Program Name: Residential Energy Solutions (RES) Program
Program Type: Resource
Market Sector: Residential

A. Implementation Plan Narrative

1. Program Overview

The SDG&E Residential Energy Solutions (RES) program is a Zero Net Energy (ZNE)-focused residential resource single-family program. The ZNE path begins with installing persistent cost-effective direct install measures that transition the Customer into complimentary home energy surveys/sales consultations for higher levels of energy efficiency and renewable technologies that can be potentially be financed by the participant and installed by the implementer.

The RES program also presents opportunities annually to integrate energy efficiency and demand response in the single-family market segment. These opportunities originate from the direct installation of smart thermostats with required demand response enrollment. Over time, a valuable demand response resource is constructed through individual enrollment and provisioning of smart thermostats. This demand response resource is ready to assist SDG&E during summer peak demand periods to maintain grid reliability and prevent customer power disruptions.

Program Budget and Savings

Program Name: SDG&E Residential Energy Solutions (RES)				
Program ID number: SDGE4001				
Energy Efficiency Program Budget: $4,500,000				
Demand Response Implementation Budget: $1,016,400				
Market Sector/Segment: Residential Single-Family				
Program Type: Resource				
Market Channels: Direct Installation				
First Year Annualized Deliverable	2022	2023	2024	Total
kWh Savings	903,761	903,761	903,761	2,711,283
Therm Savings	79,173	79,173	79,173	237,519
kW Reduction	825	825	825	2,475
Program TRC Ratio	-	-	-	1.23
Program PAC Ratio	-	-	-	1.23

2. Program Delivery and Customer Services

The RES Project Operations Flow Chart (Figure 2) and Table 2 – Customer Services describe the program delivery and customer services. These include the timeline, activities, and roles of the six stakeholders (SDG&E, Synergy, Energy Efficiency, RMS Energy, Residential Customer, and Financier) to complete the Customer journey for a single project.

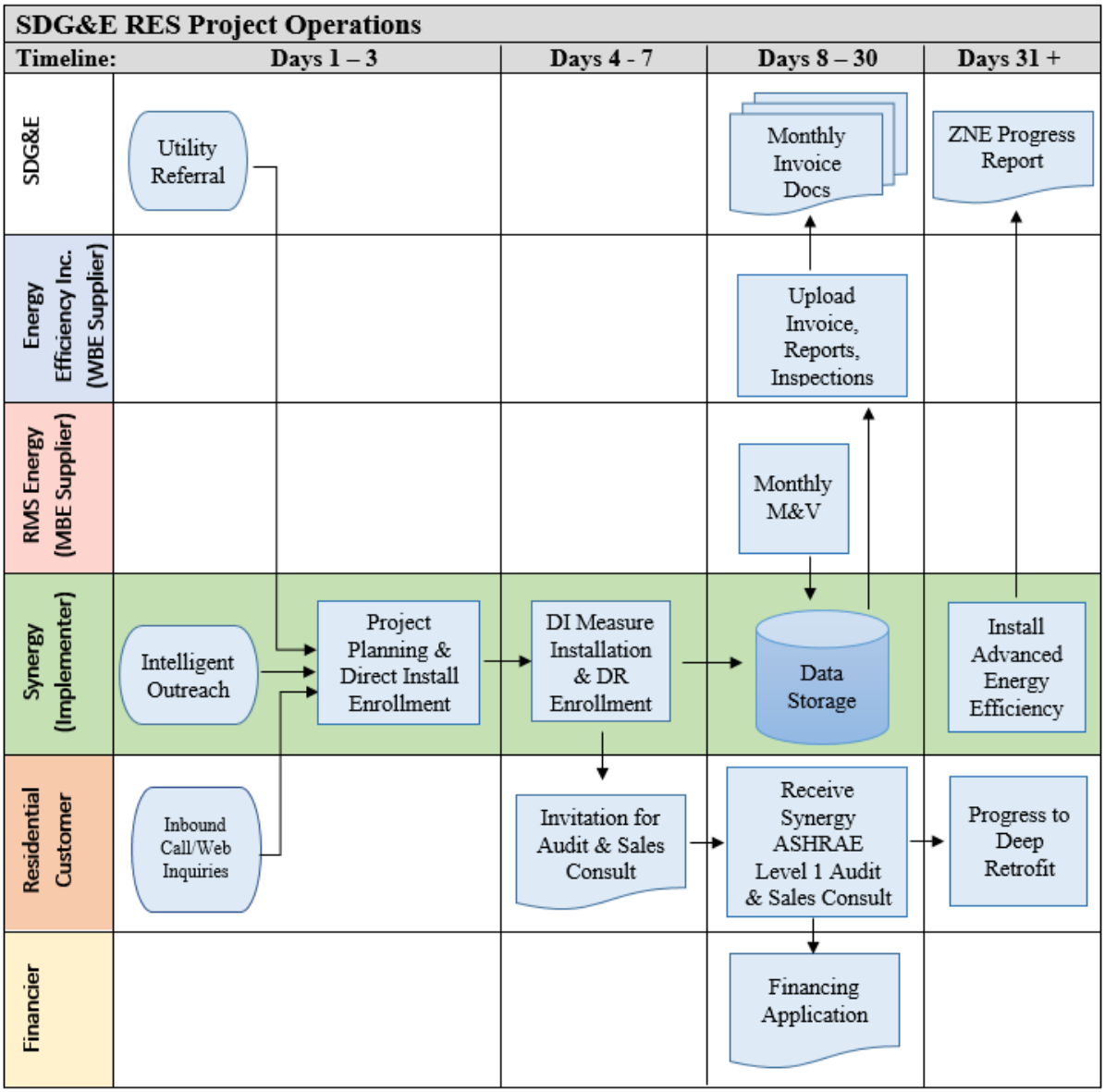
Days 1-3: A project lead begins with Synergy intelligent outreach, SDG&E utility referrals, or inbound calls and web inquiries to Synergy from interested residential account owners or operators. An appointment is scheduled to qualify the site, plan the project, enroll the Customer in the program, and schedule the direct install services.

