

DG Working Group - Plenary #2

Analyzing Interconnection Data

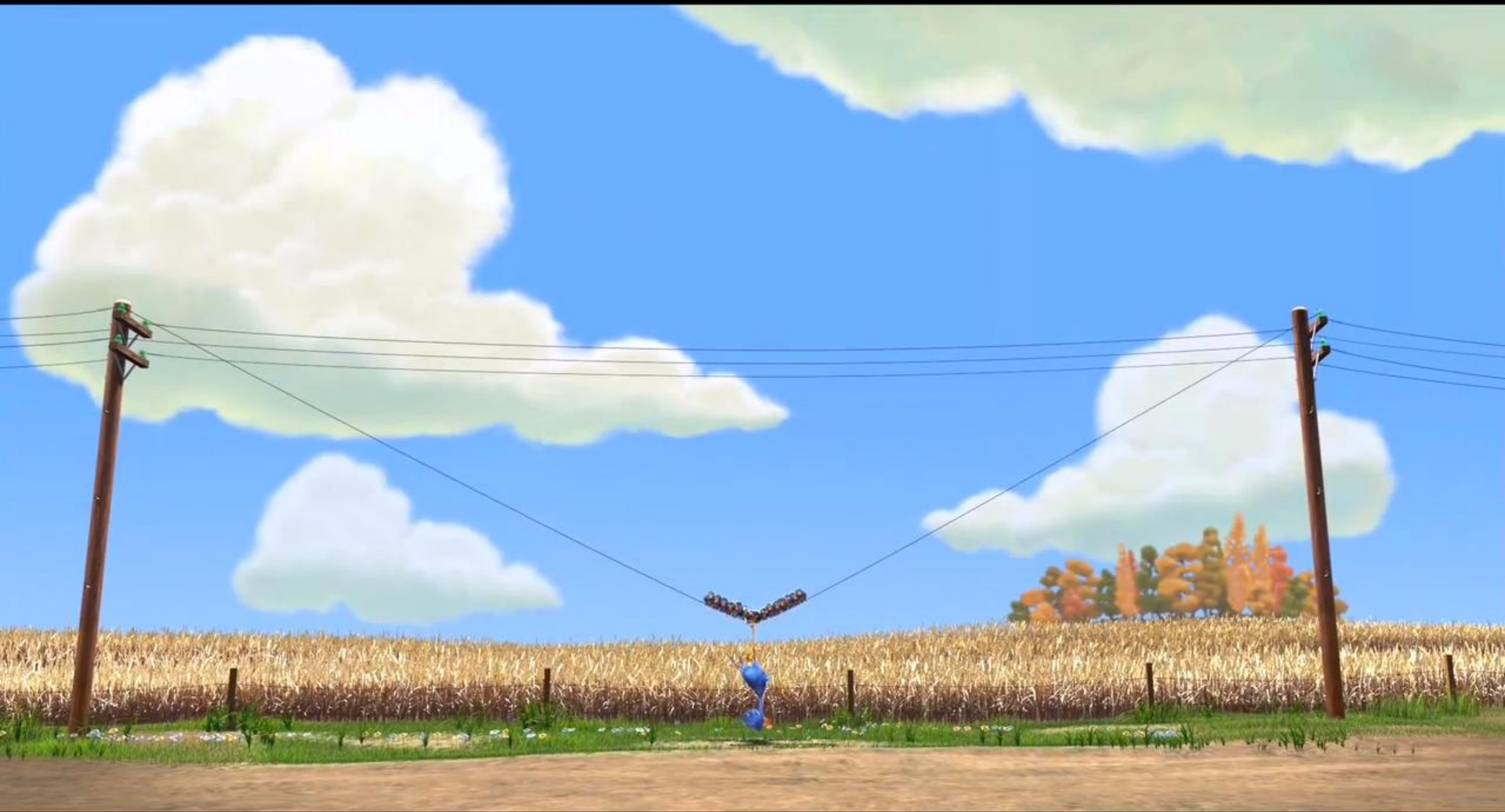
DOER analysis of the Utility reporting of DG interconnection projects following the Expedited and Standard Review Processes from January 1, 2009 to May 1, 2012*

Presentation to the DG Working Group – June 13, 2012

Gerry Bingham, *Senior Coordinator / Distributed Generation*

* This analysis does not include applications submitted before January 2009 or projects following the Simplified Process (<10 kW on single-phase lines or <25 kW on three-phase lines after Jan 2009).

