MCDS Ratings and Decision Scores

Philip Murphy, InfoHarvest and Carie Fox, Fox Mediation July 17th, 2015

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Introduction

A week ago (and in your Wednesday packet) you received the Weights results reflecting your inputs to web decision model. This packet includes the ratings and the decisions scores in the form of a spreadsheet (separate attachment) and 3 graph sets (below). The packet also includes ground rules for the Thursday post-MCDS conversation (way below).

Note, if you want to go back to look at the MCDS Model while you're going through this material, you can find it at http://www.decisionharvest.com/dhroot/DHOWNERS/santacruz/portfolio/df.asp. The site is live but data isn't being collected.

Why these Materials Matter

The new materials in this packet are meant to serve three Ctte needs:

1. Understand what your fellow members' ratings are (these are a platform for asking, on Thursday, what people's underlying reasoning is);
2. Understand and prioritize the sources of variance in your ratings (which gives you an opportunity to reduce the 'stupid variance' and appreciate the 'constructive variance'); and
3. Strategize how you will structure and communicate about your proposed Portfolios, while building on the Portfolio's strengths and lessening/mitigating their weaknesses.

Vocabulary, How it Ties Together and Where the Graphs Come In

Here's a reminder of core MCDS terms, showing how they build on one another and also showing (in highlight) where the new materials fit in:

- **Weights** are what you value
- **Ratings** are 'the facts' about how well the options are likely to perform, as the 13 Ctte members judged them.

You will find the ratings in the spreadsheet.[1]

- **Variance** in ratings shows whether you 13 were tight in rating. For instance, when rating *Political Feasibility* for Portfolio 2A your ratings were fairly tight: the variance for *Political Feasibility* was quite low. Your ratings for *Regulatory Feasibility* for 2A were all over the place, so that variance is high (and worth discussing, we think).
- **Standard Deviation in the Variance** means that we lopped off the tails on the bell curve created by your ratings variance. This is a useful way to prioritize the ratings sets for general discussion on Thursday and Friday. (When you get to negotiation, the tails you'll find in the spreadsheet may be more important.)
- **Standard Dev x Weight:** just because two rating sets have equal standard deviation doesn't mean they are equally important to discuss—we prioritized the items with high variance and high average ctte weight.

This is where the 3-foot graph comes in—you probably care about the top foot. Remember, this graph (on the next page) is entirely zoomable.

[1] Excel jockeys, please sort and filter to your heart's content. I recommend sorting by Column R (Weight x Standard Deviation) to get your own version of the 3 foot graph.

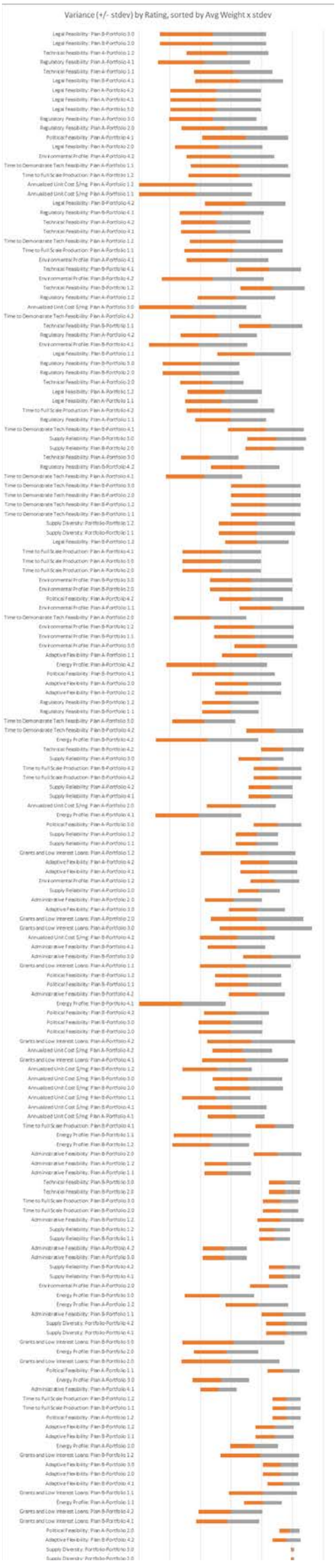
- **Decisions Scores** show how your weights and ratings combine at an individual ctte level. They give a snapshot your June decision preferences—for instance "for Jane, Portfolio 1.1A comes out ahead of Portfolio 2A."

We have generated bar graphs with the decision scores for all 13 of you at the Portfolio level and at the Plan A and Plan B level. The decision scores graphs are explained in detail on page 4 and are presented on pages 3 through 16, one page for each ctte member.

- **Contribution to the Decision** shows what combination of weights and ratings contributed to the individual's decision scores.

To be able to visually scan a ctte member's emphasis of weights and ratings, use the contribution graphs. The contribution graphs are explained in detail on page 4 and are presented alongside the decision scores. Thus each individual ctte member's page contains 5 graphs: three decision scores (Portfolio, A and B) and two contribution graphs (A and B).

The Three Foot Graph



The graph shown to the left orders the variance from most important to least—we took the amount of variance and factored it by the average committee weight.

This graph is entirely zoomable so you can blow it up and explore it in detail. Especially the top foot!

The scale at the very bottom of this graph shows the normalized rating for a particular rating set. The transition in color of the bars denotes the average rating. The breadth of the bar shows the standard deviation in the variance (the variance with the outliers removed).

(You may have to manipulate the graph to see the scale at the bottom—or alternatively, don't worry about it because it is the relative spacing and width that matters more than the number!)

We left out the triggers—it is obvious that your trigger discussion needs to mature; we don't need to belabor that issue with graphs.

The column on the left shows each ratings set, for instance *Legal Feasibility: Plan B-Portfolio 3.0.* The order of the ratings sets shows the priorities based on multiplying the standard deviation times the weight, as discussed in the first line.

The purpose of this graph is to help you prioritize your discussion so that you can focus on narrowing the variances that matter most.

Decision Scores and their contributions for Individual Ctte members

All zoomable!

Explanation

For the individual Ctte decision scores we present the Portfolio results and then both the scores and the contributions for the A's and B's—5 graphs in all for each individual. When we did the A and B graphs, we used the A criteria only (weights and ratings) or the B criteria only and normalized appropriately. Here's an example of an A Decision Score graph:

Joe's Plan A Decision Scores with StdDev of Variance Draped on Top

Think of this graph as a horse race: 1.2 is a nose ahead of the rest, given Joe's weights and ratings. But Joe's 2 and 4.2 are neck and neck. A change in how Joe weighs and rates, or else an improvement in one of the runner-ups, might easily cause a different option to pull ahead. True, it would take a the most work to pull 3.0 into the lead for Joe.

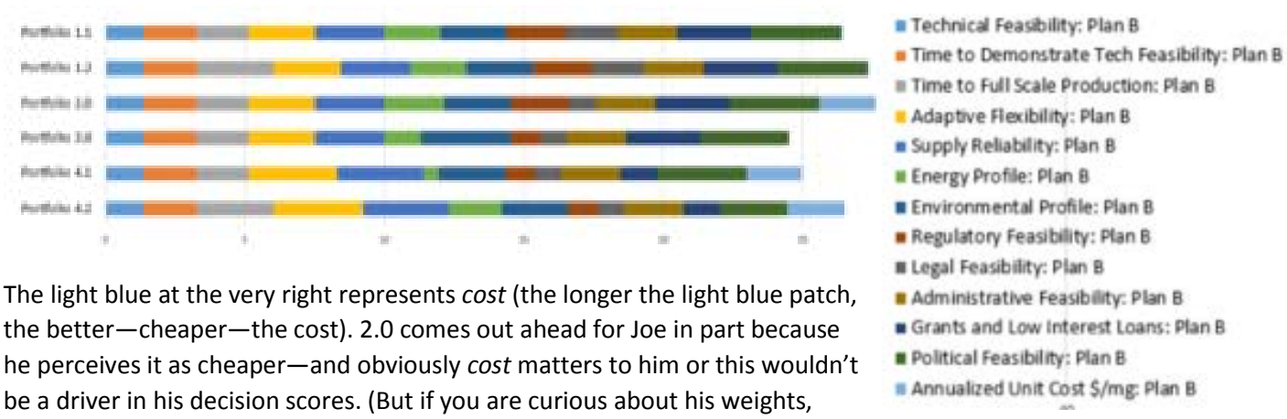
The relative positions matter most, but for those mathematically inclined, the scale at the bottom is Joe's normalized weight x ratings decision score for all the A criteria—line that scale up with the junction from yellow to gray and you get his mathematical decision score. If there were a perfect A option, it would get a score of 100.

The Ctte as a whole saw plenty of difference among the As, and Joe himself is much less persuadable about the Bs. But based on his ratings and weights, Joe seems quite persuadable when it comes to As.

The purpose of the bars is to identify Joe's 'zone of persuasion'. Philip essentially had Joe keep his weights but borrow ratings from the within-standard deviation ratings in the full Ctte. The orange shows how far down such borrowing would pull Joe's decision scores down; the gray shows how far up he might go. You can see that though 3.0 would require a lot of persuading (or a lot of tweaks to improve 3.0 in Joe's eyes), even it is still within the zone of persuasion. (Notice in the little postage stamp to the right, Portfolios 2 and 3 are not in the zone of persuasion.)

But if you wanted to persuade Joe, either by convincing him to change his ratings or by improving a Portfolio in his eyes, where should you focus? That's where the contribution graphs come in.

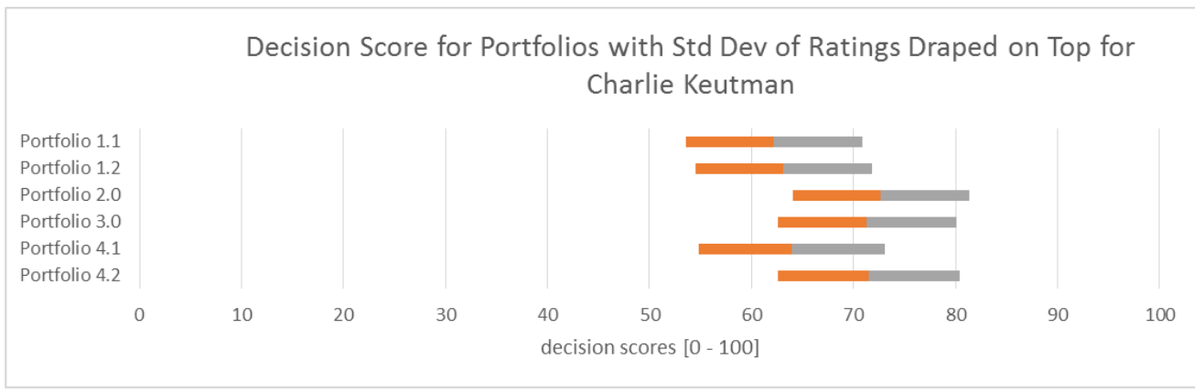
Contributions to the Decision Scores for Joe's Plan A

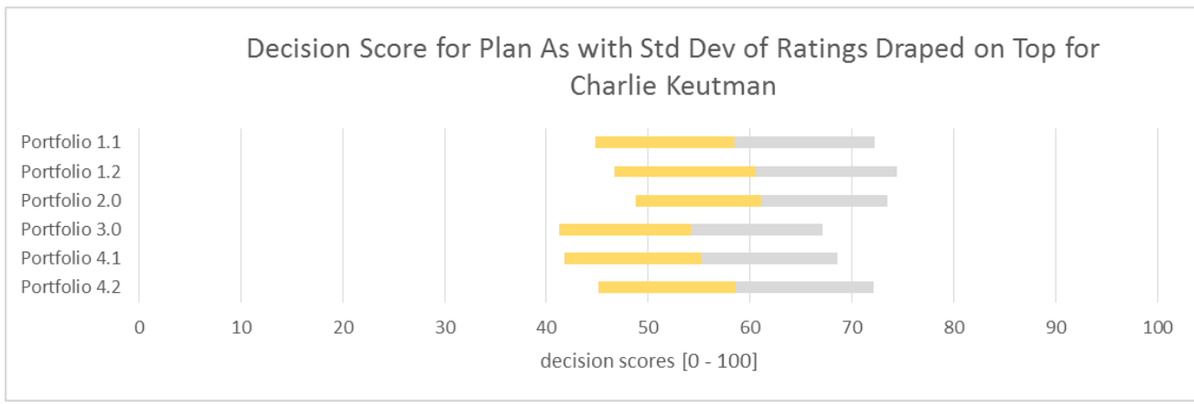


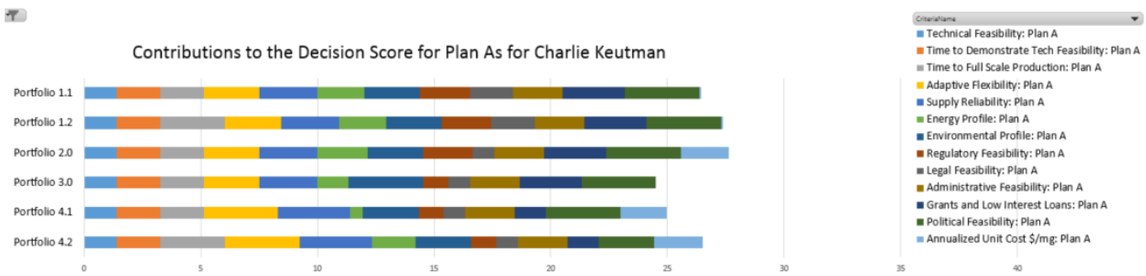
The light blue at the very right represents *cost* (the longer the light blue patch, the better—cheaper—the cost). 2.0 comes out ahead for Joe in part because he perceives it as cheaper—and obviously *cost* matters to him or this wouldn't be a driver in his decision scores. (But if you are curious about his weights, look at his portrait to see the weights alone.)