Days 4-7: The direct install services are installed, demand response enrollment is completed, and an invitation is extended to the property for a /ASHRAE Level 1 audit and sales consultation for more comprehensive energy efficiency measures.

Days 8-30: Invoices, energy savings, and inspections of program services are performed, and information is uploaded into SDG&E's EECP system. The residential property receives the whole-home energy assessment and benchmarking sales consultation and if necessary, applies for financing through REEL, Greensky, or EGIA.

Days 31+: Progress to deep retrofits continues as zero net energy efficiency technologies are installed. Quarterly ZNE energy efficiency program reports are uploaded into SDG&E's system.

Figure 2



3. Program Design and Best Practices

The RES program overcomes the most common single-family barriers with the best practices and solutions illustrated in Table 3(a). Table 3(b) provides a clear and concise overview of the program's design.

Table 3(a) – Program Design and Best Practices	
Strategies	**How it Will Increase Participation**
1. Intelligent direct outreach with SDG&E approved flyers and door hangers.	Using Google Maps for Business, Synergy creates single-family direct outreach territories with virtual borders. These territories contain 5 to 8 single-family neighborhoods with climate

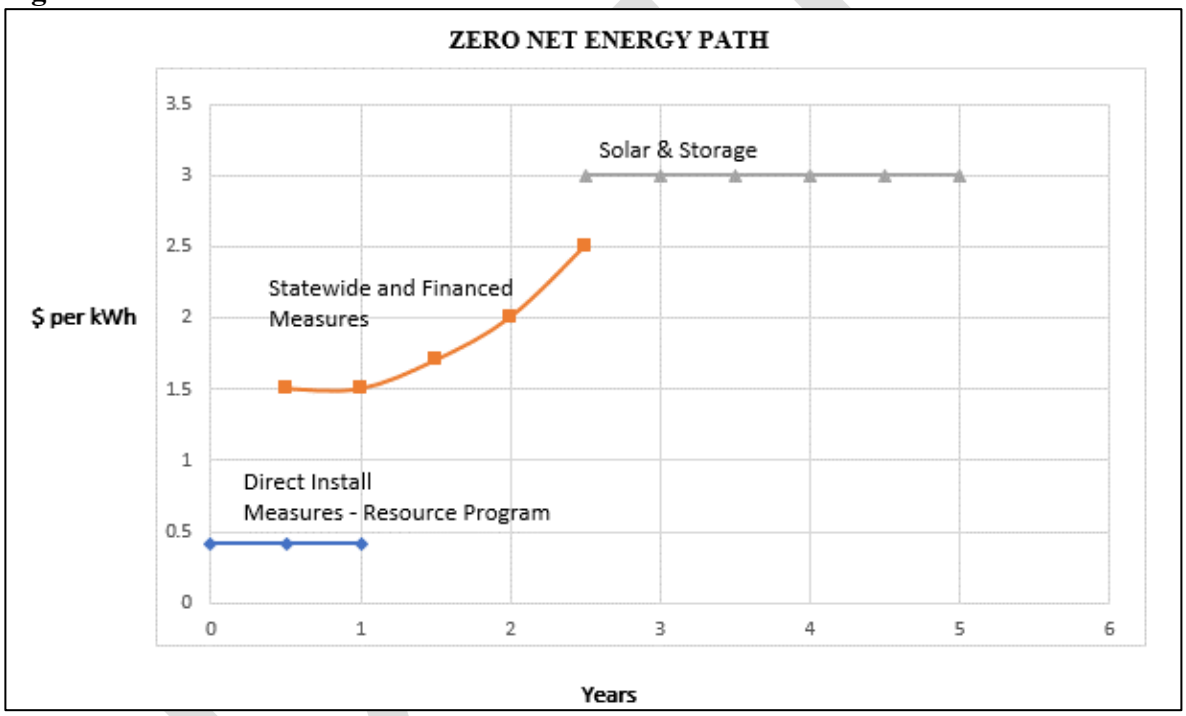
Table 3(a) – Program Design and Best Practices	
	zone and DAC overlays. Outreach is assigned territory based upon climate zone, DAC, and energy savings goals. Program outreach use iPads to display the maps and indicate which program measures are eligible for single-family home, increasing the enrollment productivity of the outreach. The program flyers and door hangers provide program credibility to the Customer while in the field.
2. Synergy direct outreach work with HOAs and owners to gain access to marketing within the community.	The direct outreach gets approval from HOAs to promote the program within single-family neighborhoods. They also set up presentations within the homes of single-family residences, which draw neighbors to learn more about the program and enroll in the program.
3. Program eligibility is drilled down to the single-family (SF) home address and is displayed on outreach iPads to know which homes are available for participation.	The Synergy Developed Single-Family Outreach Tool increases participation by knowing beforehand which SF homes to target, boosting outreach efficiency.
4. Email and Phone Campaigns for virtual enrollment and appointment scheduling to past customers, offering the new generation of program measures that are deployed.	Email and phone campaigns invite these customers to participate in the new program offerings, increasing program participation.
5. Program signs are placed near the entrance and exit of the single-family neighborhoods to indicate program availability with the phone # for calling/texting and website for enrollment.	Single-family residents are receptive to approved messaging at the entrance and exits of their neighborhoods. Strategic placement of signs with a call to action in these locations increases participation.
6. Single-family Social Media Placement	The direct outreach strategically places the program on the HOA's available social media channels.