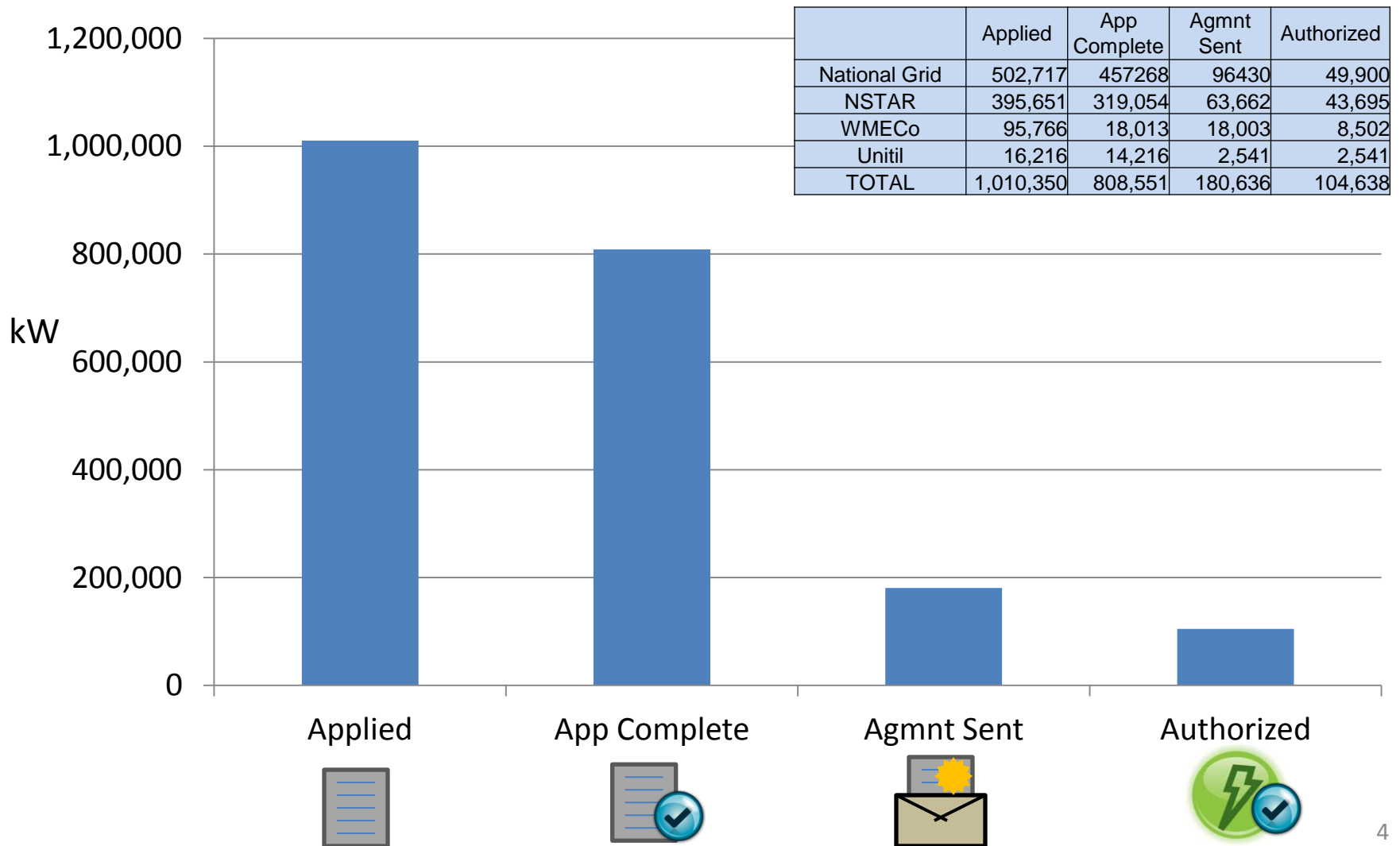
The DG Report summarized projects through 2010 and is available at the [MA Interconnection and Distributed Generation Website](#).