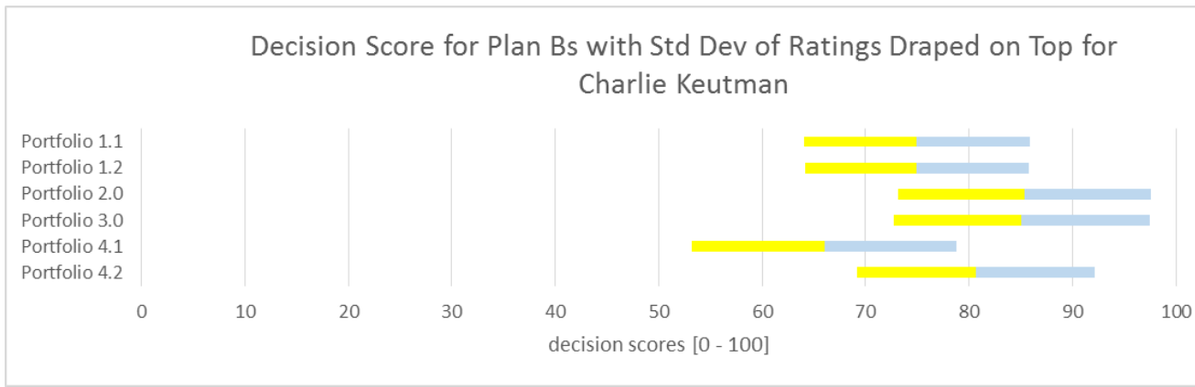
Use these graphs to figure out what makes Joe tick.

