Solar Installation Business Plan and Operations Starter Kit

A working kit for residential solar installers. It prices each system size at true crew cost with the equipment share shown, turns the deposit and the completion payment into a collection pattern, tracks quotes by lead source, shows what a billable install hour truly costs, finds cash break-even through the seasonal trough, and scores the plan on six pass-or-fail tests.

RESIDENTIAL SOLAR INSTALLATION
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PAGE 2

Start here

A solar company can sell in December and be short of cash in January. Equipment may have to be paid for before the install, the approval wait sits between the sale and the payment, and a financed job may settle after the crew leaves. This kit writes those numbers down and tests them before a lender asks.

WHAT IS INSIDE

3	Business plan, part one: install types, customers and lead sources, service area, pricing
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HOW TO USE IT

1. Build install sales on page 6 and costs on pages 5 and 8. Run the cash forecast on page 11, then score the plan on page 4. Draft pages 3 and 4 last.
2. Use pencil. Equipment prices, financing terms and crew rates move before a quote is signed, and every worksheet expects your own figures.
3. Once you open, use the page 14 checklists on every install and the numbers review every week. Run the page 7 overrun check when each install closes and update the page 9 quote log after every quote.

HOW THIS KIT WAS BUILT

- **AI tools helped create this kit.** Example figures are illustrative, not benchmarks.
- **The owner question** on page 3 is one of the solar installer questions published at businessconsultant.services; the answer is general guidance, not a research finding.
- **The six questions** on page 14 were drafted by AI models from World Consulting Group desk research and challenged by a second AI model. None was measured in the field, so treat them as hypotheses to test, not findings.

SCOPE

This kit gives general operational information. It is not legal, tax, accounting, employment, electrical and roof safety or financial advice. Compliance and registration review with a qualified professional, electrical and roof work, the utility connection, warranty, financing and employment terms vary by location and by installer. Review them with qualified professionals before you commit money.

PAGE 3

Business plan, part one

A lender reads this page to see whether a finished roof turns into cash quickly enough to pay the crew, the panel order and the note. Keep the answers here short and put the long version on separate sheets.

1. Executive summary (write it last)

Say what you install, how far you travel and what the money buys; then name the month in which the page 6 forecast first covers cash break-even from page 8.

2. Work offered and who buys it

Write down the systems you quote, from a 5 kW array up to a 10 kW one, and what a homeowner is paying for besides the production estimate: shade measured on the roof before anything is signed, a loan shown as a monthly figure, and the same crew from the first rail to commissioning.

3. Territory and how much work the crew can carry

Draw the radius you serve and add the windshield time between one job and the next. Add up the crew hours you can put on a roof in a week, then see how many arrays those hours buy.

4. System sizes and what each one sells for

Give every size its crew hours and its contract price. A figure built from the panel and inverter cost alone, with nobody's hours inside it, is a wish rather than a price.

ARRAY SIZE	ROOF HOURS	CONTRACT PRICE	CONTRIBUTION PER ROOF HOUR

> *Owner question: You bill 25 percent at contract and 75 percent at switch-on, and switch-on waits on an approval you cannot hurry. Which of your three sizes leaves the largest equipment bill to carry against that deposit, and how many days could the account hold two finished roofs waiting on the same inspector?*
>
> Start with the 10 kW system: equipment runs 41.0 percent of its contract, so the 25 percent at signature is $7,150 while the panels, racking and inverter come to $11,726, and you carry the difference until completion. Count the days from commissioning to last payment, double them for the second roof, and set that beside the working capital on page 5. Run the two-month lag lever on page 13: it decides whether the plan survives.

PAGE 4

Business plan, part two

5. Operations

Describe how an install runs from signed contract to completion payment: the deposit and the equipment order, the crew assignment, the roof day, commissioning, the approval steps, and the handover. Name who checks each job when you are not there.

6. Team

List every role, its hours and its pay, including a market wage for your own hours. Name the person who can run an install day without you; the first question on page 14 checks that dependency.

7. Marketing and sales

Explain where assessments come from, how an assessment becomes a quote, and why a referral partner sends the next one; repeat and partner leads pay for the quotes you lose.

8. Financials and funding

Attach pages 5, 6, 8 and 11 and the result below, with the money needed, its sources and its runway.

DOES THE PLAN PASS? SCORE IT BEFORE ANYONE ELSE READS IT

TEST	PASS?
Gate 0. Draft quotes with payment schedules, insurance, vehicle and equipment quotes, supplier terms and a compliance and registration review with a qualified professional are in writing.	
1. In the expected case, sales reach cash break-even at the month-12 run rate (page 8) and closing cash, payment timing included, holds your floor for 24 months (page 11).	
2. Slow start (tested share of sales, page 11): closing cash holds at or above your floor every month (if not, note the reserve that would hold it).	
3. Planning debt service coverage at full-run sales and at the month-12 run rate (page 8) meets your lender's ratio, on your lender's definition.	
4. Paid installer hours needed in the busiest month (install hours, pages 6 and 7, over utilization, page 10) fit the hours you can staff (page 6), and planned installs reach break-even (page 8).	
5. Signed contracts with deposits back the install count, and the assessment record backs the quote volume; a lead count supports a forecast of quotes, not of installs.	
6. The full-run steady-state year (seasons in; not the forecast year) leaves net cash above zero after principal, before income tax set-aside, replacements and stock build-up; set aside its largest fall in running net cash, the year run twice.	

Not ready: Gate 0 fails. **Green:** Gate 0 and all six tests pass. **Amber:** Tests 1 and 3 pass, but Test 2, 4, 5 or 6 fails, so fix the plan before you sign a vehicle loan or a lease. **Red:** Test 1 or 3 fails, so change the plan before you commit money. Tests 1 and 3 score the plan as written; Test 2 is the slow start, and the page 13 what-ifs stress-test Tests 1, 3 and 6. Count a test without evidence as a fail. Result: _____

PAGE 5

Startup budget worksheet

Fill the estimate column first, then record each source: a written quote from the vehicle dealer, the equipment supplier or the insurer, or a documented calculation. Solar budgets can break on the first equipment order before the first completion payment lands, so leave no line blank without a reason.