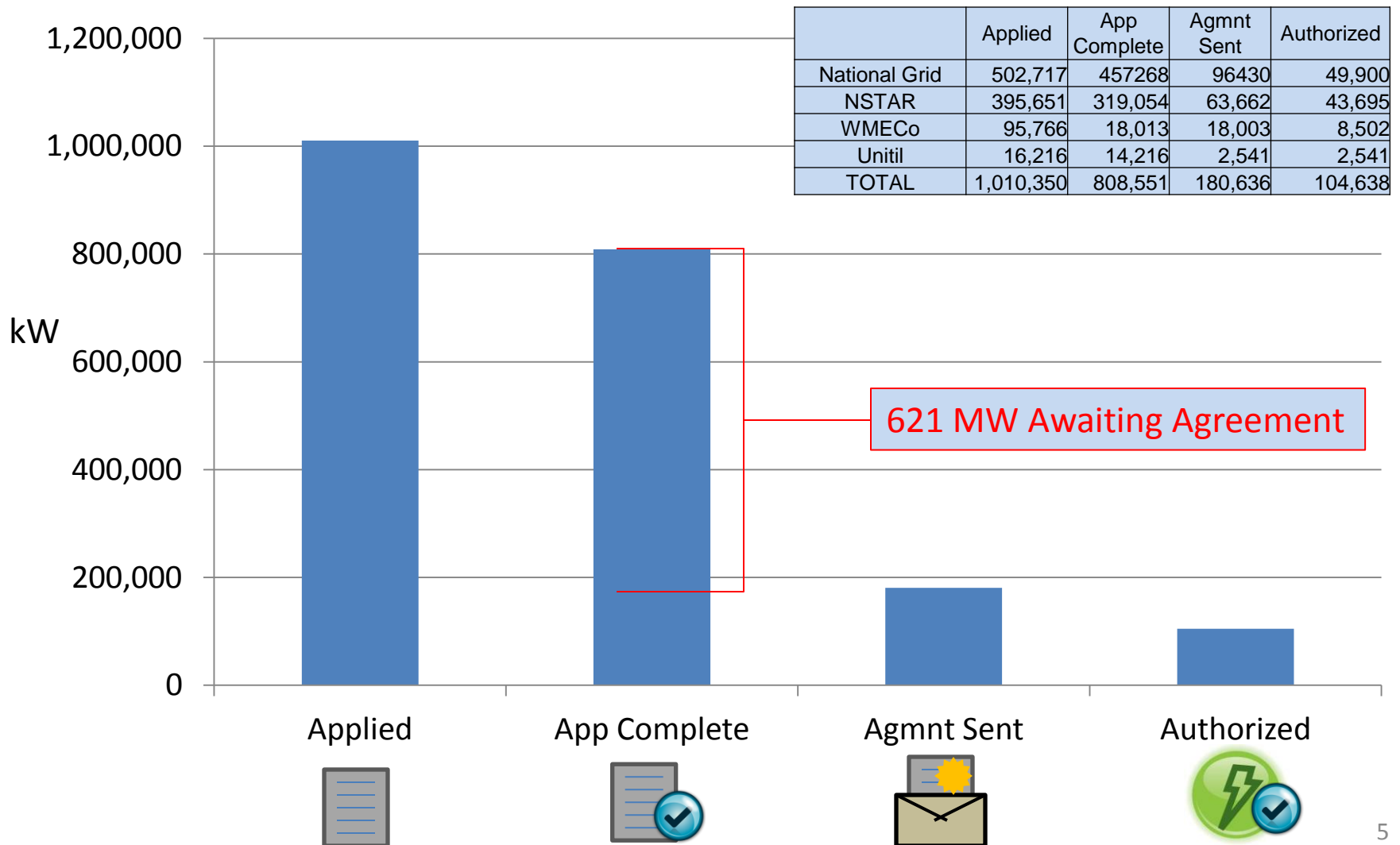
Outline of Slides

- Projects in the Application Process
 - by Company / Technology / Region / Size
- Deeper Dive into Application Data
 - How long did it take for EXPEDITED Agreement?
 - How long did it take for STANDARD Agreement?
 - How long for Projects still waiting for Agreement?
 - What does the data NOT tell us?
- Observations / Take-aways