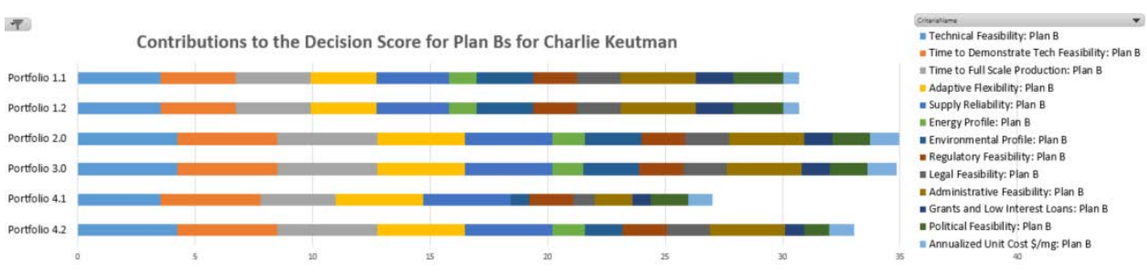
Charlie Keutman



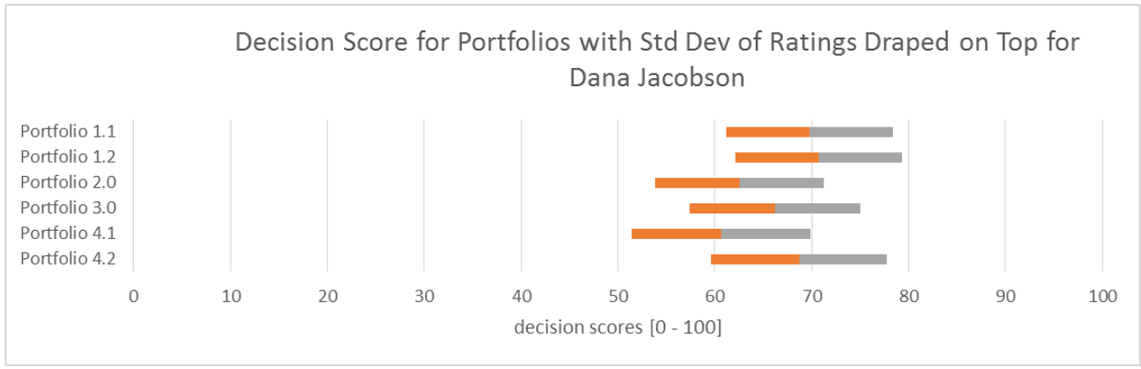


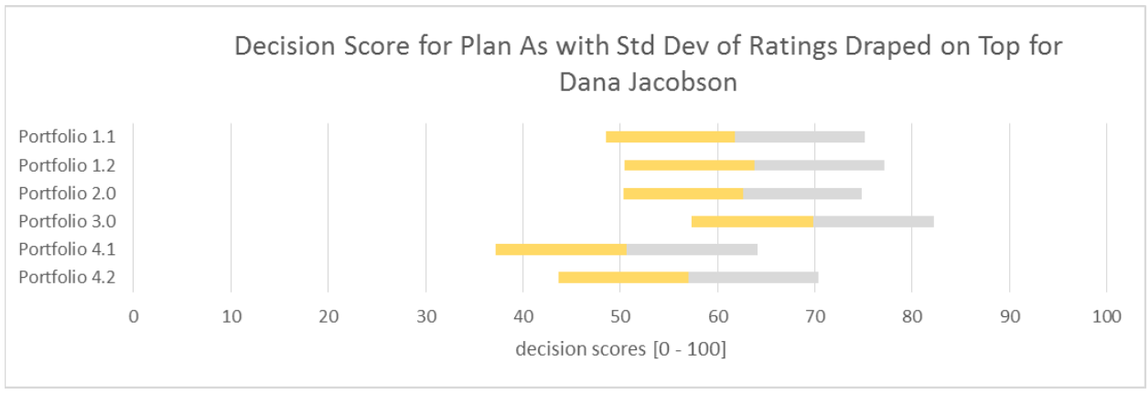


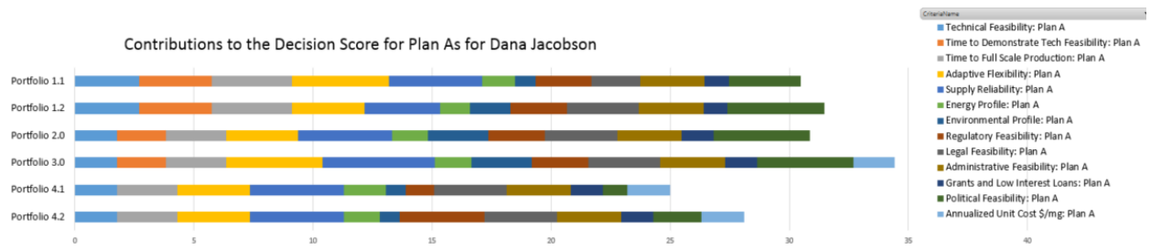


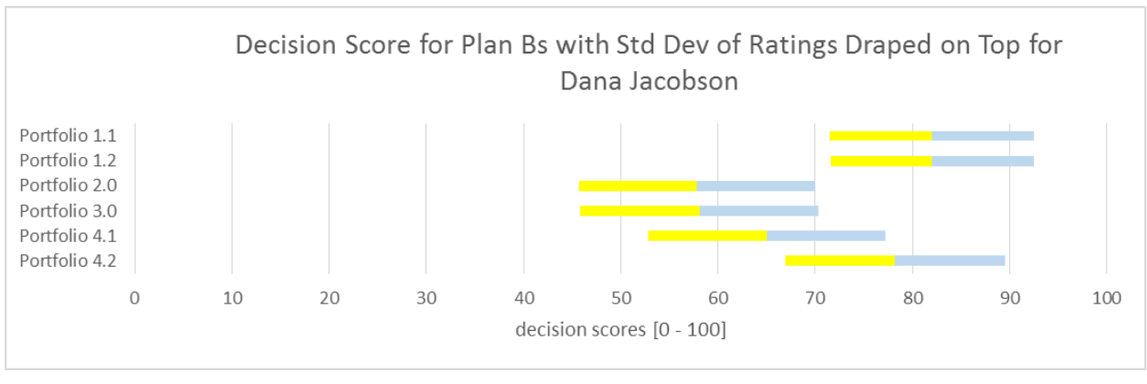


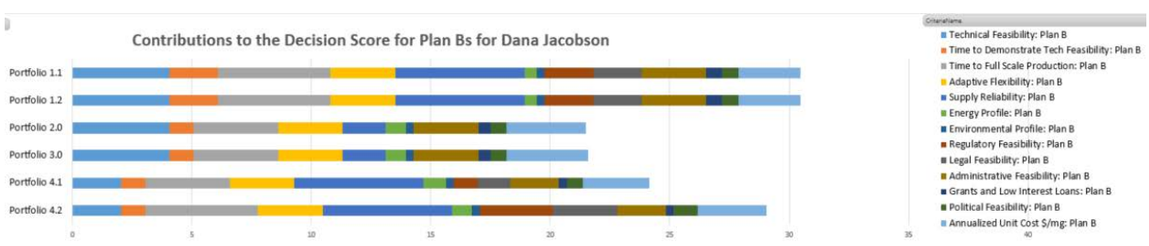
Dana Jacobson



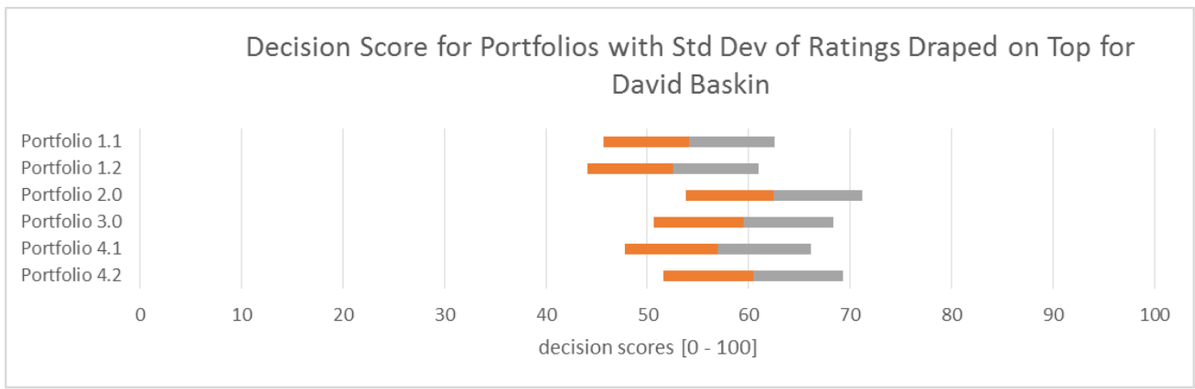


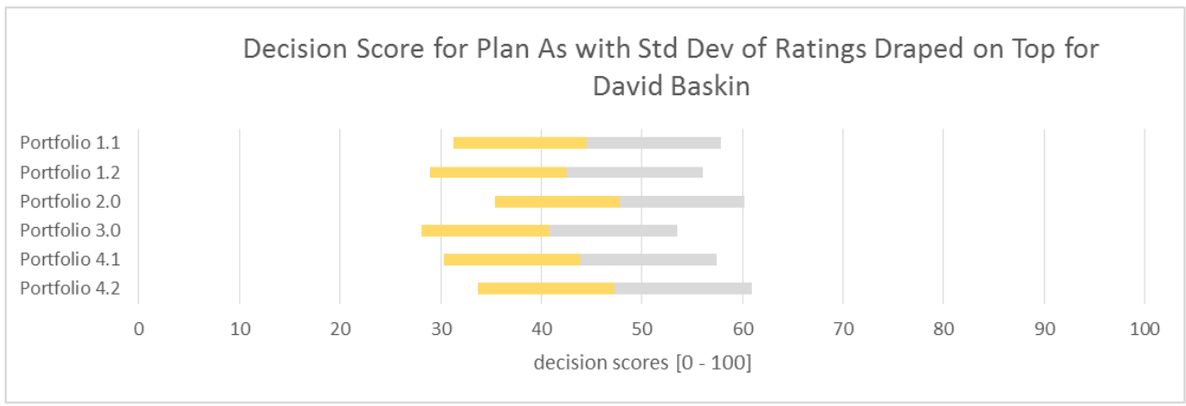


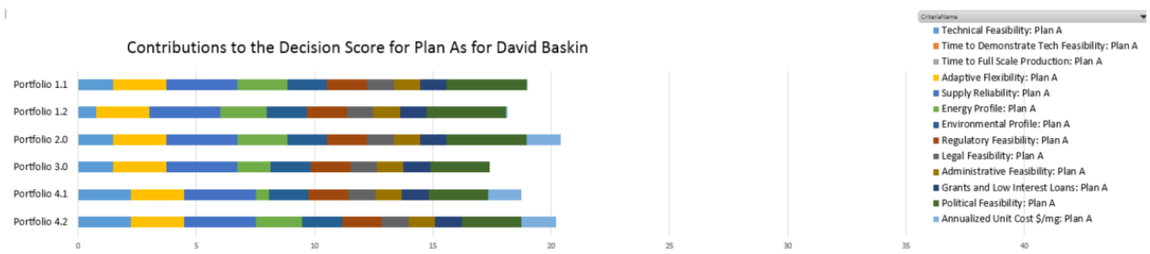


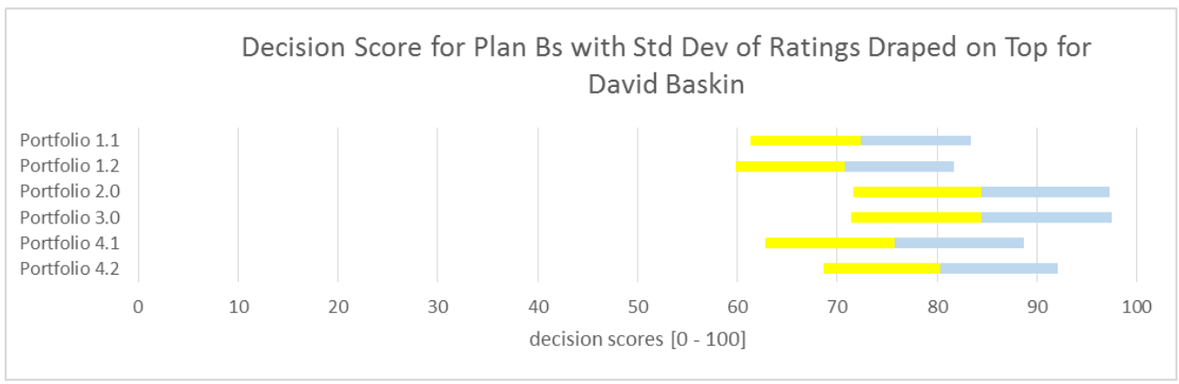


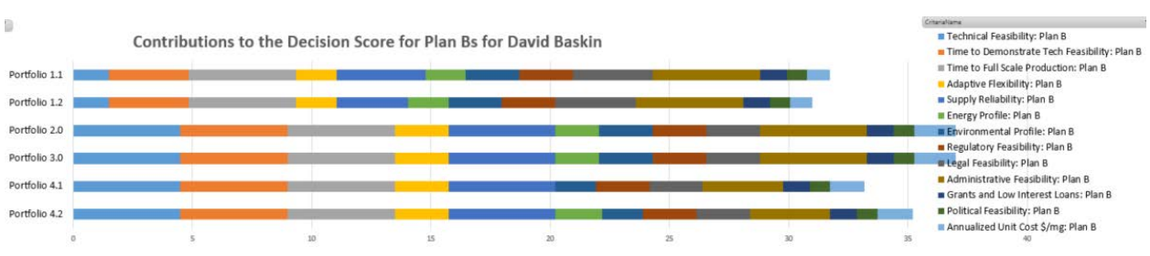
David Baskin



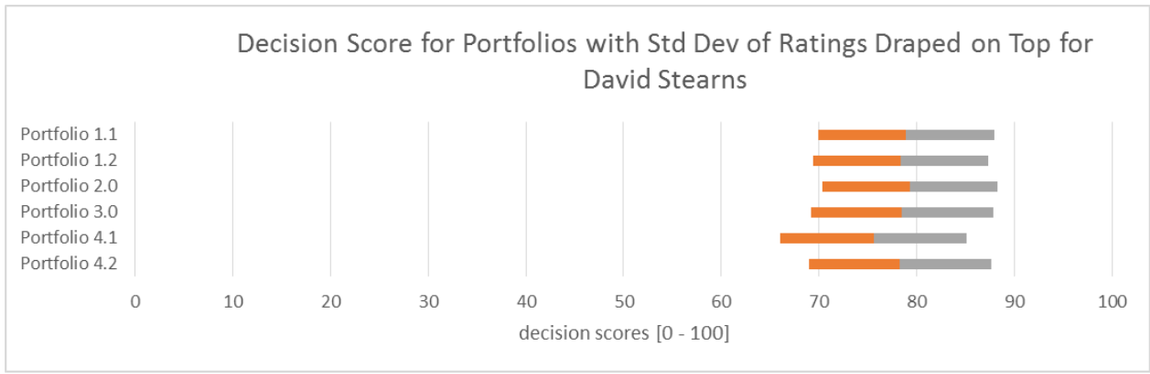


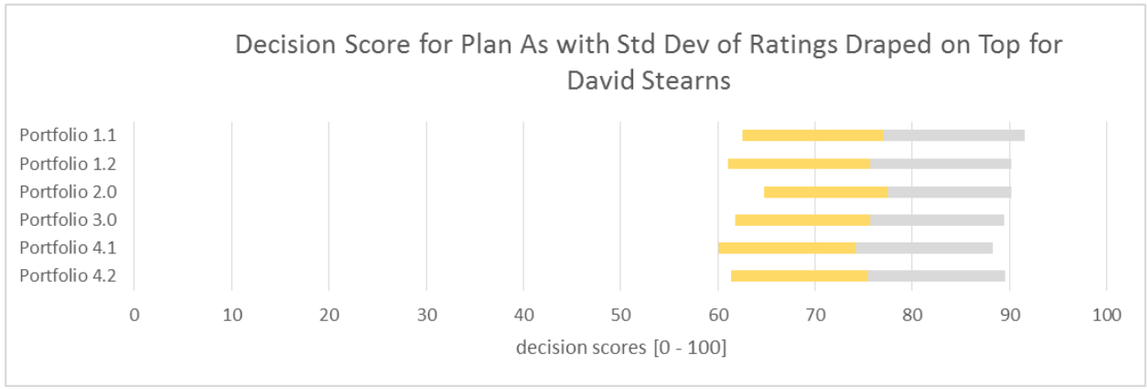