Table 3(b) – Program Design				
i. Program Name	Residential Energy Solutions (RES)			
ii. Market Sub-Segments	1. Single-family homeowners 2. Single-family renters 3. Hard-to-reach single-family homeowners 4. Hard-to-reach single-family renters			
iii. Geographic Area	SDG&E's service territory			
iv. Methodologies	Deemed, Custom, and NMEC			
v. Primary Direct Install Technologies, End Use(s), and Contribution to Savings	**Direct Install Measures**	**Areas of Savings**		
		Gas	**Elec**	**Water**
	ESA Program Leveraging (Savings Claimed by ESA)			
	Weatherization	X	X	X
	CARE/FERA Enrollment			
	Whole-Home Energy Assessment			
	Sales Consultation	X	X	
	Whole-Home Energy Assessment Customer Report	X	X	
	HVAC (Heating Ventilation Air-Conditioning)			
	Brushless Fan Motors		X	
	Duct Test and Seal	X	X	
	Electronic Fan Relay Controls		X	
	Smart Wi-Fi Thermostats	X	X	
	Hot Water			
	Thermostatic Shower Valves	X		
	Pipe Insulation, Residential	X		
	Showerheads	X		X
	Aerators	X		X
	Demand Response Enrollment			
	IDSM + DR	X	X	
vi. Customer Financed Technologies	**Advanced Energy Saving Measures**	**Areas of Savings**		
		Gas	**Elec**	**Water**
	Tankless Water Heater	X		
	High Efficiency AC Systems		X	
	High Efficiency Furnaces	X		
	Whole House Fans		X	
	EV Charging Stations		X	
	Solar Photovoltaic Panels		X	

The best practices and solutions to each barrier differ from those used previously by past program designs and industry professionals. The new approaches outlined in Tables 3(a) and 3(b) demonstrate the RES program intends to create a transformational cost-effective direct install experience for the Customer rather than a transactional one. The RES program will guide single-family ratepayers down the path of zero net energy while delivering a cost-effective resource program.

Figure 3(a) illustrates the estimated timing of direct install measures, statewide financed advanced energy efficiency measures, and solar, storage, and EV charging stations with their respective estimated cost per kWh. It is estimated that most customers will require 3 to 5 years to complete the Zero Net Energy journey.

Figure 3



4. Innovation

The RES (Residential Energy Solutions) program is a new innovative design that can be replicated across residential and commercial market segments. At its core, the program seeks to be transformational rather than transactional, literally transforming the Customer into a wiser and more knowledgeable steward of electricity and natural gas and instilling the desire to improve their home to increase long-term operating margins, reduce the carbon footprint, enjoy increased comfort, and achieve Zero Net Energy.

The program's innovative delivery approach begins with zero net energy in mind, taking the Customer all the way to zero net energy, unlike direct install only energy efficiency programs of the past. The delivery approach also is expandable to include water energy nexus opportunities with water agencies as these arise. The delivery approach includes SDG&E

ESA enrollment in the single-family market segment by the implementer's certified SDG&E ESA associate. Innovation is also found in the technology deployed that unites demand response and energy efficiency in one seamless visit.

The program goes well beyond direct install to achieve zero net energy. Customers will have the choice to go beyond direct install. The transformational process will take time and the RES program is the catalyst to set the transformation into motion. Figure 6 illustrates how the program's innovative approach takes the Customer down the path of zero net energy in a simple yet effective way.

Figure 6

Table 6 - Innovation	
Innovative Aspect	**Advancing Energy Efficiency Explanation**
Delivery Approach (ZNE, SDCWA, and ESA Enrollment Driver)	The delivery approach begins with ZNE in mind, taking the Customer to zero net energy, unlike direct install only energy efficiency programs of the past. Along the way, the delivery approach is expandable to include water energy nexus opportunities with the San Diego County Water Authority. RES will assist the Summer Peak Demand periods to maintain grid reliability and prevent power disruptions to customers with quality installation of smart thermostats and AC Saver demand response program enrollments. The delivery approach includes SDG&E ESA enrollment by a Synergy-certified SDG&E ESA associate. These comprehensive and diverse offerings all advance energy efficiency by literally offering something for everyone, opening single-family doors that would not have otherwise been opened as a direct install energy efficiency-only program. For example, a partnership with the San Diego County Water Authority to install high-efficiency toilets, opens doors that energy efficiency alone cannot because the toilet is really what the Customer is initially interested in. We have found that once in the home, the Customer is more receptive to the energy efficiency offerings and those are also installed. The same goes in reverse and this way, these partnerships advance the other.
Technology (EE-DR Integration)	Synergy's trained and certified HVAC technicians seamlessly install smart thermostats and enroll customers in the SDG&E's AC Saver demand response program. This approach with the smart thermostat technology integrates energy efficiency and demand response in a coherent and efficient manner.
Marketing Strategy	The program effortlessly transitions from direct install energy efficiency installations to a no-pressure complimentary whole-home energy assessment/sales consultation. This strategy advances the installation of more comprehensive energy efficiency and solar technologies that can be financed (tankless water heaters, whole house fans, HVAC equipment, solar PV, storage, and EV charging stations).