LINE ITEM	INITIAL ESTIMATE	QUOTE OR SOURCE	APPROVED BUDGET	ACTUAL OR COMMITTED
VEHICLES, TOOLS AND EQUIPMENT				
Vehicles, two used cargo vans and one used pickup (the largest and least-sourced line in this budget; re-quote it before anyone signs a loan)				
Tools, ladders, harnesses, safety and test equipment				
Software setup and data migration				
Opening marketing, website and signage				
SETUP AND COMPLIANCE				
Compliance and registration review with a qualified professional				
Insurance down payment				
Entity, accounting and banking setup				
Shop lease deposit and first month				
PRE-OPENING				
Pre-opening payroll and training				
Opening stock of mounting and electrical consumables				
WORKING CAPITAL				
Working capital reserve (cash you open with)				
Contingency for overruns on the lines above				
Total				

Size the reserve in two passes: run the page 11 expected case with opening cash of zero (no reserve, no other cash), set the reserve to your floor, plus one more month of fixed costs and principal as a buffer, plus how far its lowest closing cash falls below zero (zero if it never does), rounded up to the next $100, then rerun. If the Test 6 cushion (page 4) is larger than that buffer, add the difference. If the setup runs over, the contingency pays first and the reserve second; then rerun page 11.

PAGE 6

Sales forecast builder

Every other number depends on sales, so build them from signed install contracts and the assessments your crew and your quote pipeline can carry, not from the payroll you need to cover. Count installs first; add a size only at the volume your quote log supports.

```
Monthly sales for a line = units times average contract price times days open in the month (or times 1
for units counted per month)
Days open in a month = days open per week times 52, divided by 12
```

SALES LINE	UNIT	UNITS PER DAY OR MONTH	AVERAGE CONTRACT PRICE	DAYS OPEN PER MONTH (OR 1 FOR MONTHLY UNITS)	MONTHLY SALES
Rooftop installs	installs				

Full-run month

RAMP AND SEASONS

MONTH	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Ramp, % of full run												
Season, % of full-run month (M1 = opening month)												
Expected sales												

Expected sales for each month = full-run install sales times ramp (the share of full-run volume the crew and the quote pipeline have reached) times season. Use 100 percent where a factor does not apply. Ramp and season are your assumptions; write down the evidence for each, such as your quote log by month.

CAPACITY CHECK

```
Paid installer hours available per month = installers on the crew multiplied by hours a day (add each
person's hours if they differ), days worked a week and 52, divided by 12; paid hours needed = crew hours
on installs divided by utilization
```

Write how many crew hours you can staff each day and how many days you work each week. Add up the monthly crew hours your installs need (installs a month times crew hours per install, page 7) and divide by utilization (page 10). If the plan needs more paid hours than you can staff, the plan is wrong, whatever the quotes say.

PAGE 7

Job pricing, deposits and collection

A system size carries a price and a crew-hour cost, and they are never the same figure. Panels and inverters leave the account weeks before the customer or lender signs off, so each size is measured against the hours the crew spends on the roof.

Labor = the hours the crew stands on the roof, at the page 10 cost of a billable hour (drive, loading and waiting are already inside it).
Contribution = contract price less labor, less panels, racking and inverters at cost, less card, financing and fuel at their page 8 shares; contribution per crew hour = that contribution divided by the roof hours.
Close rate = installs won over quotes written; quotes needed = installs needed over that close rate

WORKED EXAMPLE: THREE ARRAY SIZES (ILLUSTRATIVE)

ARRAY SIZE	INSTALLS A MONTH	CONTRACT PRICE	ROOF HOURS	CREW COST	PANELS, RACKING, INVERTER	CARD FEES, FUEL	CONTRIBUTION	PER ROOF HOUR	HIT RATE
5 kW system	2	$16,800	46	$2,006	$6,888	$1,008	$6,898	$149.96	32%
8 kW system	2	$23,840	65.3	$2,847	$9,774	$1,430	$9,789	$149.91	27%
10 kW system	1.2	$28,600	78.4	$3,419	$11,726	$1,716	$11,739	$149.73	22%

The crew is costed at $43.61 a billable hour, from page 10; card, financing and fuel at 6 percent of the contract (page 8 lines 15 and 16); panels, racking and inverters at the supplier's quote. The installed-cost table, the component split and the fee share behind it all come from one published cost table, not a market spread. Every hour on the roof is charged here. Per roof hour the 5 kW clears most ($149.96), the 10 kW least ($149.73). The three installers sit in line 3 at 520 paid hours a month, about 23 percent above an average month of 422. A 15 percent overrun fits an average month at 485.6 of the 520; in the busiest full-run month (month 3, the 118 percent season peak) that overrun needs 573, or 53 overtime hours, so the crew gives way at about a 4.4 percent overrun. Hit rates are illustrative; use your own quote log. Page 12 takes its equipment and crew-cost shares from these sizes (5.2 rooftop installs a month, average contract $22,231).

YOUR ARRAY SIZES

ARRAY SIZE	INSTALLS A MONTH	CONTRACT PRICE	ROOF HOURS	CREW COST	PANELS, RACKING, INVERTER	CARD FEES, FUEL	CONTRIBUTION	PER ROOF HOUR	HIT RATE

WHEN THE MONEY LANDS: DEPOSIT AND COMPLETION

WHAT IS SOLD	STEP	SHARE	LANDS
Rooftop installs	Deposit at contract	25%	in that month
Rooftop installs	Balance at completion and commissioning	75%	in that month

Of every $100 of work installed in a month, the example takes in $100 in that month. Page 11 runs each line through the same pattern. A deposit lands in closing cash when received, the unearned part a memo customer-deposit liability; the job counts once, in the month it bills.

CHECKING AN INSTALL FOR OVERRUN

Quotes stay still while roofs do not. A pitch that wants more rail, a trench the site visit missed, a layout redrawn that morning: each is hours the quote never held. At close, set logged hours against quoted hours.

Overrun hours = the hours the roof took minus the hours quoted; overrun cost = that gap at true cost. Trace the cause, price added work in writing before the crew starts, and rebuild the next quote from what this roof showed.

PAGE 8

Break-even and coverage

Use this one numbered cost list everywhere in the kit. Loan interest is a fixed cost here. Loan principal is not an operating cost: it enters cash break-even below and the cash forecast on page 11, so interest and principal are each counted once. A line that starts or steps up during year 1 goes in at its amount once in place; page 11 uses each month's amount.