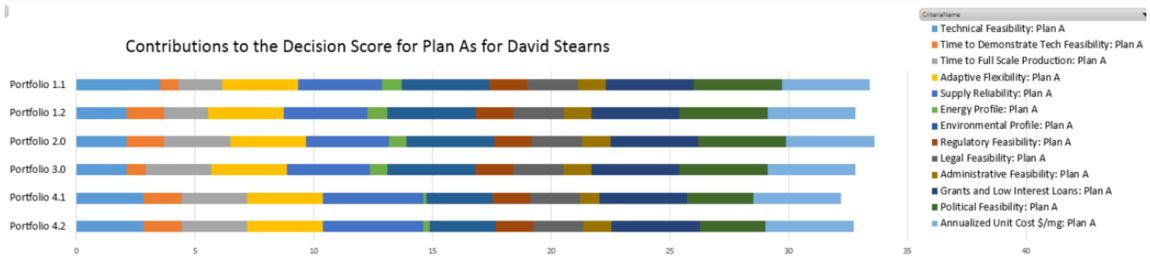


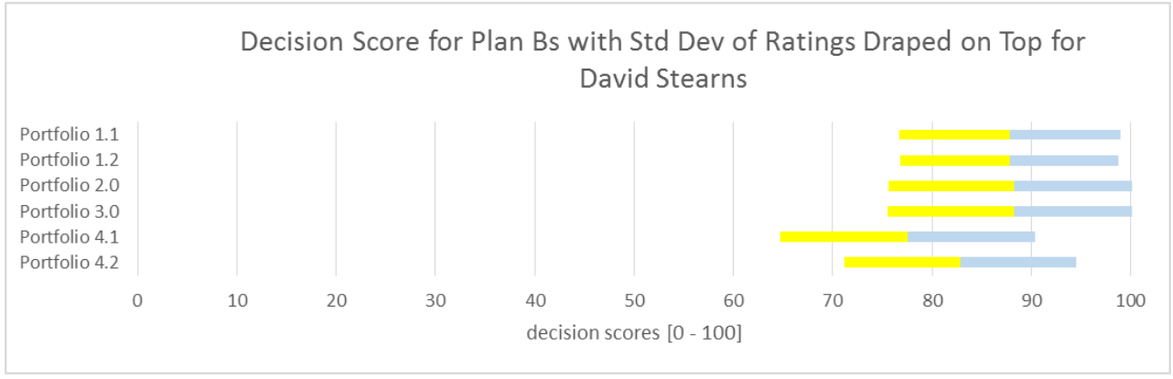


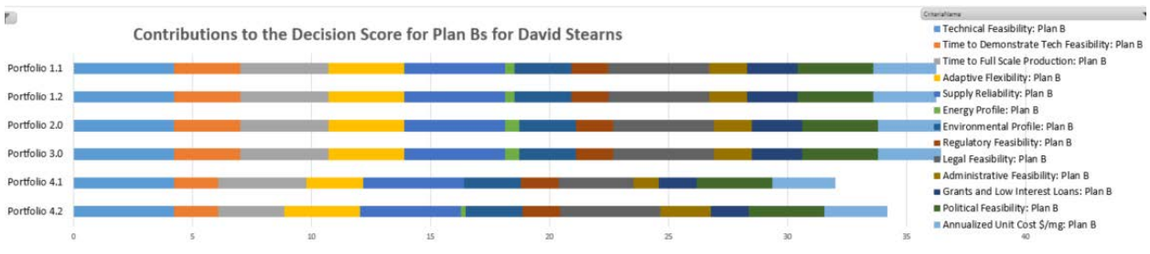
David Stearns



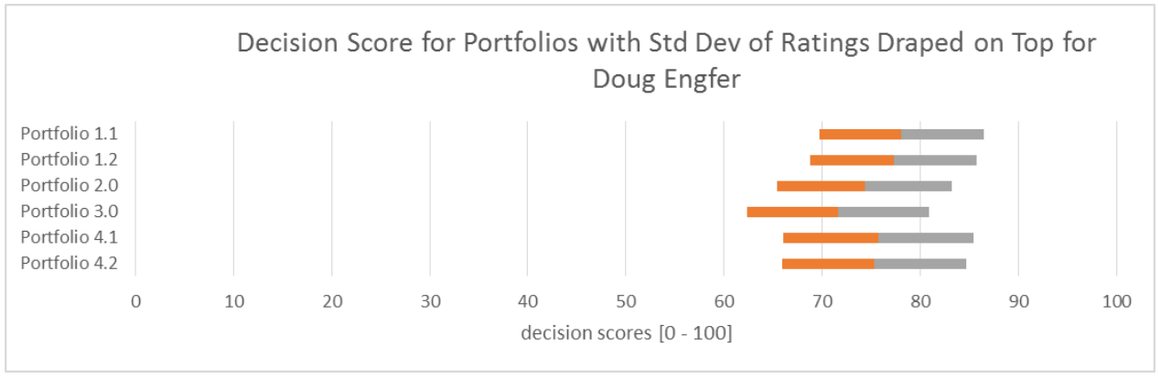


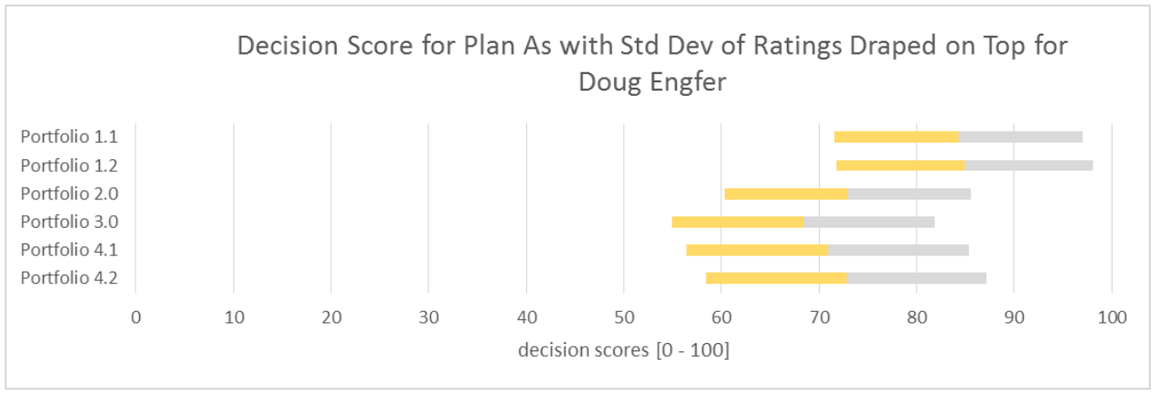


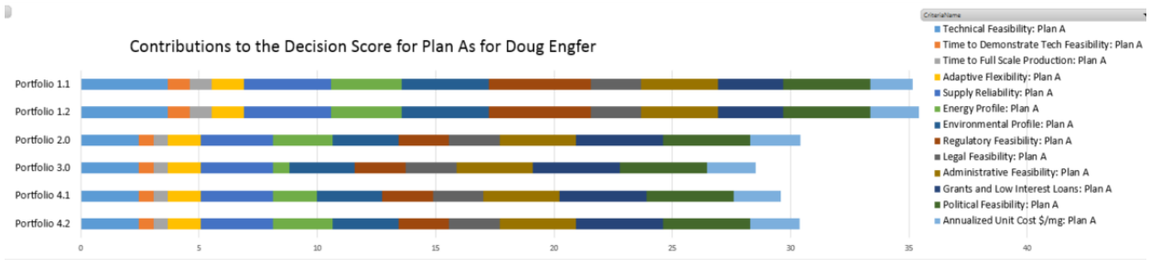


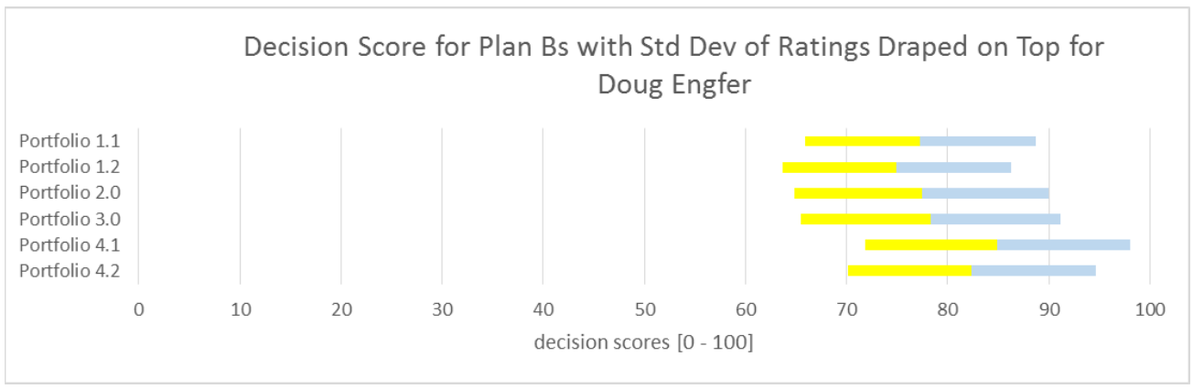


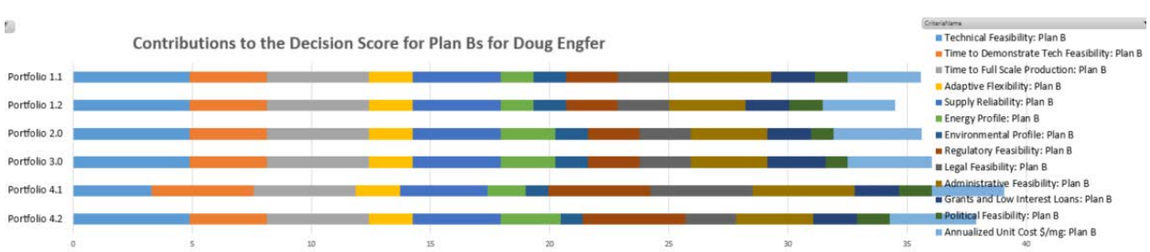
Doug Engfer



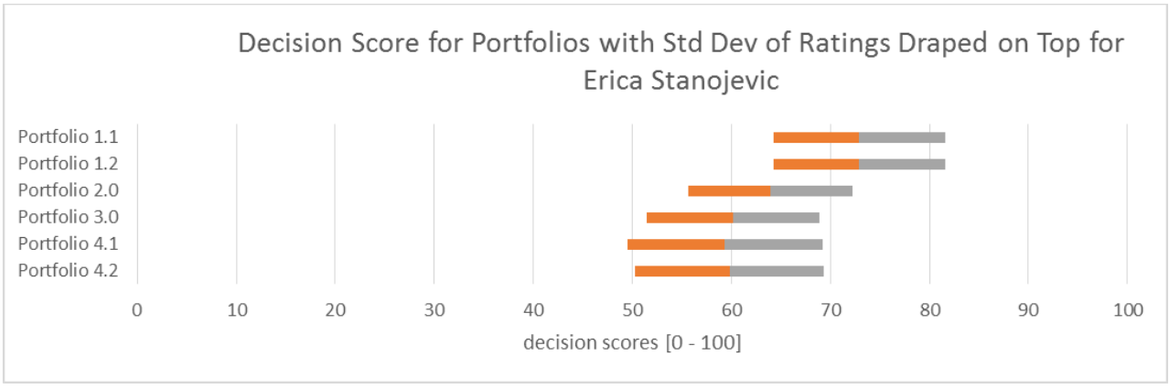


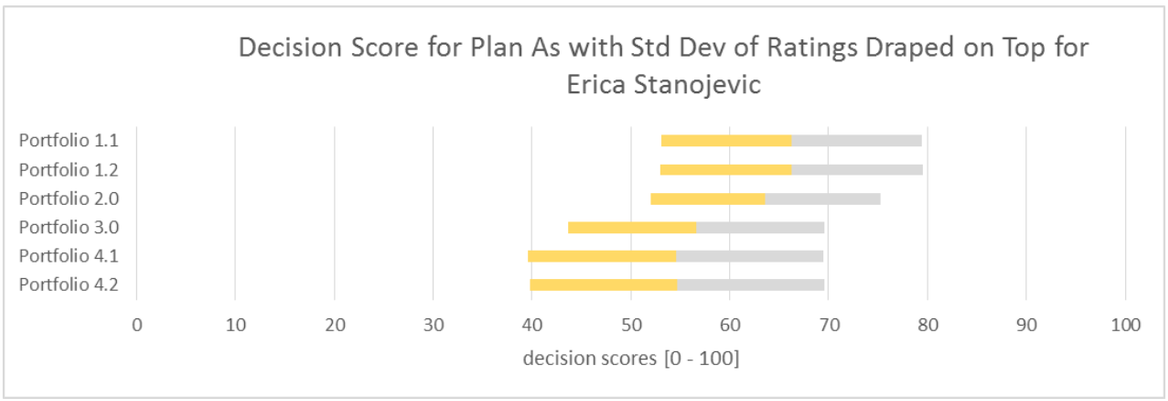


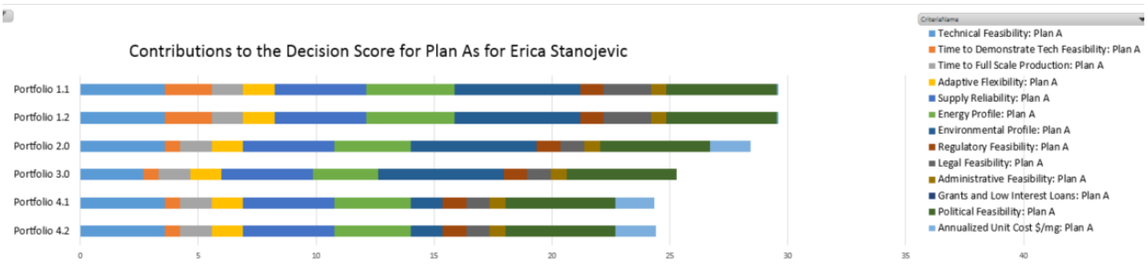


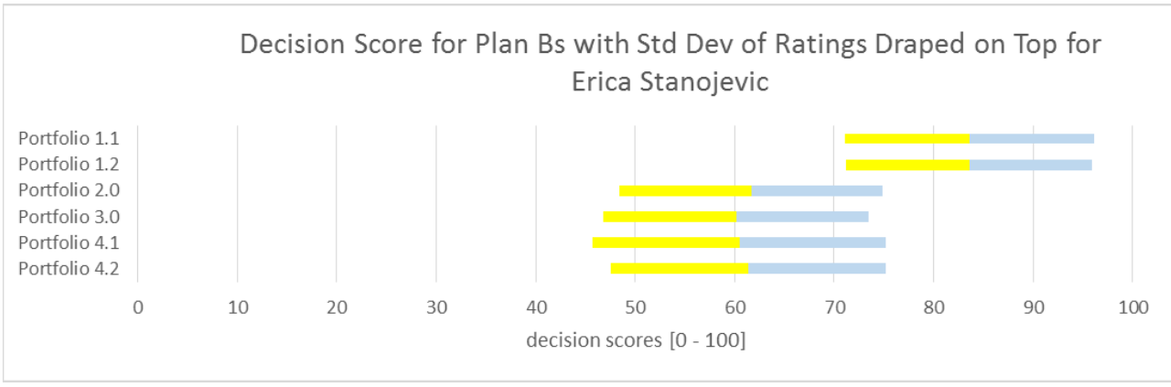


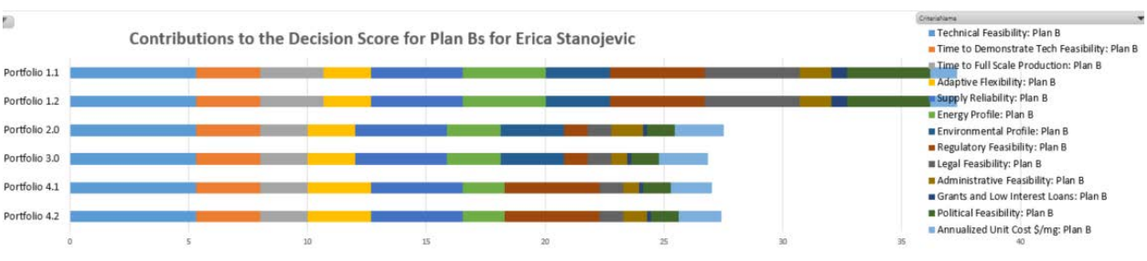
Erica Stanojevic



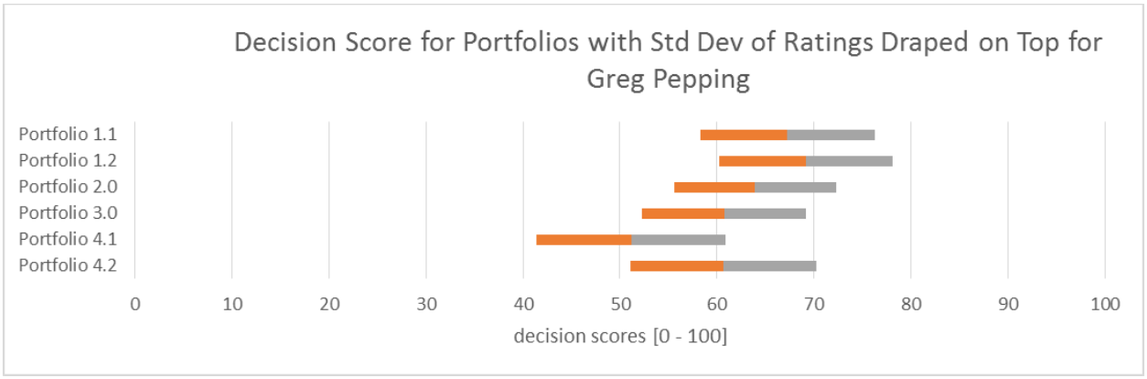