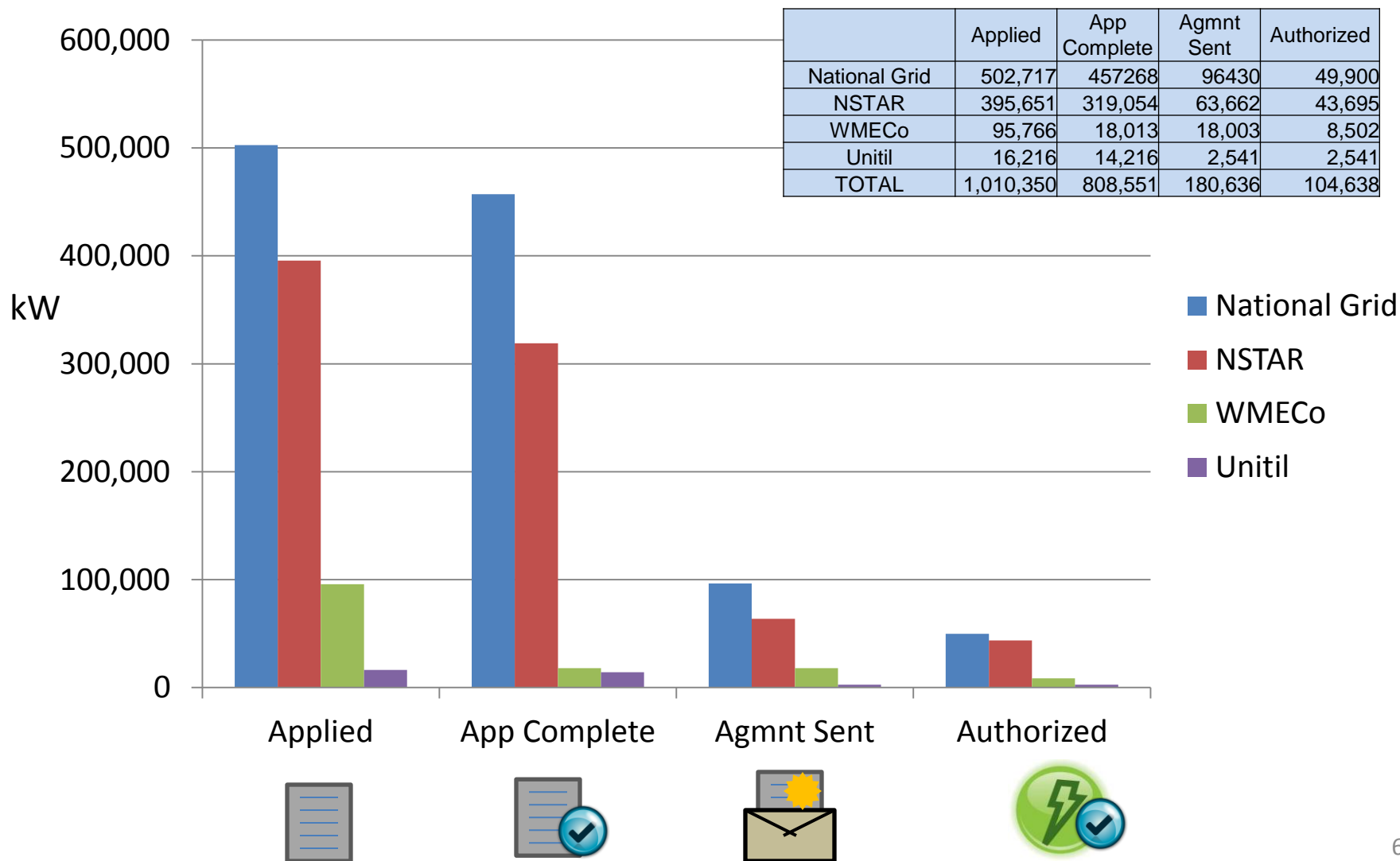
Aggregate Success Rate (kW)