FIXED COSTS PER MONTH	PER MONTH
1. Shop, office and yard rent	
2. Liability, property and vehicle insurance	
3. Three installers and any guaranteed minimum crew hours, with payroll taxes, workers' compensation, benefits and paid leave	
4. Owner's market wage (sales, quoting, management; hours on installs go in line 14)	
5. Loan interest (vehicle and equipment loan)	
6. Base utilities, phones and internet	
7. Marketing, website and lead services	
8. Design, dispatch and accounting software	
9. Accounting, bookkeeping and bank fees	
10. Tool, ladder and safety equipment maintenance	
11. Vehicle upkeep, tires and fixed vehicle costs	
12. Training, credentials, memberships, other	
Total fixed costs	

VARIABLE COSTS AS A SHARE OF NET SALES	SHARE
13. Equipment, parts and materials, as quoted on each install	
14. Hourly crew labor above any minimum crew, with payroll taxes and workers' compensation	
15. Card and financing fees	
16. Fuel, job fees and site consumables	
Total variable cost share	

```
Contribution margin ratio = 1 minus variable cost share; contribution = sales times the line's ratio
Operating break-even sales = fixed costs divided by contribution margin ratio
Cash break-even sales = (fixed costs with line 4 even if undrawn, plus principal and other recurring
cash out) divided by contribution margin ratio; page 13 covers a result with no usable number
Break-even installs = cash break-even sales over average contract price, at the page 8 ratio; never the
page 7 after-labor contribution
Month-12 run rate = average monthly sales over a year at month 12's ramp and bookings, seasons applied
Planning debt service coverage (before income tax and replacements) = (full-run sales times contribution
margin ratio, minus fixed costs other than line 5) divided by (line 5 + principal)
```

RESULT	PER MONTH	PER WEEK	PER DAY OPEN
Operating break-even sales			
Cash break-even sales			
Break-even installs (use cash break-even)	one figure per month		
Share of sales that goes on the shop and yard and debt service coverage at full-run sales		ratios, monthly only	

Weekly = monthly times 12, divided by 52; per day = weekly divided by days open per week. Shop and yard share = line 1 over net sales.

PAGE 9

Where install quotes come from, and what closes them

One crew, three kinds of buyer. A homeowner who finds you in a search result, a lead handed over by an installer-matching service and a roofer sending repeat work all move at their own speed, so quotes and wins have to be counted against the source they arrived from. Without that, growth looks real right up until the referrals thin out.

```
Quote rate = quotes written over site visits; win rate = installs won over quotes written
Site visits needed = installs you still need, over (quote rate times win rate)
Cancellation rate = signed installs lost in a quarter, over the signed installs held when that quarter opened
```

WORKED EXAMPLE: A QUARTER OF QUOTES, SORTED BY WHERE THE LEAD CAME FROM (ILLUSTRATIVE)

WHERE THE LEAD CAME FROM	SITE VISITS	QUOTES WRITTEN	INSTALLS WON	QUOTES PER VISIT	WINS PER QUOTE	DAYS FROM VISIT TO QUOTE	VISITS TO REACH 15.6 WINS
Search and website inquiries	24	19	5.2	79%	27%	21 days	72
Installer-matching and referral leads	40	28	7.6	70%	27%	30 days	82
Roofer and builder partners	14	11	3.0	79%	27%	45 days	73

The counts here are invented to make the arithmetic visible and say nothing about why a search inquiry closes while a builder partner does not; a quarter this small shows direction, never a rate, so keep counting before you act on one. These quotes turn into 15.8 installs in a quarter, just over the 15.6 the job table needs at full run. The quote counts use a 27 percent win rate in every row; the implied quote-weighted win rate is 27.2 percent, so 58 quotes carry the wins; a smaller count of quotes would mean a close rate better than the best row. Nothing is cancelled in this example. The page 12 ramp runs on install dates rather than quotes, and it reaches full run in month 7. Here, losing 0 of 15.6 accounts over a quarter works out at about 0.0 percent a month cancelled, taken against the installs held when the quarter opened and before anything new is won, so the quote pipeline has to replace that before it can grow.

YOUR OWN QUOTE LOG, BY LEAD SOURCE

WHERE THE LEAD CAME FROM	SITE VISITS	QUOTES WRITTEN	INSTALLS WON	QUOTES PER VISIT	WINS PER QUOTE	DAYS FROM VISIT TO QUOTE	SITE VISITS NEEDED

EVERY SIGNED INSTALL, AND EVERY CANCELLATION

ACCOUNT	INSTALL DATE	FINANCING USED	INSTALLED, OR CANCELLED	WHY IT WAS CANCELLED, IN THE CUSTOMER'S WORDS

PAGE 10

Crew utilization and true labor cost

The hourly wage is where the cost starts, not where it stops. Drive time, loading, sitting on an approval and a second trip for a flashing that leaked are all paid hours nobody is invoiced for, and the hour that does get billed has to carry every one of them.

```
Utilization = the hours on the roof that can be billed, over the paid hours
Loaded hourly cost = the wage with payroll taxes, workers' compensation, benefits and paid leave added on top
Cost per billable hour = a paid week at that loaded rate, over the hours in it that bill
```

WORKED EXAMPLE: ONE INSTALLER'S WEEK (ILLUSTRATIVE)

HOURS	HOURS IN THE WEEK	PART OF A PAID WEEK
Hours paid	40	100%
Hours on the roof that bill	30	75%
Driving between jobs and fetching materials	6	15.0%
Return visits and rework	1.5	3.8%
Waiting on an approval, loading, paperwork	2.5	6.3%

At a $25.55 wage with 28 percent payroll taxes and benefits added, the pay rate becomes $32.70 an hour; at 75 percent utilization, an hour that can be billed works out at $43.61. Every install price starts from that number, never from the wage alone and never from the loaded figure.

YOUR OWN CREW, A WEEK AT A TIME

WHO	HOURS PAID	ROOF HOURS THAT BILL	DRIVING	RETURN VISITS	BILLABLE SHARE	COST OF A BILLED HOUR

WHAT WALKS OUT OF THE DOOR WITH AN INSTALLER

When an installer leaves, the commissioning readings, the shade measurements and the history of that customer's array go with him unless somebody wrote them down. Keep them on file for every roof and every callback, so whoever climbs the ladder next begins from the same sheet.

PAGE 11

Twelve-month cash forecast

Equipment and payroll leave before completion is paid. Enter $000 (51.25 means $51,250), receipts net of sales tax; collected tax stays out of closing cash.

