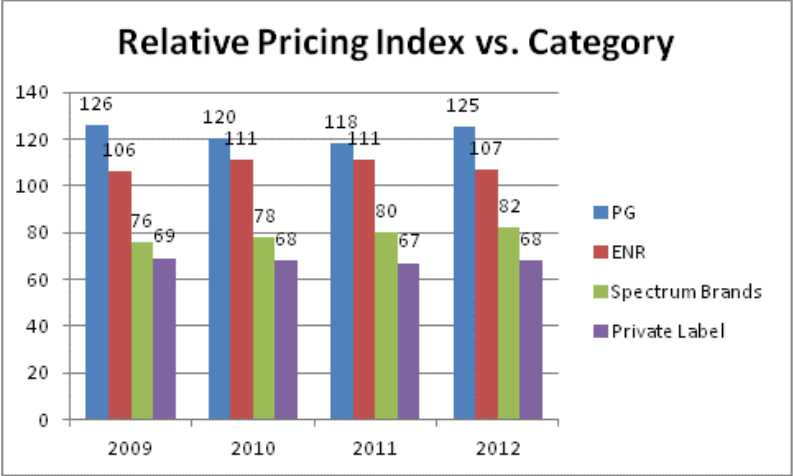
Spectrum Nielsen History by Segment

<u>Value Basis Shares</u>					<u>Retail Value (\$Millions)</u>			
Segment	2009	2010	2011	2012	2009	2010	2011	2012
Alkaline	12.2	13.2	12.7	14.1	269	282	277	315
Zinc	7.9	7.3	13.2	28.6	5	5	7	15
Lithium	4.3	5.3	6.2	13.7	13	15	17	36
NiMH	15.1	17.9	19.8	21.1	19	20	21	21
Zinc Air	23.3	7.5	2.2	1.0	22	6	2	1
Flashlight	11.2	13.7	15.2	15.9	30	37	42	46
Total	12.7	13.6	13.3	15.3	374	384	376	439
% Ch YAG						2.6%	-2.0%	16.6%

The U.S. business within Nielsen outlets has been fairly stable for Duracell and Energizer. While Energizer was somewhat hurt, by the Wal-Mart shift of space from them to Spectrum, that shift was still small for Energizer with their much larger base. For Spectrum, this generated the best sales increase in several years. With their much greater reliance on Wal-Mart than the other battery companies, the Spectrum business is much more vulnerable to changes at Wal-Mart.

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Relative price positioning among the key battery companies has not changed much in the last 4 years. Both Duracell and Energizer are in the premium price segment. While the averages show higher pricing for Duracell, both brands actually tend to be the same price in any given outlet, but Duracell has better representation in stores with higher pricing for the category. Rayovac continues to sell at a 25 to 35% discount to the premium brands and is at a 20% premium to private label. The presence of a strong value brand like Rayovac also helps limit the size of the private label segment which is smaller than in most other household product categories.

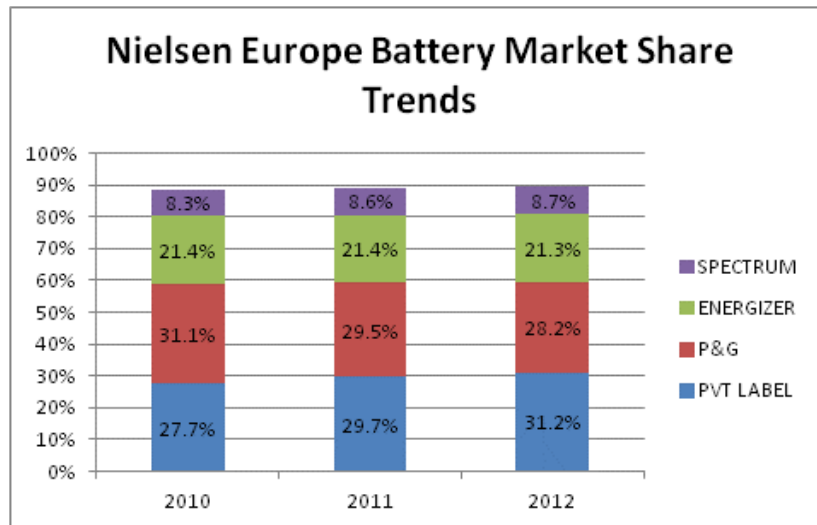


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European Alkaline Battery Market 2012

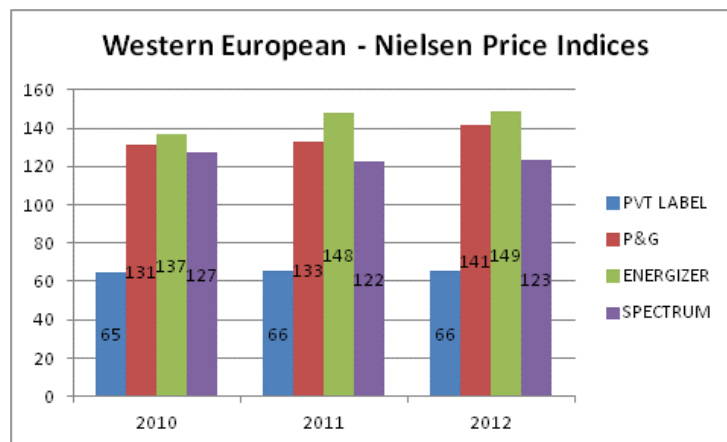
Note: The Nielsen data for Europe only covers the U.K., France, Germany, Italy, and Spain. In Germany, Aldi is excluded; in the U.K. Aldi and Superdrug are estimated by Nielsen. This should give us a reasonably good trend picture for Western Europe. Coverage is still only food, drug and mass outlets, but for batteries, this still leaves out a number of non-traditional outlets where batteries are sold. Panasonic and Sony have only minimal presence in Western Europe; both are stronger in Eastern Europe.

Europe has always been at lower price than the United States and the private label presence is much greater than it is in the United States.



European Nielsen Alkaline Battery Market

	2010	2011	2012
Value (€ Millions)	1,130	1,150	1,120
% Ch YAG		1.5%	-2.6%
Volume (Millions of Pkgs)	340	320	310
% Ch YAG		6.7%	0.5%
Price/Package (€)	3.35	3.57	3.59
% Ch YAG		6.7%	0.5%



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Japanese Alkaline Market 2012

The

