

**Table 70. HVAC Window Kits Installed Before the Program and Additional Kits Purchased (N=17)**

	Customers (N)	Customers (%)
<b>Previously installed HVAC winter kits</b>		
Already had one kit installed	2	11.8%
Already had two or more kits installed	0	0.0%
Did not have any HVAC winter kits	15	88.2%
Don't know / not specified	0	0.0%
<b>Were you planning on purchasing HVAC winter kits before participating in the program?</b>		
No	15	88.2%
No, already installed on all units	0	0.0%
Maybe	1	5.9%
Yes	1	5.9%
Don't know / not specified	0	0.0%
<b>Additional kits purchased since program</b>		
Have not purchased additional HVAC winter kits	17	100.0%
Purchased additional HVAC winter kits	0	0.0%

Customers who confirmed the installation of program-provided winter kits for wall and window HVAC units were asked about their habits regarding seasonal location of their HVAC units. As indicated by Table 71, most respondents' winterized wall and window HVAC units can be removed for winter (88.2% or 15 out of 17).

Only 70.6% (12 out of 17) of participants who confirmed the installation of winter kits said that they always left their HVAC units in for winter in past years, compared to 82.4% (14 out of 17) saying that they left their removable units in place during the most recent winter (which occurred in between the home audits and this survey). Although the difference between these figures is based on two customers reporting different behavior in "previous years" versus "the most recent winter", these customers claim that they would have done the same thing during the recent winter with or without the program. Two customers report that their units are not removable, or that they are not sure if the unit is removable; logically, both of these customers' units were also left in place during the recent winter (if a customer does not know if their unit is removable, then they must not have not removed it). Thus all customers with this measure installed left their units in place for the most recent winter, which is logical since that is the purpose of this measure (to insulate removable HVAC units that are left in place for the winter) and these questions are only asked of customers with program-provided measures installed (i.e., customers who remove their window units during the winter do not need this measure, so would not have it installed).

**Table 71. Removing HVAC Units for Winter and Leaving Them in Place (N=17)**

	Customers (N)	Customers (%)
<b>Are any of the window or wall units winterized with the kit removable?</b>		
No, all are permanently installed	1	5.9%
Yes, there is one removable unit	9	52.9%
Yes, there are two removable units	6	35.3%
Not sure	1	5.9%
<b>In previous years, did you remove units for the winter or leave them in place?</b>		
Always left in place during winter	12	70.6%
Sometimes removed, sometimes left in place	1	5.9%
Always removed for winter	1	5.9%
Unit is not removable / not sure if removable (therefore units are left in place for winter)	2	11.8%
Not applicable (HVAC units are new, not used in previous winters)	1	5.9%
<b>What did you do with your units during the most recent winter? (After the home audit)</b>		
Left units in place for winter, and would have done this regardless of the program	14	82.4%
Took units out for winter, and would have done this regardless of the program	0	0.0%
Left units in place for winter, but would have removed them without the program	0	0.0%
Took units out for winter, but would have left them in place without the program	0	0.0%
Unit is not removable / not sure if removable (therefore units are left in place for winter)	2	11.8%
Did not answer question (assume units were left in place <sup>23</sup> )	1	5.9%

### Vinyl Weather Stripping for HVAC Window Units Installations

As seen in Table 72, the six surveyed participants who received measures according to auditor records confirmed that five window units were weather stripped by the program, which is only 71.4% of the seven installations recorded by auditors.<sup>24</sup> Two customers (33.3% of 6) report that the auditor installed these measures, two customers (33.3% of 6) report that the auditor gave them the materials and they did the installation themselves, and two customers (33.3% of 6) claim that they did not receive this measure.

<sup>23</sup> One participant who received winter kits for window AC units only acquired their AC units shortly before participating in the program, and did not previously have any AC units. Thus they did not answer the question about "previous winters" (not applicable since they had no AC units during previous winters). This participant did not answer the question about "the most recent winter" either, but since they reported that the winter kits were installed on both of their units, TecMarket Works assumes that these units must have been left in place for the winter.

<sup>24</sup> The four participants who confirmed that this measure was installed should have had five window units weather stripped according to auditor records, and collectively they do confirm five installations though two customers reported a different number of measures than auditor records: one customer confirmed two measures when auditor records showed one, and the other customer confirmed one measure when the auditor records showed two.