EXPECTED CASE ($000)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
Opening cash												
In: collections, in the month each payment lands, net of sales tax												
Memo, not cash: billed this month (page 6)												
In: owner money and loans received												
Out: equipment, job fees and fuel (lines 13, 15, 16)												
Out: payroll, line 4 if drawn in cash (lines 3, 4, 14)												
Out: shop rent (line 1)												
Out: other costs, with loan interest (lines 2, 5 to 12)												
Out: income tax set-aside, equipment replacement, stock build-up												
Out: loan principal												
Out: startup bills still to pay												
Net cash flow (in minus out)												
Closing cash, expected (your floor: _____)												
Actual closing cash, once open												
Memo: sales tax collected (not in closing cash)												
Memo: sales tax remitted												
Memo: tax owed = last month's + collected minus remitted												
Memo: receivables = last month's + billed minus collected												
SLOW-START CASE												
Sales receipts, slow start												
Out: variable costs, slow start (lines 13 to 16)												
Out: fixed, principal, bills, less funding												
Net cash flow, slow start												
Closing cash, slow start												

Month 1 opening cash is cash on the morning the first crew climbs a roof after startup spending is paid; each closing balance opens the next month, and the slow start opens with the same cash. Your floor is at least one full-run month of fixed costs plus principal. Crews and suppliers are paid in the month of the work. For the slow start, test 70 percent of expected sales in every month (a stress assumption, not a benchmark; a higher share only with evidence); fixed costs, other cash out, principal, startup bills and funding stay as expected, and all variable lines fall with sales; line 14 holds only hours you would cut. The first month either case falls below your floor is your planning deadline: act before it. Then run a second year at the month-12 run rate (page 8), month by month with the seasons continuing, and check the floor holds.

PAGE 12

How long the money lasts, and what a slow January costs

Runway = the count of months ahead, from the last closed month (before you open, from the morning the first crew climbs a roof), that you get before closing cash first slips below your floor

The example: a rooftop crew, a cash floor and a slow January

These figures are illustrative and show the arithmetic, not a target to copy. Panel invoices are billed when the roof is signed off, and the three installers draw pay from line 3 in month 1. Cash floor $51,120. Money for an install arrives on the page 7 payment steps (25 percent at contract, 75 percent at completion, both inside the month the work happens). Panel invoices land while the crew is on the roof, the owner draws the wage in cash, and no fresh install comes through the door. The forecast pays the panel invoice in the month of the work; if your supplier bills at order, move that payment earlier in your forecast.

Page 5, cash to open	The whole opening spend, $270,100, funded by a $65,000 loan (10.5 percent across 5 years) and $205,100 from the owner's own funds, of which $126,800 is working capital held back in the account and untouched on the first morning. The sizing on page 5 runs twice: a floor of $51,120, then another month of fixed costs and principal, $51,120, plus $24,479 (the depth the first pass reaches below zero when it opens with no cash), rounded up to $126,800.
Page 8, overhead and payroll	Fixed costs $50,251 a month, including $2,200 for the shop, office and yard and $528 of loan interest in the total; principal $869 a month (year 1 figures, both); variable share 47.0 percent, which leaves the contribution margin ratio at 0.530. Along lines 13 to 16 the shares are 41, 0, 2.5 and 3.5 percent of sales. The twelve fixed lines run $2,200, $1,600, $17,006, $8,000, $528, $450, $17,340, $777, $700, $250, $900 and $500 a month.
Page 8, installs to break even	The operating break-even sits near $94,813 a month. Cash break-even (the fixed costs of $50,251 plus principal $869, divided by 0.530) is about $96,453 a month: 4.3 installs a month from rooftop installs with that line's contribution counted, so 5, against the 5.2 the plan is built on.
Page 6, install volume	Rooftop installs: 5.2 installs a month at $22,230.77. At full run the month is about $115,600; installs ramp 50, 62, 74, 84, 90, 95 percent over months 1 through 6, then flat at 100 percent; season 110, 116, 118, 112, 106, 100, 96, 90, 82, 80, 86, 104 percent over months 1 through 12 on installs.
Page 19, the year on plan	Month 1 invoices $63,580; month 1 ends at $109,377, month 12 at $148,538. Low: month 2, closing $102,321, $51,201 above the floor.
Page 19, the slow start	With installs at 70 percent of the plan, month 1 sales $44,506; month 1 ends at $99,268, month 12 at minus $42,016. Cash drops under the floor in month 5 (closing $44,346) and under zero by month 9 (closing minus $4,452), which leaves a runway from opening of 4 months.
Page 8, lender coverage	On a full-run month at $115,600, coverage for planning, ahead of income tax and the truck fund, comes to 8.26 against the 1.25 an example lender wants, and on the month-12 run rate it lands at 8.26, and Test 3 is scored on both. The yard, shop and office take about 1.9 percent.

PAGE 4 CHECK ON THIS EXAMPLE: AMBER

Gate 0: met for the example. Test 1 passes: the month-12 run rate bills about $115,600 a month, above the $96,453 break-even; cash stays above the floor for a second year at the same rate (its lowest close $164,812, month 1 of the second year). Test 2 fails: on the slow start, at 70 percent of plan, cash drops under the floor in month 5; about $93,200 more money in the reserve would pass it. Test 3 passes on the planning formula; the lender's own definition still decides. Test 4 passes: in the heaviest full-run month (month 3, season 118 percent) the roofs on page 7 need about 374 hours on site, which comes to roughly 500 paid hours at 75 percent utilization on page 10, close to 2.9 installers on the crew, against the 520 hours paid in line 3, and the work fits; the 5.2 installs a month sit clear of the break-even count too. Test 5 fails for want of evidence. Test 6 passes: a year at full run, seasons included, lands about $121,776 after principal, yet net cash dips negative in months 9 and 10, and cash falls $2,986 from its month 8 high to its month 10 low, which the page 5 buffer covers. That is the steady year, not the forecast year on page 11: the first year on page 19 leaves about $21,738 in cash because the crews build up through the year and the shoulder months come before the first full summer. Break-even takes about four and a third of the five and a bit installs the plan carries, and the low month of your own season curve is the one to watch (month 10 in this example).

PAGE 13

What moves the result

Each row changes one input of the page 12 example and reruns the forecast. A row names Test 1, 3 or 6 when the change would newly fail or pass it; a test the example already fails stays failed. The last column also gives the slow start, which is Test 2.