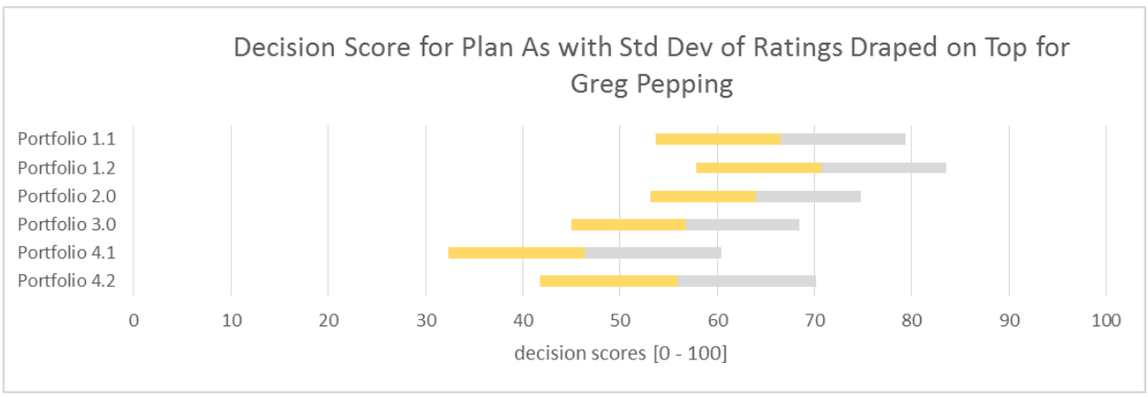


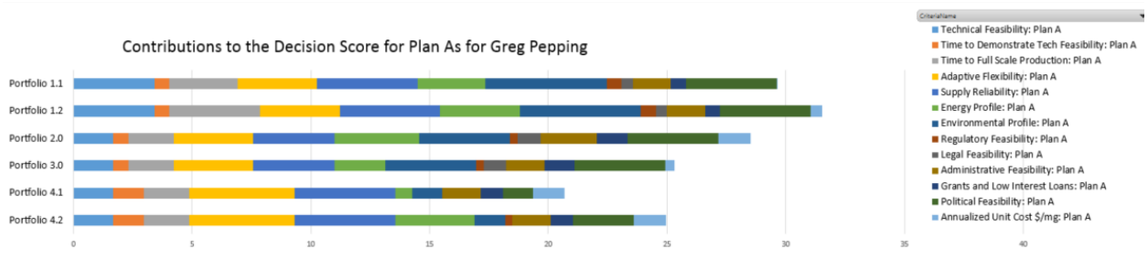


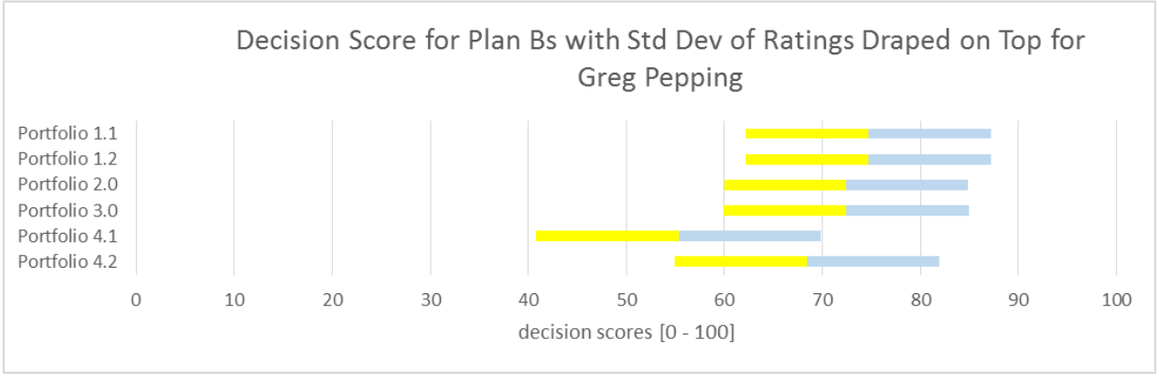


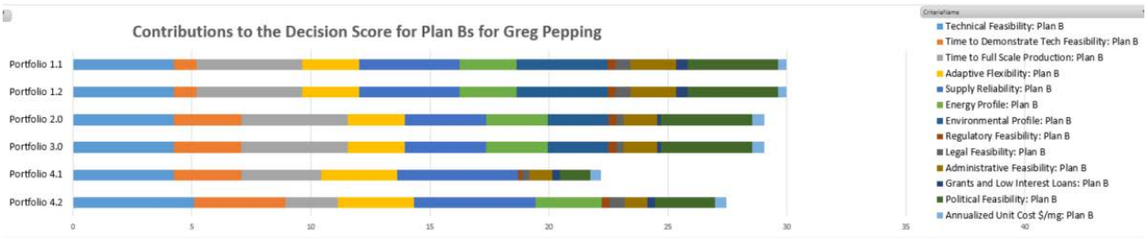
Greg Pepping



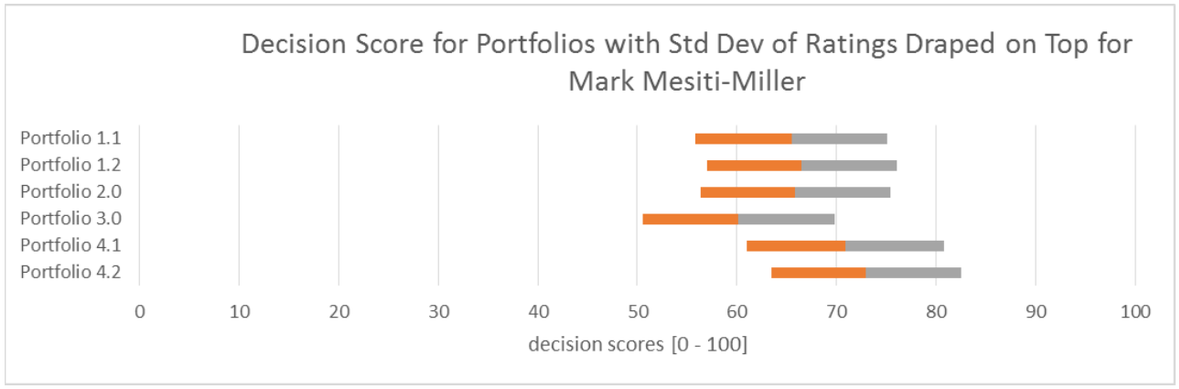


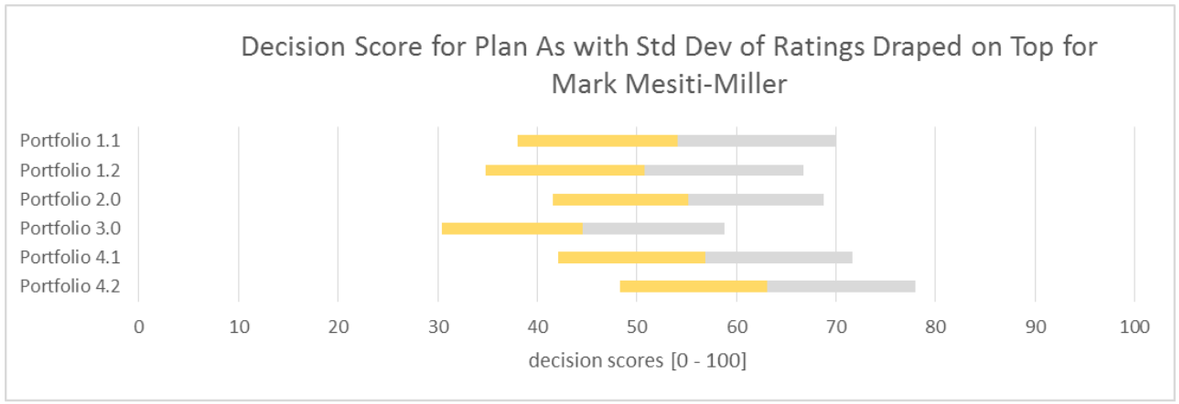


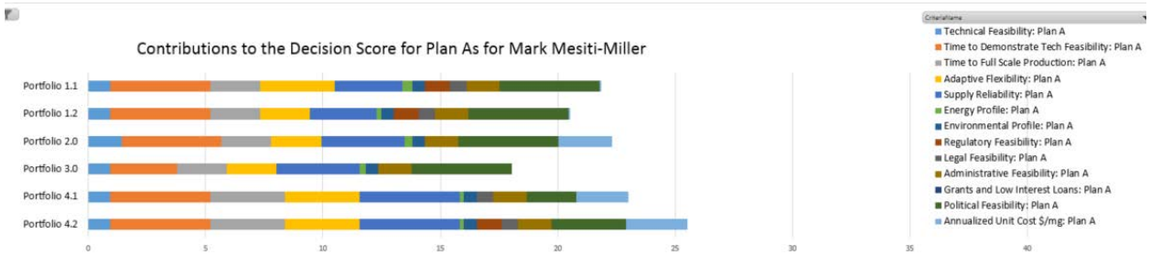


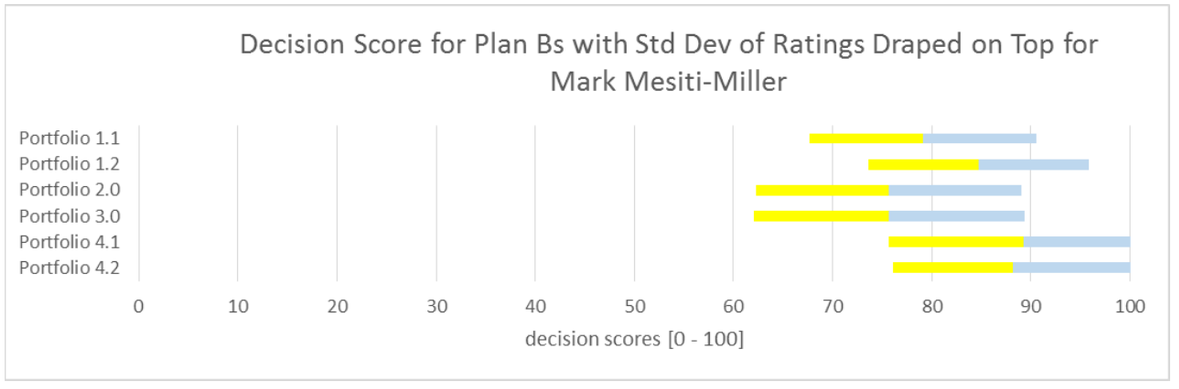


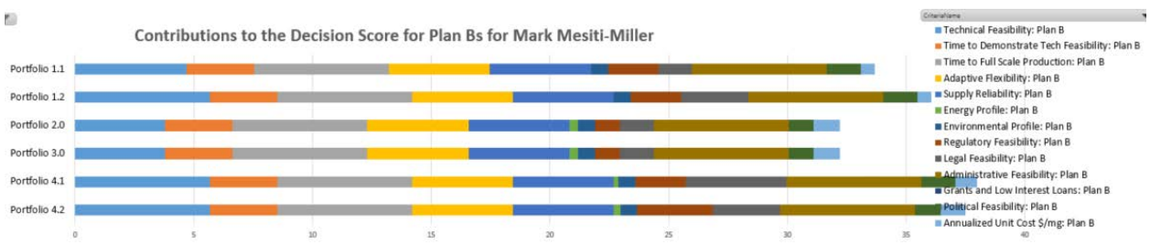
Mark Mesiti-Miller


Decision Score for Portfolios with Std Dev of Ratings Draped on Top for Mark Mesiti-Miller
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
30
40
50
60
70
80
90
100
decision scores [0 - 100]