**Table 72. Measure Installation: Vinyl Weather Stripping for HVAC Window Units**

<i>6 participants received weather stripping for window units according to auditor records</i>	Customer count (N=6)	Measures installed count according to auditor records (N=7)	Confirmed measures installed count (N=5)
Auditor installed weather stripping for window units	33.3%	28.6%	60.0%
Auditor gave weather stripping for window units to customer, customer installed	33.3%	42.9%	40.0%
Auditor gave weather stripping for window units to customer, customer has NOT installed	0.0%	0.0%	0.0%
Did not receive weather stripping for window units	33.3%	28.6%	0.0%
Don't know (assuming auditor record is correct and measure was installed)	0.0%	0.0%	0.0%

Two customers reported installing a total of three of these measure themselves (60.0% of five measures confirmed installed); one of these customers said the measure was easy to install (50.0% of 2), and the other did not recall.

Customers who confirmed the installation of weather stripping for window units were asked if any measures have been removed from where they was installed. As indicated in Table 73, all measures are still installed and none have been removed.

**Table 73. Removing Program-Provided Vinyl Weather Stripping for HVAC Window Units**

	Customers with confirmed installation percent (N=4)	Confirmed measures installed percent (N=5)
<i>Have any of the weather stripping for HVAC window units that was installed through the Residential Neighborhood Program since been removed?</i>		
No, all weather stripping for HVAC window units is still in place	100.0%	100.0% installed
Yes, weather stripping for HVAC window units has been removed	0.0%	0.0% removed

Four participants who confirmed that they currently have weather stripping for HVAC window units installed by the program rated their satisfaction with this measure on a ten-point scale where "10" is the most satisfied. As seen previously in Table 24, the mean satisfaction rating for this measure is high at 9.00, and only one participant (25.0% of 4) gave a rating of "7" or lower.

The customer who rated their satisfaction with this measure at "6 out of 10" was asked the reason for their relatively low satisfaction, and they responded "*there is still air coming in.*"

None of the surveyed participants (0% of 4) already had weather stripping on window HVAC units before participating in the Residential Neighborhoods program, as seen in Table 74. Prior to the program, none of these respondents (0% of 4) say they intended to purchase and install this measure (or even that they “maybe” would have). Three-quarters (75.0% of 4) did not intend to purchase any measures, and the other participant (25.0% of 4) was not sure. None of the surveyed program participants (0 out of 4) have installed any additional weather stripping on window HVAC units since receiving measures from the program audit.

**Table 74. Vinyl Weather Stripping for HVAC Window Units Installed before the Program and Additional Measures Purchased (N=4)**

	Customers (N)	Customers (%)
<b><i>Previously installed weather stripping</i></b>		
Already had one or more units weather stripped	0	0.0%
Did not already have any units weather stripped	4	100.0%
Don't know / not specified	0	0.0%
<b><i>Were you planning on purchasing weather stripping before participating in the program?</i></b>		
No	3	75.0%
No, already installed on all available units	0	0.0%
Maybe	0	0.0%
Yes	0	0.0%
Don't know / not specified	1	25.0%
<b><i>Additional weather stripping purchased since program</i></b>		
Have not purchased additional weather stripping	4	100.0%
Purchased additional weather stripping	0	0.0%

### **Caulking Windows Installations**

As seen in Table 75, the eleven surveyed participants who received this measure according to auditor records confirmed that eleven windows were caulked by the program, which is only 68.8% of the 16 installations recorded by auditors.<sup>25</sup> However only one of the eleven customers who received this measure (9.1%) confirmed that it was installed by the auditor, while 72.7% (8 out of 11) claim that they never received this measure and two customers (18.2% of 11) were not sure. However, it is common for participants to not be able to confirm measures that they did not know they received, have not personally seen after installation, or that are not significantly interesting to the participant.

<sup>25</sup> The one participant who confirmed that the auditor caulked windows should have had one window caulked according to auditor records, however this customers claimed to have had eight windows caulked. In addition, two customers did not know if they had any windows caulked, and according to program records these customers should have had three of their windows caulked. Thus the total confirmed installed is eight windows caulked confirmed and corrected by customers plus three windows where auditor records are assumed correct equals eleven windows caulked.