FULL-RUN MONTHLY CHANGES; DEADLINES RERUN; SLOW-START LOSSES SCALE WITH SALES

CHANGE	MONTHLY CASH	CASH BREAK-EVEN AND DEADLINE
Ten percent fewer installs sold (variable costs fall, the fixed lines do not)	minus $6,127	Expected case holds the floor; slow start below the floor in month 4 (closing $41,328)
Rooftop installs: average contract price 5 percent higher, same volume (only the card and financing fees rise)	plus $5,636	Break-even installs fall from 4.3 to 4.0 a month, so from 5 to 4: per-unit panel, inverter and crew costs hold steady, so the ratio rises from 0.530 to 0.551 (sales-linked fees, line 15, take 2.5 percent of each added dollar); slow start fails in month 7 (closing $47,482)
Fixed costs $1,000 lower	plus $1,000	Cash break-even falls to about $94,566; slow start below the floor in month 5
Lose the 8 kW system line (2 installs a month, $47,680 of billing), from month 6 onward	minus $25,270	Expected case below the floor in month 9 (closing $44,742), below zero in month 12; slow start unchanged (month 5); coverage negative and run rate below break-even; would fail Tests 1, 3 and 6.
Every payment lands two months after billing (crew and bills still paid on time)	no change	Expected case below the floor in month 1 (closing $45,797), below zero in month 2; slow start below the floor in month 2 (closing minus $23,711); would fail Test 1
One completion payment a month goes unpaid, two months running ($16,673 a month from month 6, 2 months)	no change	Expected case still clears the floor; slow start deadline unchanged (month 5); $33,346 never collected (a one-time loss)
Installs run 15 percent over quoted crew hours, absorbed inside the three installers' paid hours (486 paid hours needed of the 520 they are paid for; line 14 stays at zero until they run 23 percent over quote)	no change	Cash break-even is unchanged at about $96,453; expected case still clears the floor; slow start deadline unchanged (month 5)
Equipment and parts prices 10 percent higher (line 13 rises from 41 to 45.1 percent, about $4,740 a month at full run)	minus $4,740	Cash break-even rises to about $104,540; expected case still clears the floor; slow start below the floor in month 4 (closing $44,322)
Lose the 10 kW system line (1.2 installs a month, $34,320 of billing), from month 6 onward	minus $18,190	Expected case below the floor in month 11 (closing $39,716); slow start unchanged (month 5); coverage negative and run rate below break-even; would fail Tests 1, 3 and 6.
Setup overrun of $10,000 beyond the contingency, paid out of the reserve	no change	Expected case still clears the floor; slow start below the floor in month 4 (closing $44,551)
Opening 3 months late (the shop, office and yard, insurance, loan interest and principal, $5,197 a month, paid while closed; no sales; the ramp starts at the new opening, and seasons stay on the calendar)	no change	Expected case holds the floor; its low falls to $69,059 in month 10 from the planned opening, $33,263 lower than on time; slow start below the floor in month 6 from the planned opening (month 5 on time)

WHEN A PAGE 8 FORMULA GIVES NO USABLE NUMBER

```
Contribution margin ratio zero or below: break-even is N/A; score Tests 1 and 6 as failed
One unit's contribution or its count zero or below: break-even units are N/A; fail Test 4
Other lines already cover fixed costs and principal: break-even units are 0, never a negative number
No loan: coverage is N/A; score Test 3 as passed
```

PAGE 14

Site checklists, weekly review, six questions

These are operations checklists, not a safety program. Add whatever the electrical side, the roof, the lifting, the approvals and the sign-off demand of you, on the advice of a qualified safety professional.

BEFORE THE CREW LOADS

- [ ] Have the signed contract, the deposit and the financing approval before ordering panels.
- [ ] Check the panels, rail and inverter are on site; log every serial number.
- [ ] Agree the hours the quote allows for this roof, and who writes them down as they are worked.
- [ ] Put the order of the utility approvals in writing before the day arrives.
- [ ] Ring the homeowner the day before and give them a window rather than a promise.
- [ ] Write down how the customer wants to be reached, plus gate codes, driveway limits and anything about dogs.

CLOSING THE ROOF AND HANDING IT OVER

- [ ] Set the hours worked against the hours quoted on every roof you close.
- [ ] Write down the commissioning readings and show the customer how the monitoring works before you leave.
- [ ] Send in the warranty registrations and file the paperwork before the day ends.
- [ ] Take the completion payment, or get the date the lender will settle it in writing.
- [ ] Record each callback with what caused it, what part went back on the roof and whether it turned into another quote.
- [ ] Fill the van again and say which consumables are running out.

WEEKLY NUMBERS REVIEW

MEASURE	TARGET	THIS WEEK	LAST WEEK	VARIANCE TO TARGET
Invoiced and banked, by install and by payment step				
Hours worked against hours quoted, roof by roof				
Billable share of each installer's paid hours, and overtime				
Site surveys done, quotes given and installs won				
Quotes given and installs won, with the close rate for each lead source				
Completion payments due, and financed balances the lender owes within a month				
Owner hours spent on roofs				

SIX QUESTIONS TO INVESTIGATE

1. **Founder dependency.** Can an installer price a standard roof without you, or does every quote sit in your inbox until you get to it? And who do they ring when the inverter on the truck is not the one on the drawing?
2. **Reactive operations.** How many messages in a week begin with nobody came, it is still not producing or the app shows nothing? Then count the return visits you made for nothing.
3. **Growth without structure.** How many roofs a week stop for a phone call about what is actually in scope, and how many overtime hours come from a part left behind at the yard?
4. **Talent and retention.** How much of the week rests on one installer who is the only person who knows that roof, that customer and how the system was commissioned?
5. **Revenue plateau.** How many days pass between the site survey and a signature, and how many surveys never turn into a quote at all?
6. **Strategic confusion.** Do two roofs of the same size take wildly different hours, and does what the crew installs match what the quote described?

Hypotheses from AI-assisted World Consulting Group desk research, described on page 2. Check each one against a record: the callback log, the hours sheet set against the quoted hours, the quote record or the survey log.

PAGE 15

Your first 30 days

WHEN	DO THIS
Week 1	Start the weekly numbers review and log crew hours on every install. Log the hours the owner spends on sales and installs.
Week 2	Fill the page 7 install table at true crew cost and mark any system size priced below its labor, equipment, fees and fuel.
Week 3	Set up the quote table on page 9 by lead source and record days from assessment to quote.
Week 4	Enter actual closing cash on page 11 and recalculate runway. Write the decisions an installer may make without calling you.
After month 1	Run the overrun check on every closed install and measure installer utilization on page 10.

BEFORE YOU SIGN A LEASE, GET WRITTEN ANSWERS TO THESE

- ☐ Will you have to sign a personal guarantee, how much does it cover, and when does it end?
- ☐ Which charges sit on top of base rent, such as common area, property tax and insurance, and how are they settled each year?
- ☐ What does the space need before you can open, and who pays to add or upgrade it?
- ☐ Does the landlord contribute to the build-out, when is that money paid, and must any of it be repaid if you leave early?
- ☐ When does rent start, at signing, at approval or at opening?
- ☐ Are there limits on operating hours, signage, parking, deliveries or the uses allowed in the space?
- ☐ What happens to the lease and the fixtures if you sell the business?

Have a qualified professional review the lease before you sign. These questions prepare you for that conversation; they do not replace it.

WHAT THE FULL KIT ADDS

The full Solar Installation Business Plan and Operations Kit adds an editable business plan, a three-year financial model with profit and loss, cash flow and a debt schedule, an install pricing calculator from equipment and crew hours to a price at a target margin, a deposit and financing tracker, editable quote and crew scheduling trackers, commissioning checklists and hiring checklists. Release status is on the kit page.