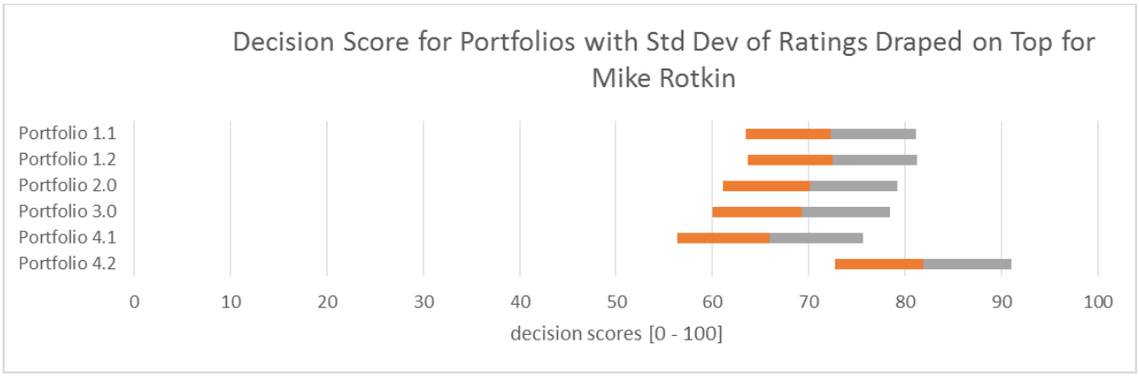

Decision Score for Plan As with Std Dev of Ratings Draped on Top for Mark Mesiti-Miller
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
30
40
50
60
70
80
90
100
decision scores [0 - 100]

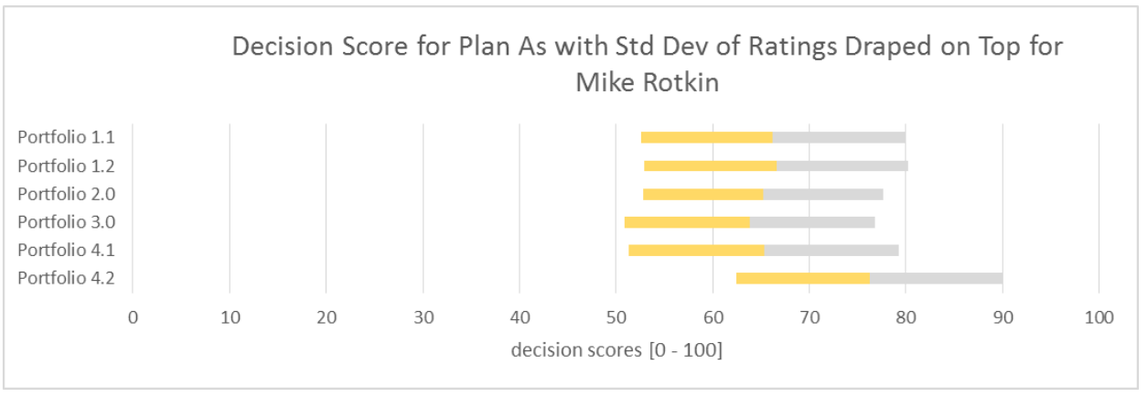

Contributions to the Decision Score for Plan As for Mark Mesiti-Miller
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
Technical Feasibility: Plan A
Time to Demonstrate Tech Feasibility: Plan A
Time to Full Scale Production: Plan A
Adaptive Flexibility: Plan A
Supply Reliability: Plan A
Energy Profile: Plan A
Environmental Profile: Plan A
Regulatory Feasibility: Plan A
Legal Feasibility: Plan A
Administrative Feasibility: Plan A
Grants and Low Interest Loans: Plan A
Political Feasibility: Plan A
Annualized Unit Cost $/mg: Plan A

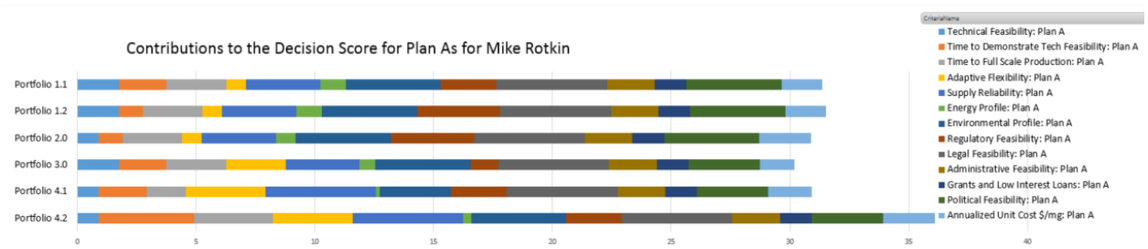

Decision Score for Plan Bs with Std Dev of Ratings Draped on Top for Mark Mesiti-Miller
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
30
40
50
60
70
80
90
100
decision scores [0 - 100]

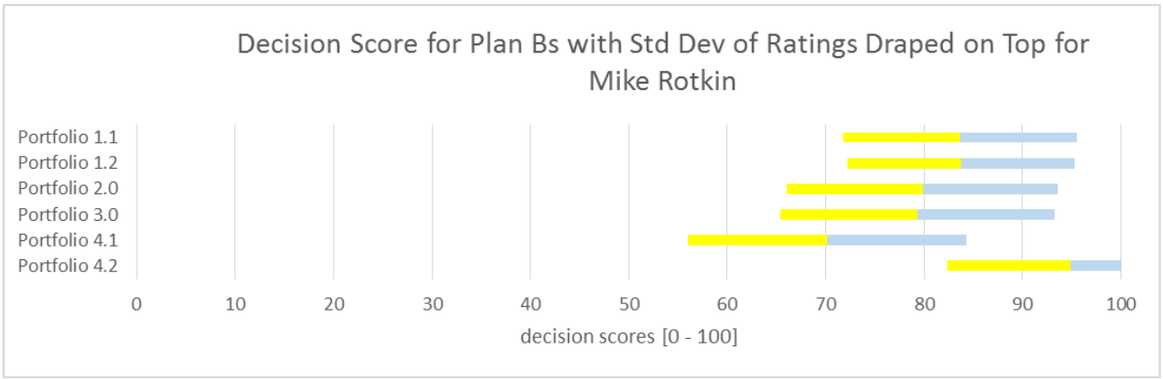

Contributions to the Decision Score for Plan Bs for Mark Mesiti-Miller
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
Technical Feasibility: Plan B
Time to Demonstrate Tech Feasibility: Plan B
Time to Full Scale Production: Plan B
Adaptive Flexibility: Plan B
Supply Reliability: Plan B
Energy Profile: Plan B
Environmental Profile: Plan B
Regulatory Feasibility: Plan B
Legal Feasibility: Plan B
Administrative Feasibility: Plan B
Grants and Low Interest Loans: Plan B
Political Feasibility: Plan B
Annualized Unit Cost $/mg: Plan B

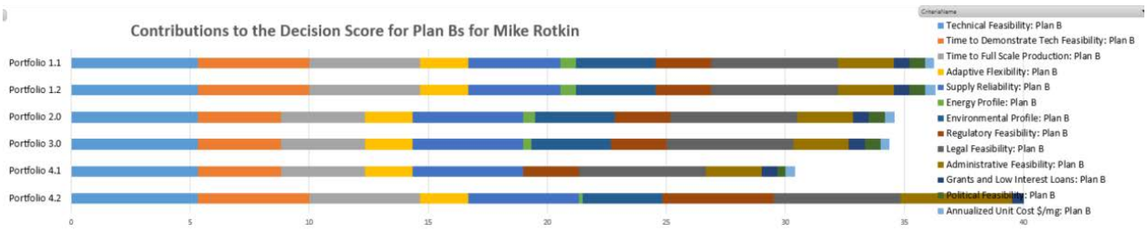
Mike Rotkin



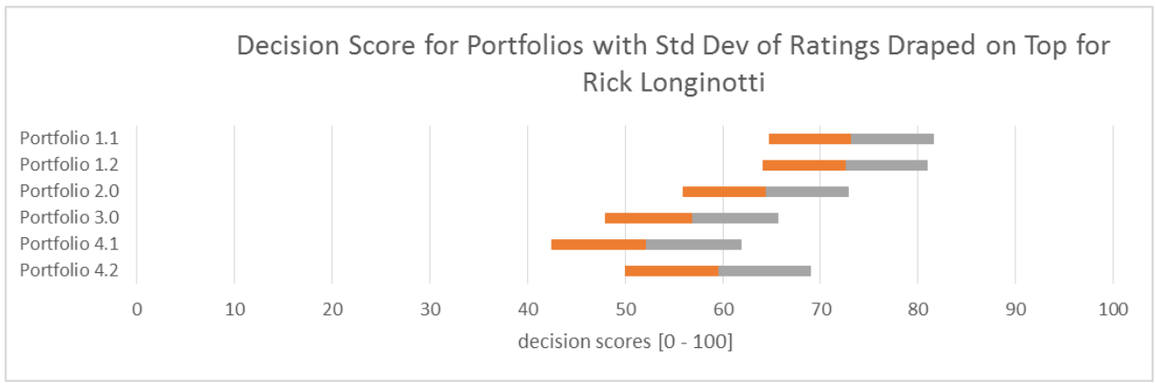


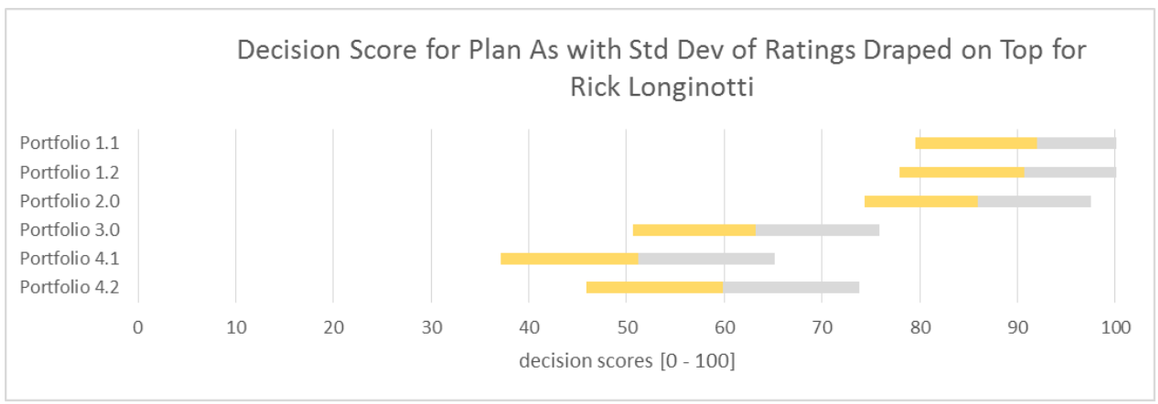


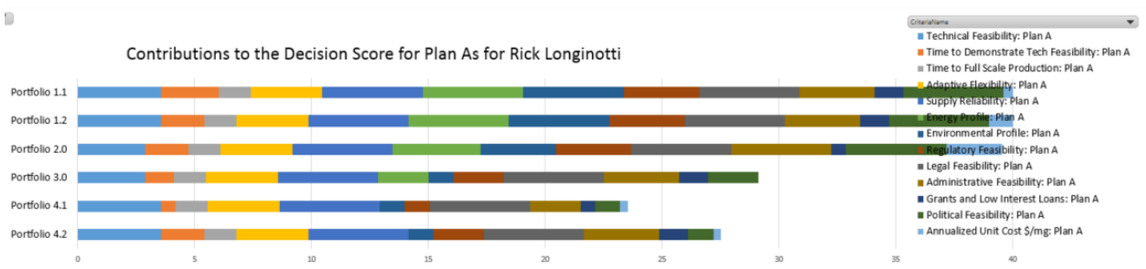


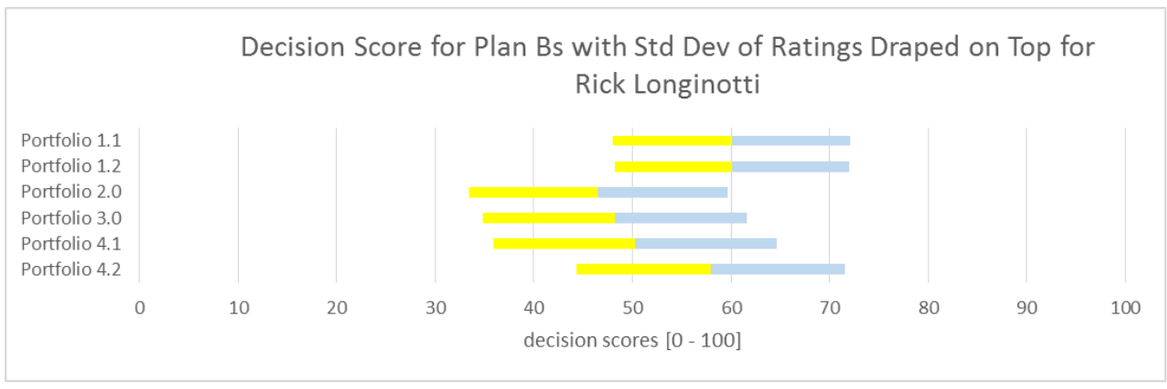


Rick Longinotti


Decision Score for Portfolios with Std Dev of Ratings Draped on Top for Rick Longinotti
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
30
40
50
60
70
80
90
100
decision scores [0 - 100]