Table 6 - Innovation	
Transformational Experience	The program goes well beyond direct install to achieve zero net energy. The customer experience is designed to be transformational so that customers will accept the invitation to go beyond direct install measures and advance comprehensive energy efficiency measures in their homes. The transformational process will take time and the RES program is the catalyst to set the transformation into motion. Synergy deploys phone and emails drip campaigns to stay in touch with customers and advance them toward zero net energy.

5. Metrics

Provided are the metrics that will be used to track program progress:

- Program Performance
  - Savings to Goal (kWh, kW, therms)
  - TRC Ratio
  - Passed Inspections
  - Short, Mid, Long Term Outcomes
- Financials/Savings
  - Savings Claimed
  - Budget Spent
  - Savings/Budget Alignment
- Customer Satisfaction
  - Responsiveness to Customer Leads
  - Complaints Received
- Compliance
  - Reporting Accuracy
  - HTR/DAC Penetration
- Marketing
  - Multifamily Units Treated
- Supply Chain Responsibility
  - DBE Commitment
- Innovation
  - Conversion Rate of EE+DR Integration
  - Conversion Rate of Advanced Energy Efficiency, Renewable, Storage, and EV Charging Technologies

6. For Programs Claiming To-code Savings

The RES program claims savings above code standards.

7. Pilots

The RES program has no pilots planned.

8. Workforce Education and Training

The workforce assigned to the RES will be enrolled in education and training courses held by SDG&E virtually or at an SDG&E-designated facility. The program will expand/initiate partnerships with entities that do job training and placement.

Describe how the program will support workforce, education, and training to:

1. Expand/initiate partnerships with entities that do job training and placement;
2. Require placement experience for any new partners in the workforce, education, and training programs and new solicitations;
3. Require "first source" hiring from a pool of qualified candidates, before looking more broadly, beginning with self-certification; and
4. Facilitate job connections, by working with implementers and contractor partners, and utilizing energy training centers.

9. Workforce Standards

Implementation of the RES program requires a CSLB license with B – General, C2 – Insulation, C10 – Electrical, C17 – Glazing, C20 – HVAC, C22 - Asbestos, C36 – Plumbing, and C46 – Solar certifications to implement the program's scope and customer-funded activities. The program also requires that the implementer carry at least a B grade with ISNET world.

State law and the Contractors State License Board require all Bidders and their subcontractors to hold valid contractor's licenses before submitting an abstract or a proposal for work subject to license requirements (California Business and Profession Code, Sections 7026, 7027.1, and 7028(a). The implementer complies fully with these requirements holding all the licenses necessary to perform the quality direct install, advanced energy efficiency, renewable, storage, and EV charging technologies.

10. Disadvantaged Worker Plan

The proposed program supports job access for disadvantaged workers by interviewing individuals in the circumstance defined as a "disadvantaged worker" and providing an equal employment opportunity for the position desired. The implementer currently employs workers that meet these criteria. The implementer keeps a log of employees that met the disadvantaged worker status at the time of hire to satisfy metric reporting requirements.

B. Supporting Documents – All supporting document must be embedded.

1. Program Manuals and Program Rules

RES%20Program%20Manual.docx

2. Program Theory and Program Logic Model

The Logic Model below visually explains the underlying theory supporting the sub-program intervention approach.

RES Logic Model.pdf

3. Process Flow Chart

RES Process Flow Chart.pdf

4. Incentive Tables, Measure Packages, Software Tools

Incentive Tables and Measure Packag

5. Quantitative Program Targets

RES Quantitative Program Targets.do

6. Diagram of Program

Diagram of Program.docx

7. Evaluations, Measurement & Verification (EM&V)

RES%20M&V%20Plan.docx