**Table 75. Measure Installation: Caulking Windows**

<i>11 participants received door caulk according to auditor records</i>	Customer count (N=11)	Measures installed count according to auditor records (N=16)	Confirmed measures installed count (N=11)
Auditor caulked window(s)	9.1%	6.3%	72.7%
Auditor gave caulk to customer, customer caulked window(s)	0.0%	0.0%	0.0%
Auditor gave caulk to customer, customer has NOT caulked windows	0.0%	0.0%	0.0%
Did not receive window caulk	72.7%	75.0%	0.0%
Don't know (assuming auditor record is correct and measure was installed)	18.2%	18.8%	27.7%

The customer who confirmed that their windows were caulked by the program was asked if any of the caulking has been removed from where it was installed, and they confirmed that all installations are still in place.

Only one participant confirmed that they currently have windows caulked by the program, and this customer rated their satisfaction with the caulking at “10 out of 10” on a ten-point scale where “10” is the most satisfied. As seen previously in Table 24, the mean satisfaction rating for the program-provided door caulking is thus 10.0, and nobody (0% of 1) gave ratings of “7” or lower for this measure.

The only surveyed participant who confirmed this measure was installed did not have any windows caulked before the program, had not been intending to install any caulking before the program, and has not purchased any additional caulking for windows since the program.

### **Clear Glass Patch Tape Installations**

As seen in Table 76, the six surveyed participants who received this measure according to auditor records confirmed that eight windows were patched by the program, which is 88.9% of the nine installations recorded by auditors.<sup>26</sup> Most of these measures were installed by auditors (66.7% or 4 out of 6), though one customer claims not to have received this measure (16.7% of 6) and one customer does not know for sure (16.7% of 6). None of the window patch tape (0% of 8 confirmed installations) was installed by the customers themselves.

<sup>26</sup> The four participants who confirmed that the auditor installed glass patch tape should have had six windows patched according to auditor records, and collectively they do confirm six installations though two customers reported a different number of measures than auditor records: one customer confirmed two measures when auditor records showed one, and the other customer confirmed one measure when the auditor records showed two. In addition, one customer did not know if they had any windows patched, and according to program records this customer should have had two of their windows patched. Thus the total confirmed installed is six windows patched confirmed and corrected by customers plus two windows where auditor records are assumed correct equals eight windows patched.

**Table 76. Measure Installation: Clear Glass Patch Tape**

<i>6 participants received clear glass patch tape according to auditor records</i>	Customer count (N=6)	Measures installed count according to auditor records (N=9)	Confirmed measures installed count (N=8)
Auditor patched windows	66.7%	66.7%	75.0%
Auditor gave patch tape to customer, customer patched windows	0.0%	0.0%	0.0%
Auditor gave patch tape to customer, customer has NOT patched windows	0.0%	0.0%	0.0%
Did not receive patch tape	16.7%	11.1%	0.0%
Don't know (assuming auditor record is correct and measure was installed)	16.7%	22.2%	25.0%

Customers who confirmed that their windows were patched by the program were asked if any of the patch tape has been removed from where it was installed. As indicated in Table 77, participants report that all installations are still in place.

**Table 77. Removing Program-Provided Clear Glass Patch Tape**

	Customers with confirmed installation percent (N=5)	Confirmed measures installed percent (N=8)
<i>Have any of the clear glass patch tape that was installed through the Residential Neighborhood Program since been removed?</i>		
No, all patch tape is still in place	80.0%	75.0% installed
Yes, patch tape has been removed	0.0%	0.0% removed
Not sure if patch tape installed (did not answer questions about installation)	20.0%	25.0% assumed installed

All four participants who confirmed that they currently have windows patched by the program rated their satisfaction with this measure at "10 out of 10" on a ten-point scale where "10" is the most satisfied. As seen previously in Table 24, the mean satisfaction rating for the program-provided door caulking is thus 10.0, and nobody surveyed (0% out of 4) gave ratings of "7" or lower for this measure.

As seen in Table 78, all four customers (100%) who confirmed the installation of clear glass patch tape report that they did not have this measure installed before participating in the Residential Neighborhoods program, they had not been intending to install any before the program, and they have not purchased any additional patch tape since the program.