Decision Score for Plan As with Std Dev of Ratings Draped on Top for Rick Longinotti
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
30
40
50
60
70
80
90
100
decision scores [0 - 100]


Contributions to the Decision Score for Plan As for Rick Longinotti
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
Technical Feasibility: Plan A
Time to Demonstrate Tech Feasibility: Plan A
Time to Full Scale Production: Plan A
Adaptive Flexibility: Plan A
Supply Reliability: Plan A
Energy Profile: Plan A
Environmental Profile: Plan A
Regulatory Feasibility: Plan A
Legal Feasibility: Plan A
Administrative Feasibility: Plan A
Grants and Low Interest Loans: Plan A
Political Feasibility: Plan A
Annualized Unit Cost $/mg: Plan A


Decision Score for Plan Bs with Std Dev of Ratings Draped on Top for Rick Longinotti
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
30
40
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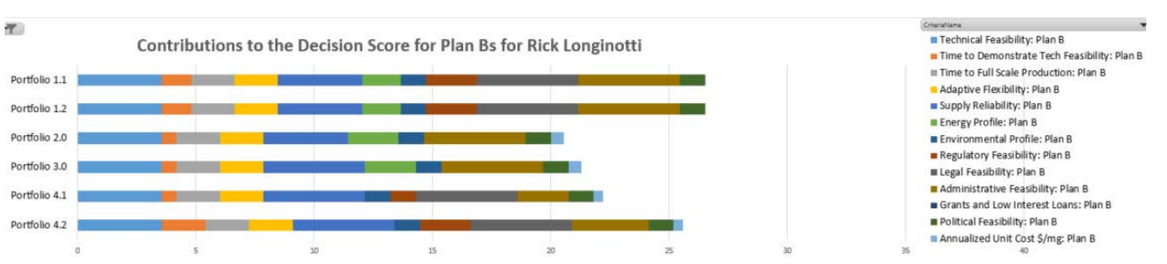
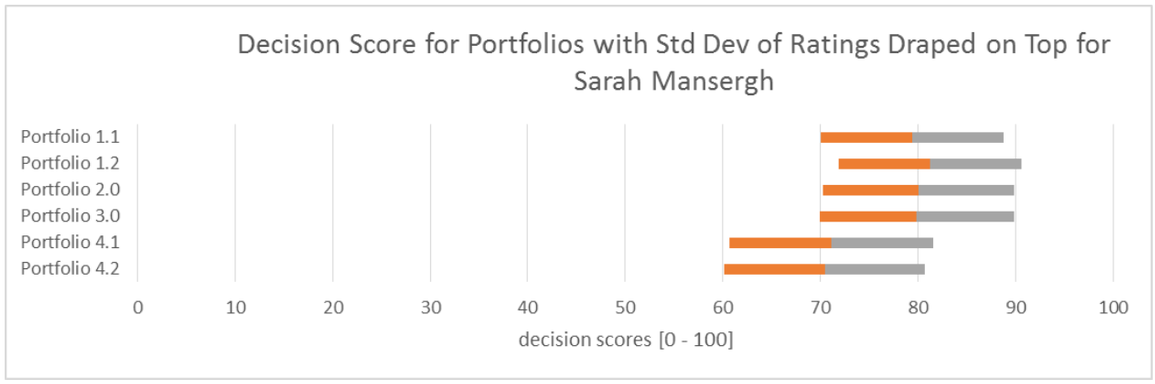
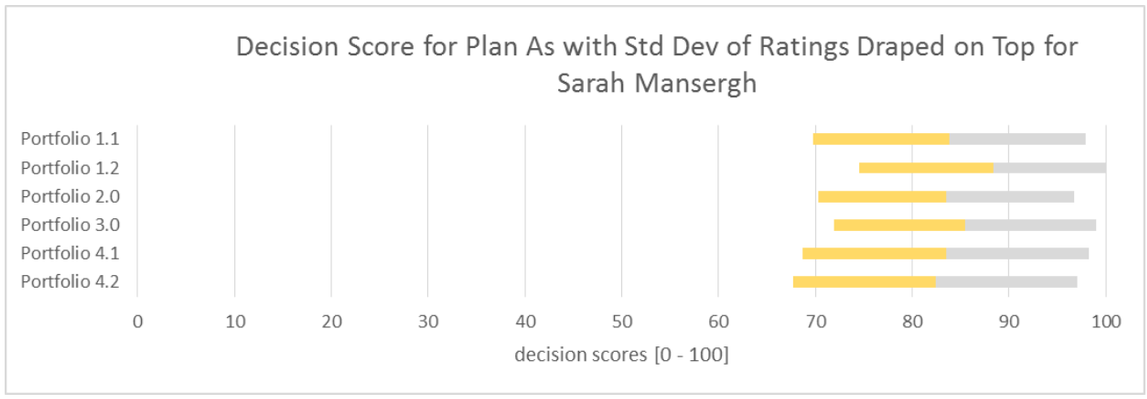
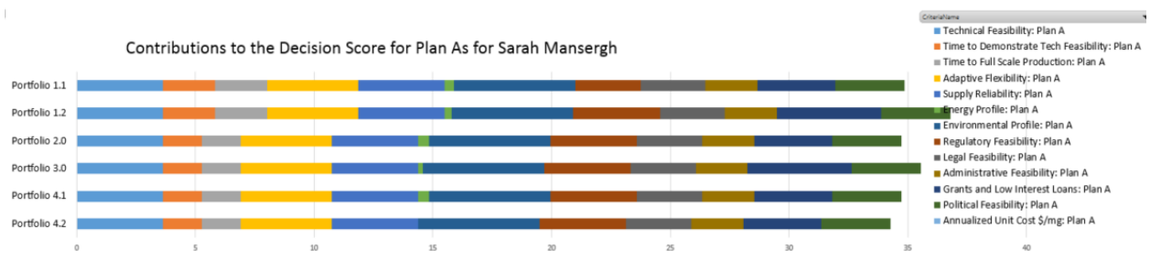
60
70
80
90
100
decision scores [0 - 100]

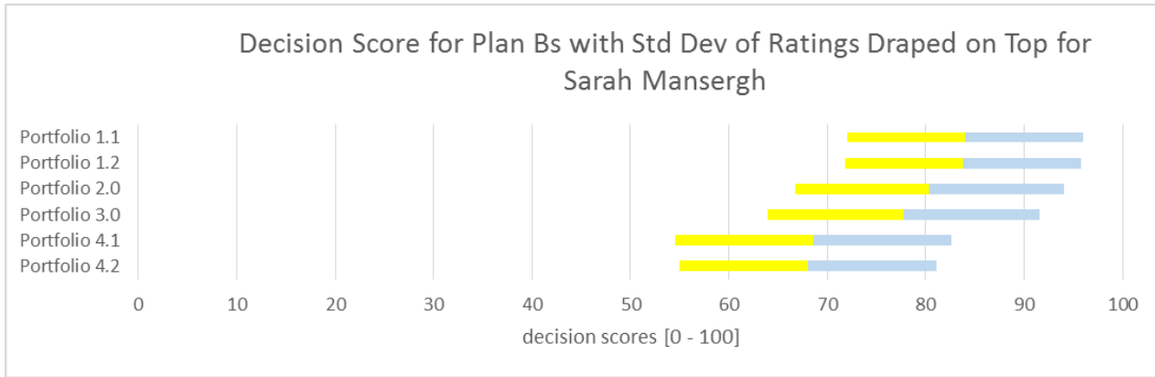

Contributions to the Decision Score for Plan Bs for Rick Longinotti
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
Technical Feasibility: Plan B
Time to Demonstrate Tech Feasibility: Plan B
Time to Full Scale Production: Plan B
Adaptive Flexibility: Plan B
Supply Reliability: Plan B
Energy Profile: Plan B
Environmental Profile: Plan B
Regulatory Feasibility: Plan B
Legal Feasibility: Plan B
Administrative Feasibility: Plan B
Grants and Low Interest Loans: Plan B
Political Feasibility: Plan B
Annualized Unit Cost $/mg: Plan B