SOURCES

Public sources. SolarReviews, Solar Panel Cost: the published installed price cells for 5, 8 and 10 kW systems and the customer-acquisition share. NREL, Documenting 15 Years of Reductions in U.S. Solar Photovoltaic System Costs: the module, inverter and balance-of-system dollars a watt in the Q1 2024 residential benchmark, which set the materials rows against each job system size. EnergySage, Solar Panel Cost: the installation labor share of the installed price. Aurora Solar, pricing: the per-user monthly software cost. O*NET OnLine, 47-2231.00 Solar Photovoltaic Installers and 11-1021.00 General and Operations Managers: the installer and operations-manager median wages.

World Consulting Group material. Origin of the questions: AI-assisted World Consulting Group desk research on residential solar installers, 2026, an internal working file that is not published, described on page 2; the questions are hypotheses and no figure in this kit comes from it. Residential solar installation owner questions, businessconsultant.services, 2026.

SCOPE AND DISCLAIMER

General information only. Not legal, tax, accounting, employment, electrical and roof safety or financial advice. Provided as is, without warranty. © 2026 World Consulting Group. Free diagnostic tool at businessconsultant.services. The site's privacy page explains what the diagnostic tool sends to an AI provider for analysis and the third-party analytics on the site.

About the author. Kamyar Shah is the founder of World Consulting Group and works as a fractional COO and CMO. He has more than 25 years of experience and more than 650 engagements across more than a dozen industries. Contact and the latest version: businessconsultant.services.

PAGE 16

Customize this kit with AI

Attach this PDF to ChatGPT, Claude or Gemini, paste the prompt below, and answer with your own installs, crew costs and lead sources. A copy-ready version is on the kit page.

BEFORE YOU RELY ON THE ANSWER

Check every total with a calculator. An AI assistant can misread a file or slip on arithmetic, even when it runs code, so rerun every figure you will act on with the page formulas. Check your AI provider's data settings first, and never paste personal data, account numbers, passwords, customer-level records or anything an agreement restricts, such as customer contracts, customer names or addresses, access details, production and monitoring data, financing applications, employee records or bank account details. Totals and rounded figures serve the arithmetic, though rounding does not make a record anonymous, and you can run the arithmetic on your own computer.

I am opening (or running) a residential solar installation company. I have attached the Solar Installation Business Plan and Operations Starter Kit from businessconsultant.services. Help me turn it into my own plan for my installs and crews, using my numbers only.

Follow these rules for the whole conversation:
1. Use only numbers I give you, or numbers you calculate from mine with the formulas below. Never invent an install price, equipment cost, installer wage, close rate, percentage or benchmark.
2. The numbers printed in the kit are worked examples. Never use them as my numbers, not even as a placeholder.
3. If a number you need is missing, ask me for it. If I ask you to estimate or use typical figures, write [NEED: ...] instead and tell me which quote, record or calculation will give me the real number. If I give you my own estimate, label it MY ESTIMATE.
4. Use these formulas exactly, and show your arithmetic for every number you calculate:
- Monthly sales for a sales line = units times average price (every line here is counted per month). Each month's expected sales = full-run install sales times ramp times season; a confirmed contract for a line replaces its ramped figure that month, never both; before opening, count expected contracts by month, each marked MY ESTIMATE until confirmed.
- Net sales exclude sales tax. Labor = wages, payroll taxes and benefits, plus a market wage for the owner's management time (line 4); the owner's hours on shift go in line 14 at a market wage. Shift hours count as cash even if I skip my own pay, so the plan still holds when I step back from the work; only line 4 may go undrawn, and Tests 1 and 6 count it anyway.
- Contribution margin ratio = 1 minus variable cost share; a line's contribution = its sales times its own ratio. Operating break-even sales = fixed costs divided by contribution margin ratio. Cash break-even sales = (fixed costs with line 4 even if I do not draw it, plus monthly loan principal and any recurring other cash out) divided by contribution margin ratio; only the cash forecast drops an undrawn wage. A blended ratio holds only at its own sales mix: name that mix beside each break-even, and recompute from each line's own contribution when a what-if changes one line. Loan interest is fixed; principal is not an operating cost, so it never enters operating break-even or operating profit.
- Weekly = monthly times 12, divided by 52. Daily = weekly divided by days open per week.
- Break-even installs = cash break-even sales over average contract price, at the page 8 ratio; never the page 7 after-labor contribution. If the other lines already cover fixed costs and principal, report 0 and say so; never report a negative break-even count. Paid installer hours available per month = installers on the crew multiplied by hours a day (add each person's hours if they differ), days worked a week and 52, divided by 12; paid hours needed = crew hours on installs divided by utilization.
- Shop and yard share = line 1 over net sales. Planning debt service coverage, before income tax and equipment replacement = (full-run sales times contribution margin ratio, minus fixed costs other than loan interest) divided by (loan interest + loan principal).
- Month-12 run rate = average monthly sales over a year at month 12's ramp and bookings, seasons applied (not month 12's own sales). Test 1 needs that rate at or above cash break-even and my floor held 24 months; Test 3, coverage at full run and at that rate.
- Test 6 = 12 months of (full-run sales minus their variable costs, minus full-run fixed costs, line 4 included, minus principal), seasons applied to every sales line but booked lines, which run in their own months, and seasonal fixed lines at each month's amount. The cushion to set aside = the largest fall in running net cash from a high to any later low, the year run twice so a dip can cross into month 1 (zero if it never falls).
- Full-run figures (break-even, coverage, floor) take a late-starting fixed line at its full amount, and a seasonal fixed line at its year average.
- For pages 7, 9 and 10, use the formulas printed on those pages of the attached kit, exactly as written, with my own figures.
- Cash forecast: closing cash = opening cash + cash in minus cash out. Month 1 opening cash = cash on hand on the morning the first crew climbs a roof after startup spending is paid. Place every receipt and payment (deposits, supplier invoices, startup bills, funding) in the month the cash moves. Income tax set-aside, equipment replacement and stock build-up go in their own row. Open month 1 with the cash I give; the page 5 two-pass size is advice to report beside it, never a substitute. Enter the deposit and the completion payment in the month each lands; payroll and suppliers are paid in the month worked. Include a deposit in closing cash when received, the unearned part a memo customer-deposit liability. In the slow-start case, every month's sales, signed contracts included, are the tested share of expected sales; fixed costs, other cash out, principal, bills and funding stay as planned; all variable lines fall with sales, each figured from the slow-start sales of the same month, on the same payment timing as the expected case (fair because line 14 holds only hours I would cut). Runway = the count of months ahead, from the last closed month (before you open, from the morning the first crew climbs a roof), before the first month in which closing cash falls below my cash floor.
(Continued on page 17.)