**Table 78. Windows Patched with Clear Glass Tape Before the Program and Additional Patch Tape Purchased (N=4)**

	Customers (N)	Customers (%)
<b>Previously installed patch tape</b>		
Already had one or more windows patched	0	0.0%
Did not already have windows patched	4	100.0%
Don't know / not specified	0	0.0%
<b>Were you planning on purchasing patch tape before participating in the program?</b>		
No	4	100.0%
No, already installed on all windows	0	0.0%
Maybe	0	0.0%
Yes	0	0.0%
Don't know / not specified	0	0.0%
<b>Additional patch tape purchased since program</b>		
Have not purchased additional patch tape	4	100.0%
Purchased additional patch tape	0	0.0%

**Water Heater Pipe Wrap Installations**

As seen in Table 79, the 36 surveyed participants who received pipe wrapping confirmed that 69 linear feet of pipe were wrapped by the program, which is 92.0% of the 75 linear feet installed recorded by auditors.<sup>27</sup> About a quarter of participants report that they did not receive this measure (27.8% or 10 out of 36 receiving the measure according to program records). None of the pipe wrap (0% of 69 feet confirmed installed) was installed by the customers themselves.

**Table 79. Measure Installation: Water Heater Pipe Wrap**

<b>36 participants received pipe wrap according to auditor records</b>	<b>Customer count (N=36)</b>	<b>Linear feet of measure installed according to auditor records (N=75)</b>	<b>Confirmed linear feet of measure installed (N=69)</b>
Auditor wrapped pipes	61.1%	54.7%	81.2%
Auditor gave wrap to customer, customer wrapped pipes	0.0%	0.0%	0.0%
Auditor gave wrap to customer, customer has NOT wrapped pipes	0.0%	0.0%	0.0%
Did not receive pipe wrapping	27.8%	28.0%	0.0%
Don't know (assuming auditor record is correct and measure was installed)	11.1%	17.3%	18.8%

<sup>27</sup> The 22 participants who confirmed that the auditor wrapped pipes should have had 41 feet of wrapping installed according to auditor records, however eight customers reported that they had a combined 15 feet of additional pipes wrapped beyond what auditor records showed (the other 14 participants who confirmed installations did not know how many feet of wrap was installed, so auditor records are assumed to be correct). In addition, four customers did not know if they had any pipes wrapped, and according to program records these customers should have had 13 feet of pipe wrap installed. Thus the total confirmed installed is 56 feet confirmed and corrected by customers plus 13 feet of wrap where auditor records are assumed correct equals 69 linear feet of pipe wrapped.

Customers who confirmed that pipe wrap installed by the program were asked if there was previously any wrap on these hot water pipes: 86.4% (19 out of 22) said there was not, and the other 13.6% (3 out of 22) did not know.

Customers who confirmed that their pipes were wrapped by the program were asked if any of the pipe wrap has been removed from where it was installed. As indicated in Table 80, none of these participants (0% of 26 with confirmed installations) reported that wrap was removed from pipes.

**Table 80. Removing Program-Provided Hot Water Pipe Wrap**

	Customers with confirmed installation percent (N=26)	Confirmed linear feet of measure installed percent (N=69)
<b><i>Have any of the pipe wrap that was installed through the Residential Neighborhood Program since been removed?</i></b>		
No, all pipes wrapped are currently wrapped	84.6%	81.2% installed
Yes, some or all wrapping removed from pipe	0.0%	0.0% removed
Not sure if pipes were wrapped (did not answer questions about installation)	15.4%	18.8% assumed installed

Twenty-two participants who confirmed that they currently have pipes wrapped by the program rated their satisfaction with this measure on a ten-point scale where “10” is the most satisfied. As seen previously in Table 24, the mean satisfaction rating for the program-provided pipe wrap is quite high at 8.95, and only 9.1% (2 out of 22) gave ratings of “7” or lower.

The two customers with ratings of “7” or lower were asked the reason for their relatively low satisfaction with the door caulking; these responses are listed below.

- *It's coming apart. It's not sticking. It's awful. It's cheap and falling apart. (Satisfaction rating “1 out of 10”)*
- *I keep having to re-tape the insulation wrap as it comes undone, but other than that I like it. (Satisfaction rating “7 out of 10”)*

Only one surveyed participant (4.5% of 22) already had hot water pipes wrapped before participating in the Residential Neighborhoods program, as seen in Table 81. Prior to the program, three respondents (13.6% of 22) say they intended to purchase and install pipe wrap, while another respondent (4.5% or 1 out of 22) said they “maybe” would have intended to wrap their pipes before participating in the program, while the remaining 81.8% (18 out of 22) did not intend to wrap any pipes. None of the surveyed program participants (0 out of 22) have wrapped any additional hot water pipes since receiving measures from the program audit.