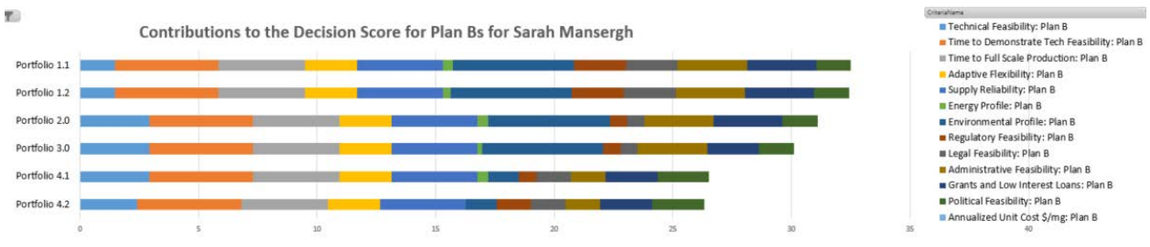
Sarah Mansergh



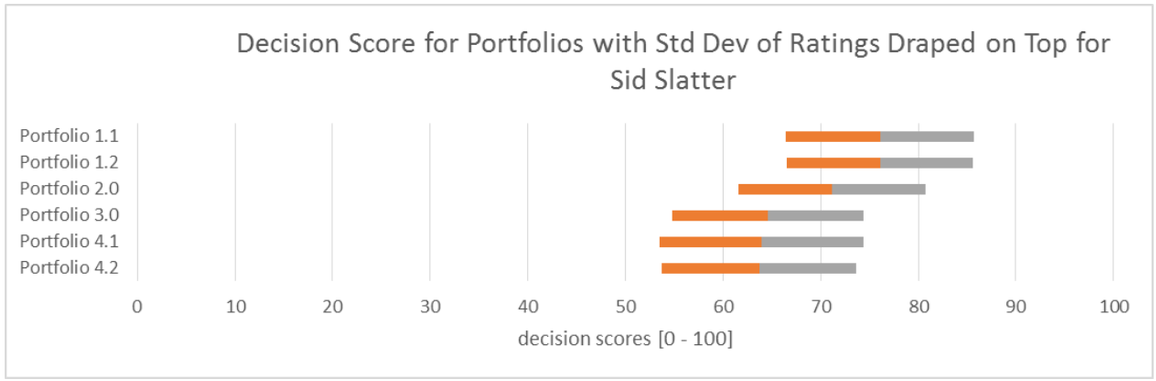


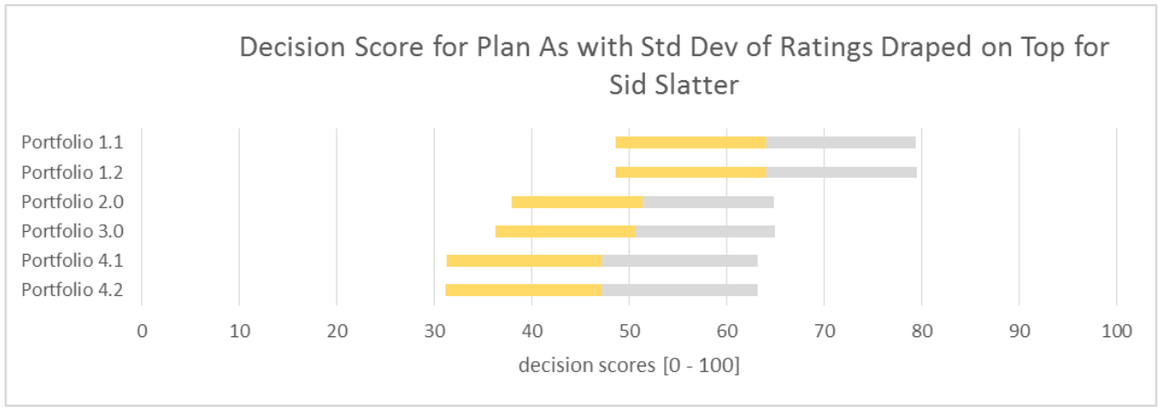


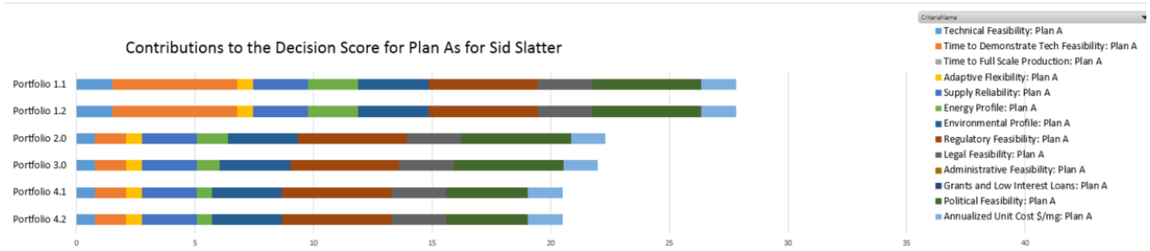


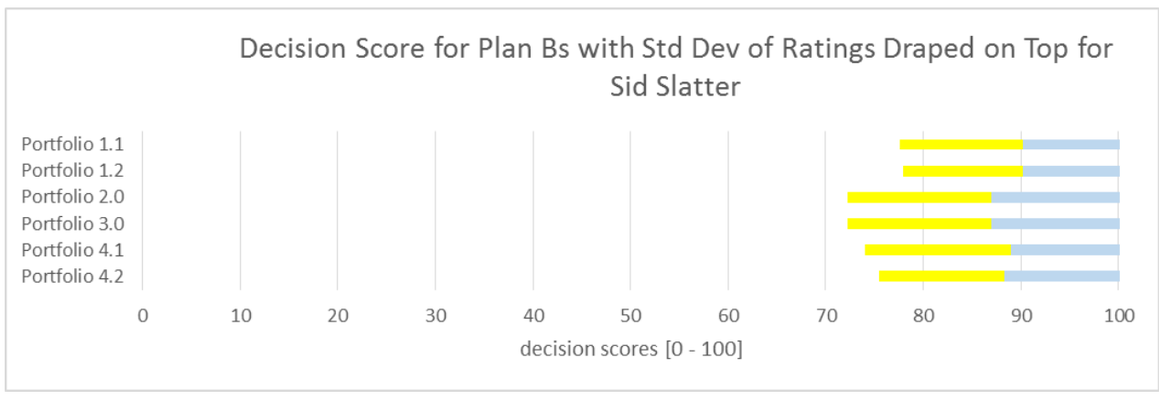


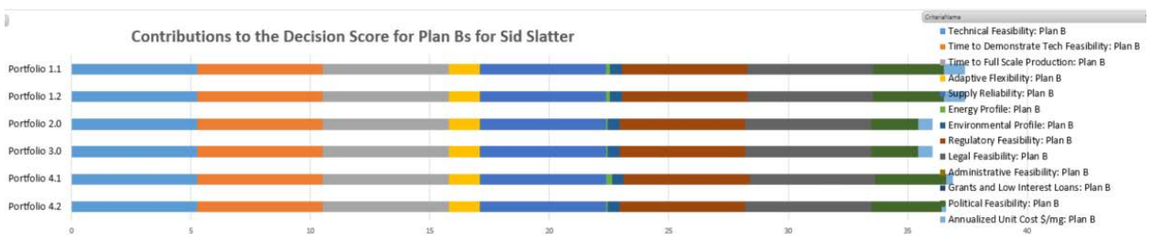
Sid Slatter



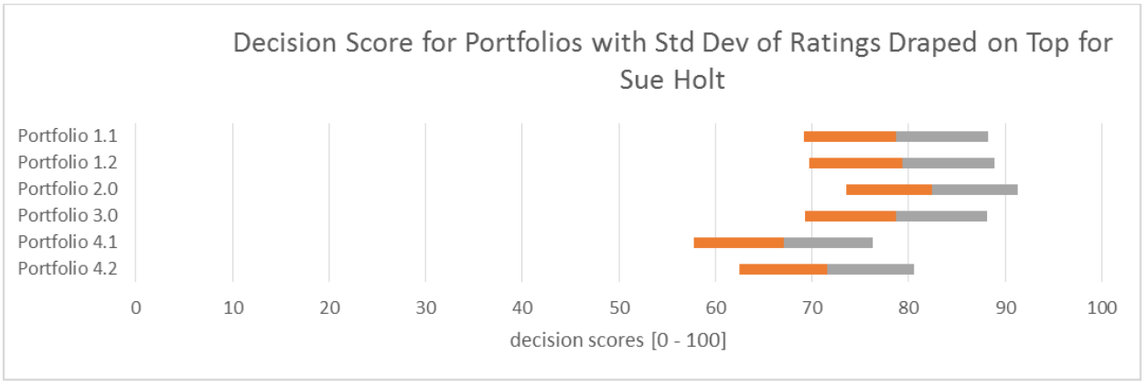








Sue Holt


Decision Score for Portfolios with Std Dev of Ratings Draped on Top for Sue Holt
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
0
10
20
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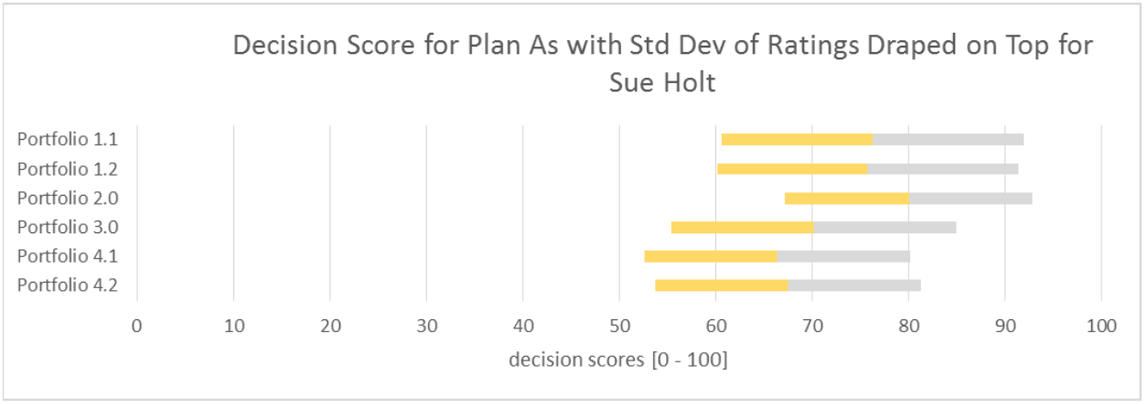
100
decision scores [0 - 100]


Decision Score for Plan As with Std Dev of Ratings Draped on Top for Sue Holt
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
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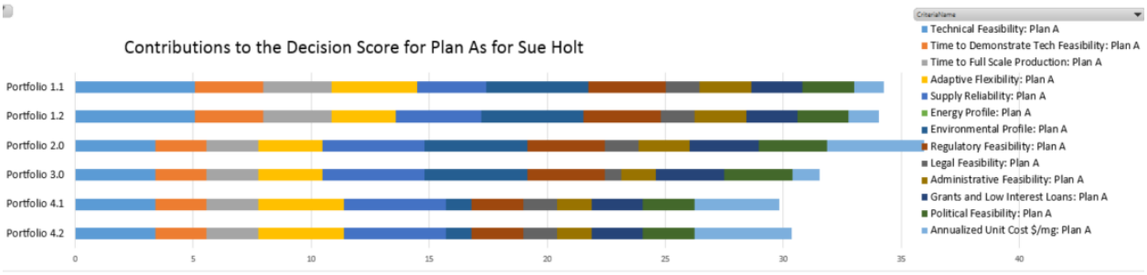
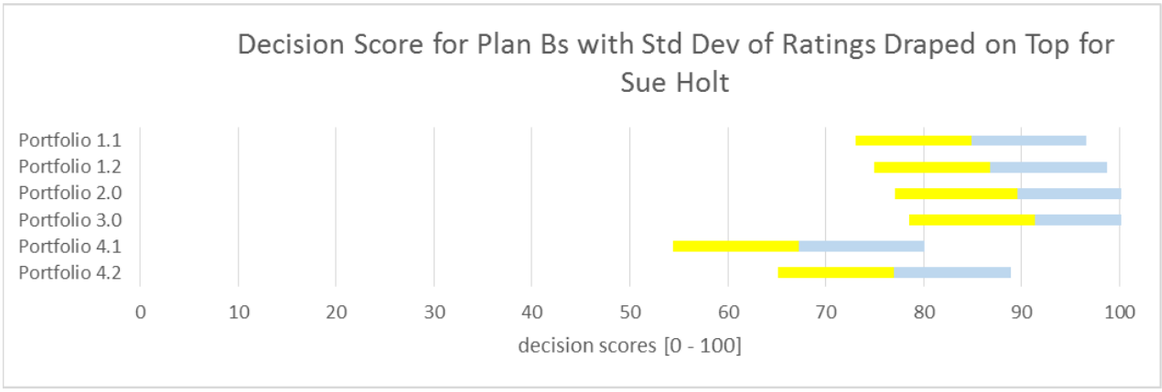
100
decision scores [0 - 100]


Contributions to the Decision Score for Plan As for Sue Holt
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
Technical Feasibility: Plan A
Time to Demonstrate Tech Feasibility: Plan A
Time to Full Scale Production: Plan A
Adaptive Flexibility: Plan A
Supply Reliability: Plan A
Energy Profile: Plan A
Environmental Profile: Plan A
Regulatory Feasibility: Plan A
Legal Feasibility: Plan A
Administrative Feasibility: Plan A
Grants and Low Interest Loans: Plan A
Political Feasibility: Plan A
Annualized Unit Cost $/mg: Plan A


Decision Score for Plan Bs with Std Dev of Ratings Draped on Top for Sue Holt
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
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Portfolio 4.2
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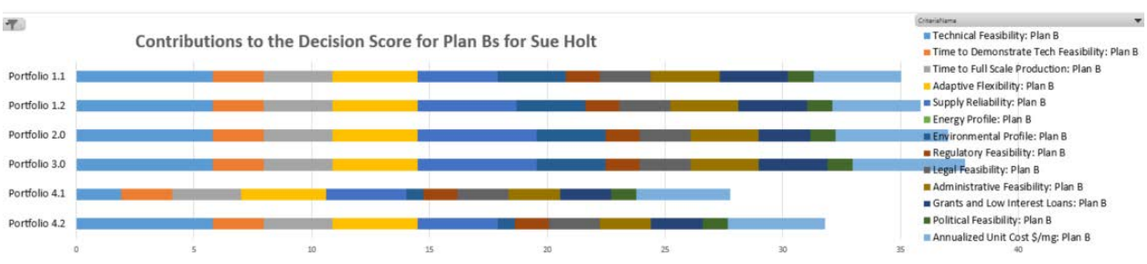
decision scores [0 - 100]


Contributions to the Decision Score for Plan Bs for Sue Holt
Portfolio 1.1
Portfolio 1.2
Portfolio 2.0
Portfolio 3.0
Portfolio 4.1
Portfolio 4.2
Technical Feasibility: Plan B
Time to Demonstrate Tech Feasibility: Plan B
Time to Full Scale Production: Plan B
Adaptive Flexibility: Plan B
Supply Reliability: Plan B
Energy Profile: Plan B
Environmental Profile: Plan B
Regulatory Feasibility: Plan B
Legal Feasibility: Plan B
Administrative Feasibility: Plan B
Grants and Low Interest Loans: Plan B
Political Feasibility: Plan B
Annualized Unit Cost $/mg: Plan B