PAGE 17

The prompt, continued

Paste this part directly after the rules on page 16, as one message.

5. Do not give legal, tax, licensing, permit, electrical and roof work, employment, wage or lease advice. Do not name laws, license or permit types, agencies, government fees or wage rates, even as examples. When my question touches these, write only "Review this with a qualified professional" and continue with the rest. You may record and use figures I give from my own records, such as my sales tax rate and when I remit it, without checking, interpreting or advising on them.
6. Do not quote statistics, studies or sources that are not in the kit. For the market and marketing sections, use only what I tell you, and list the local facts I should gather.
7. Work every total step by step and recheck it a second way. In the cash forecast, show the arithmetic for month 1, one later month and the year total; give plain numbers for the other months.
8. If a formula would divide by zero or a contribution margin is zero or below, write N/A, say why, and do not continue that calculation. If my lender defines coverage differently, show both results and label each. If cash never falls below my floor in the forecast, write the runway as more than 24 months; otherwise give the runway in months and, separately, the first month below it, counting year 2. With no loan, Test 3 passes.
9. Use business figures only, with anonymous customer IDs. Do not ask for names, home addresses, bank account or tax ID numbers.
10. Mark every output: Draft for my own planning. Not for a lender or investor until a qualified accountant has reviewed it.
11. If your full answer would be very long, deliver outputs 1 to 4 first, then stop and ask me to type "continue" for the rest.
12. Build the cash forecast month by month from the sales build, the cost lines, my payment terms and my opening cash; it does not need the inputs for pages 7, 9 and 10. Each month: cash in = sales receipts plus money arriving; cash out = each variable cost, calculated from the sales that created it and placed in the month it is paid under my terms, plus fixed costs (lines 1 to 12, with line 4 only if I draw it in cash), plus loan principal, startup bills and other cash out. Loan interest is already in line 5; never add it again. Supplier payments follow the cost of what I sold plus any stock build-up I give; if I buy ahead or carry supplier balances, ask me for purchases and payments by month instead. If you can run code, do every calculation in code.

Step 1. Before you write anything else, ask me for the inputs below in three rounds, one message per round. Ask round A as one numbered list, then wait for my answers. When I answer, ask round B and wait; then round C and wait. Start Step 2 only after I answer round C.
Round A, sales, capacity and evidence:
a. Services, customer segments and lead sources, service area, the installers I can staff on the crew each day and the paid hours each works a day, days worked per week, and days open per week.
b. Sales build: for rooftop installs (installs), the full-run installs a month by system size, each size's price, equipment and parts cost and crew hours; a ramp percentage of full-run volume for every month from 1 to 12 (ask me to confirm any month I leave out); a seasonal percentage for each month from my quote log or my market; and the slow-start percentage I want to test (this kit sets a 70 percent stress test, a kit rule rather than my estimate; use it unless I give evidence for a higher share). Give counts at full run, with month 1 as my opening month. Give the evidence behind each count (site counts, comparables, signed orders or my history).
c. For each job type: jobs a month at full run, price, crew hours on site (drive and setup are in the cost per billable hour, not the hours), materials and subcontract cost, and quotes given and won last quarter; my payment schedule for each sales line (deposit share and when it is collected, progress payments and when, the final payment and how many days after completion it is paid); and the jobs I need a month.
Then wait for my answers.
Round B, costs, the startup budget and my lender:
d. Startup budget: an amount and its source (dealer quote, supplier quote, insurer quote or calculation) for each line on page 5, from the vehicles and tools to the working capital reserve and contingency.
e. Monthly fixed costs for lines 1 to 12 on page 8, including the installers and any guaranteed minimum crew, loan interest and my market wage; whether I draw that wage in cash; and my monthly loan principal. Give interest and principal as year 1 monthly averages for break-even and coverage, and, for the cash forecast, any payment, fixed line or other cash line that changes in months 1 to 24 (a payment holiday, a balloon payment, a rent step) with its month. My market wage covers management time (line 4); my hours on shift go in line 14 at a market wage.
f. Variable cost shares of net sales for lines 13 to 16: line 13, equipment, parts and materials, as quoted on each install; line 14, hourly crew labor above any minimum crew, with payroll taxes and workers' compensation; line 15, card and financing fees; line 16, fuel, job fees and site consumables; and any sales line whose own shares differ, given for that line.
g. For each lead source: site visits, quotes and installs won last quarter, and days from site visit to proposal; the signed installs held when the quarter opened and any cancellations; the number of new installs I need.
h. For one typical week: paid, on-site billable, drive, rework, and waiting, loading or admin hours per crew; base wage and payroll taxes and benefits share.
i. The debt service coverage ratio my lender requires and how the lender calculates it, if I know them.
Then wait for my answers.
(Continued on page 18.)

PAGE 18

The prompt, last part

Paste this part directly after the text on page 17, still as one message.

Round C, cash timing, sales tax, deposits and Gate 0:
j. Payment terms: when each customer pays me (the deposit share at contract, the completion payment, and how many days after completion a financed balance lands), deposits I collect or pay and when, and when payroll and my equipment supplier are paid.
k. For every other cash line (payroll, card settlements, insurance, loan payments, rent and fixed bills), when it is paid, or confirm it is paid in the month it is incurred.
l. Monthly cash out beyond operating costs: income tax set-aside, vehicle, tool and test equipment replacement and parts stock build-up.
m. Cash on hand on the first working day after all startup spending, startup bills still to pay by month, owner money or loans still to arrive by month, and my minimum cash floor (at least one full-run month of fixed costs plus principal).
n. If I am already open: what customers owe me and what I owe suppliers and staff, each by the month it will be paid, deposits I already hold, and sales tax already owed with its payment month.
o. Sales tax: the rate I collect on taxable sales, from my own registration, which sales lines (or what share of each) are taxable, and when I remit what I collect (each month, each quarter or another schedule), so the forecast holds collected tax apart until it is paid.
p. Gate 0: which agreements, quotes and approval requirements I already have in writing.
Then wait for my answers.

Step 2. When I answer, produce these as plain tables I can copy back into the kit:
1. Business plan sections 1 to 8 for my solar installation company, drafted from my answers, with gaps marked [NEED: ...].
2. The sales build by install line and month, with annual sales and the capacity check from page 6.
3. The completed startup budget, line by line as on page 5, with the total. Size the reserve by the page 5 rule; if I gave another, show both and the result for each.
4. Operating and cash break-even per month, per week and per day open; break-even installs (use cash break-even); share of sales that goes on the shop and yard and planning debt service coverage at full-run sales, labeled before income tax and equipment replacement, and on my lender's definition too if I gave it.
5. The 12-month cash forecast for the expected and slow-start cases, in thousands of dollars to two decimals (51.25 means $51,250) to match the kit, with, for each case, the first month below my cash floor and the first month below zero, and the runway; the second year's lowest closing cash (month 12's ramp and bookings held, each month with its own season, not a flat average); any extra reserve the slow start needs; and the Test 6 cushion, with whether the page 5 buffer covers it (add any excess to the reserve). Add a sales tax memo for each month: collected, remitted, and owed at month end (last month's owed + collected minus remitted), kept out of closing cash.
6. Job economics for each job type at true crew cost, ranked by contribution per crew hour, flagging any job type priced below its labor, materials, fees and fuel; quotes needed a month; and the collection pattern the cash forecast uses.
7. Pipeline by segment with site visits needed and quarterly churn.
8. Crew utilization and cost per billable hour, with the largest leak named.
9. The kit's page 4 check: Gate 0 and pass or fail for each of the six tests with the reason (if Gate 0 fails, the result is not ready), and the overall result: not ready if Gate 0 fails, with no color; otherwise green, amber or red under the page 4 rules.
10. A final checklist: every MY ESTIMATE figure, every [NEED: ...] gap, every install count or payment timing I should verify, and every question that needs a qualified professional.

WHEN THE ANSWER COMES BACK

Copy each table into the matching kit page in pencil. Check every [NEED: ...] gap and MY ESTIMATE figure, starting with install counts by month, payment timing and crew hours, before anyone sees the plan, and recheck the page 4 result with a calculator.

The worked example's twelve-month forecast, filled in

The page 12 example entered on the page 11 form, month by month, in dollars. Parentheses mean minus. Each column adds up as printed, so a row can move by a dollar between months with the same sales; each closing balance becomes the next month's opening cash. Cash floor $51,120.

LINE ($)	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
EXPECTED CASE												
Opening cash	**126,800**	**109,377**	**102,321**	**104,701**	**111,222**	**118,551**	**125,636**	**133,333**	**137,354**	**136,474**	**134,368**	**135,939**
In: sales receipts	63,580	83,140	100,942	108,756	110,282	109,820	110,976	104,040	94,792	92,480	99,416	120,224
In: owner money and loans received	0	0	0	0	0	0	0	0	0	0	0	0
Out: equipment, job fees and fuel (lines 13, 15, 16)	29,883	39,076	47,442	51,115	51,833	51,615	52,159	48,899	44,552	43,466	46,725	56,505
Out: payroll, line 4 if drawn in cash (lines 3, 4, 14)	25,006	25,006	25,006	25,006	25,006	25,006	25,006	25,006	25,006	25,006	25,006	25,006
Out: shop rent (line 1)	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
Out: other costs, with loan interest (lines 2, 5 to 12)	23,045	23,045	23,045	23,045	23,045	23,045	23,045	23,045	23,045	23,045	23,045	23,045
Out: income tax set-aside, equipment replacement, stock build-up (none in the example; see below)	0	0	0	0	0	0	0	0	0	0	0	0
Out: loan principal	869	869	869	869	869	869	869	869	869	869	869	869
Out: startup bills still to pay	0	0	0	0	0	0	0	0	0	0	0	0
Net cash flow (in minus out)	**(17,423)**	**(7,056)**	**2,380**	**6,521**	**7,329**	**7,085**	**7,697**	**4,021**	**(880)**	**(2,106)**	**1,571**	**12,599**
Closing cash, expected	**109,377**	**102,321**	**104,701**	**111,222**	**118,551**	**125,636**	**133,333**	**137,354**	**136,474**	**134,368**	**135,939**	**148,538**
SLOW-START CASE (70 PERCENT OF EXPECTED SALES IN EVERY MONTH)												
Opening cash, slow start	**126,800**	**99,268**	**78,993**	**65,322**	**54,551**	**44,346**	**33,969**	**24,021**	**11,500**	**(4,452)**	**(21,262)**	**(35,499)**
Sales receipts, slow start	44,506	58,198	70,659	76,130	77,198	76,874	77,683	72,828	66,354	64,736	69,591	84,157
Out: variable costs, slow start (lines 13 to 16)	20,918	27,353	33,210	35,781	36,283	36,131	36,511	34,229	31,186	30,426	32,708	39,554
Out: fixed costs (lines 1 to 12), principal, bills, less funding	51,120	51,120	51,120	51,120	51,120	51,120	51,120	51,120	51,120	51,120	51,120	51,120
Net cash flow, slow start	**(27,532)**	**(20,275)**	**(13,671)**	**(10,771)**	**(10,205)**	**(10,377)**	**(9,948)**	**(12,521)**	**(15,952)**	**(16,810)**	**(14,237)**	**(6,517)**
Closing cash, slow start	**99,268**	**78,993**	**65,322**	**54,551**	**44,346**	**33,969**	**24,021**	**11,500**	**(4,452)**	**(21,262)**	**(35,499)**	**(42,016)**
STEADY-STATE YEAR FOR TEST 6 (RAMP DONE, SEASONS IN; NOT THE FORECAST YEAR)												
Net cash flow, steady-state year	**16,275**	**19,951**	**21,176**	**17,500**	**13,824**	**10,148**	**7,697**	**4,021**	**(880)**	**(2,106)**	**1,570**	**12,599**

Reading this forecast. It is in whole dollars, rounded so each column adds up, so a row can differ by $1 between like months; the page 11 form uses thousands. The floor is cash you never plan to spend. The page 5 buffer holds one more month of fixed costs and principal above it, so a small miss spends the buffer, not the floor. The opening cash was sized by the two passes on page 5, buffer included. The example sets aside no income tax (it depends on the owner's whole return, so take the figure from your accountant), replaces no equipment in its first two years and builds no stock beyond the opening stock in the startup budget; enter your own amounts. Second year at the month-12 run rate (about $115,600 a month, against month 12's own $120,224): closing cash runs $164,812 in month 1 and $270,314 in month 12, lowest $164,812 in month 1, above the floor. Sales are net of sales tax, and the example pays each month's tax in the month it is collected, so it owes none at any month end; enter your own rate and payment timing in the page 11 memo rows. If you borrow the reserve, add its interest and principal to the forecast and run both passes again. The slow start lets variable costs fall with sales, which is fair only because hours you cannot cut sit in line 3; waste or purchases you cannot cut make a real slow start worse. Slow-start month 1 closes below the expected case: receipts fall with sales by more than equipment and materials do, while payroll, fixed costs and principal do not fall.