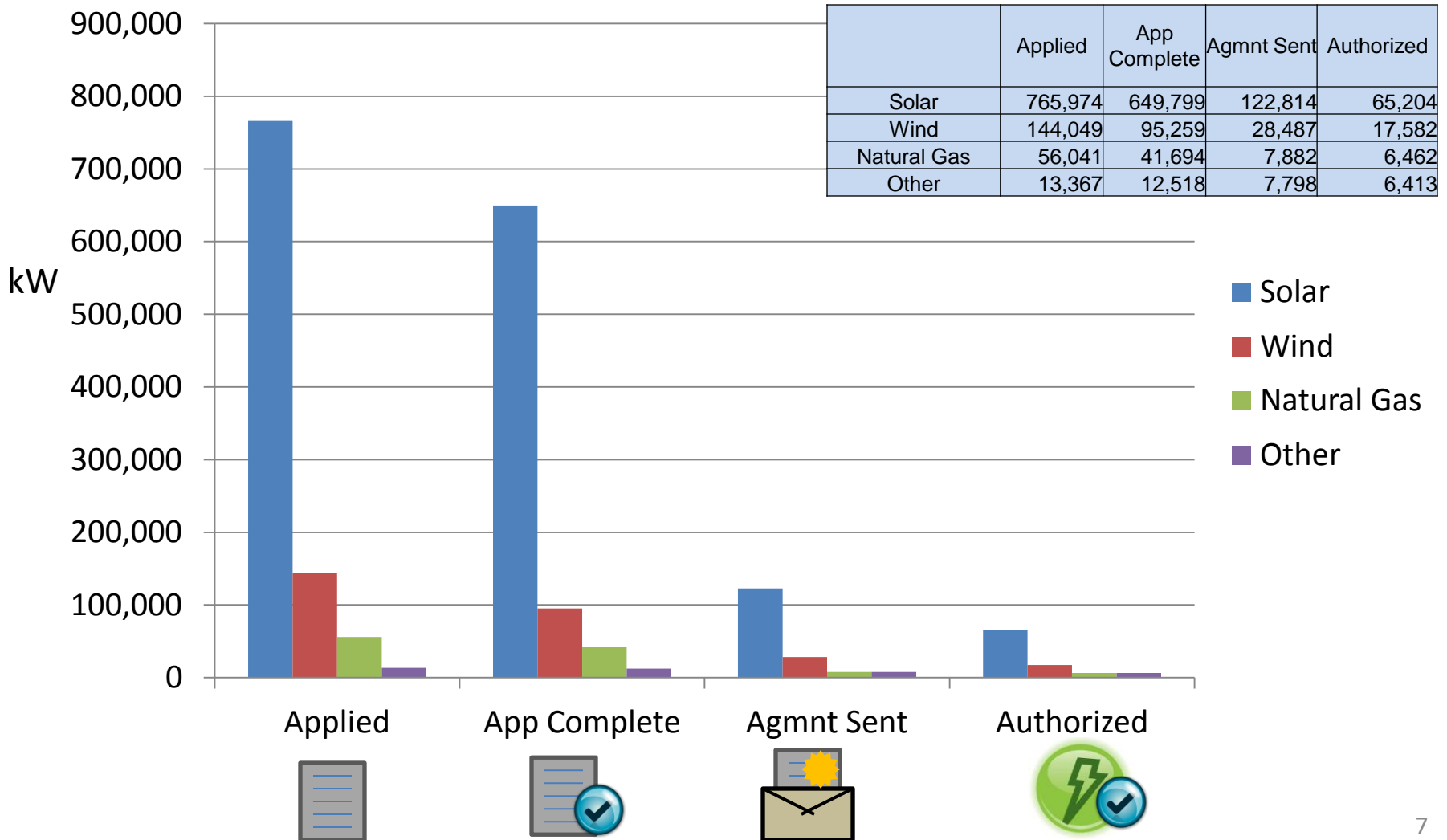
Aggregate Success Rate (kW)



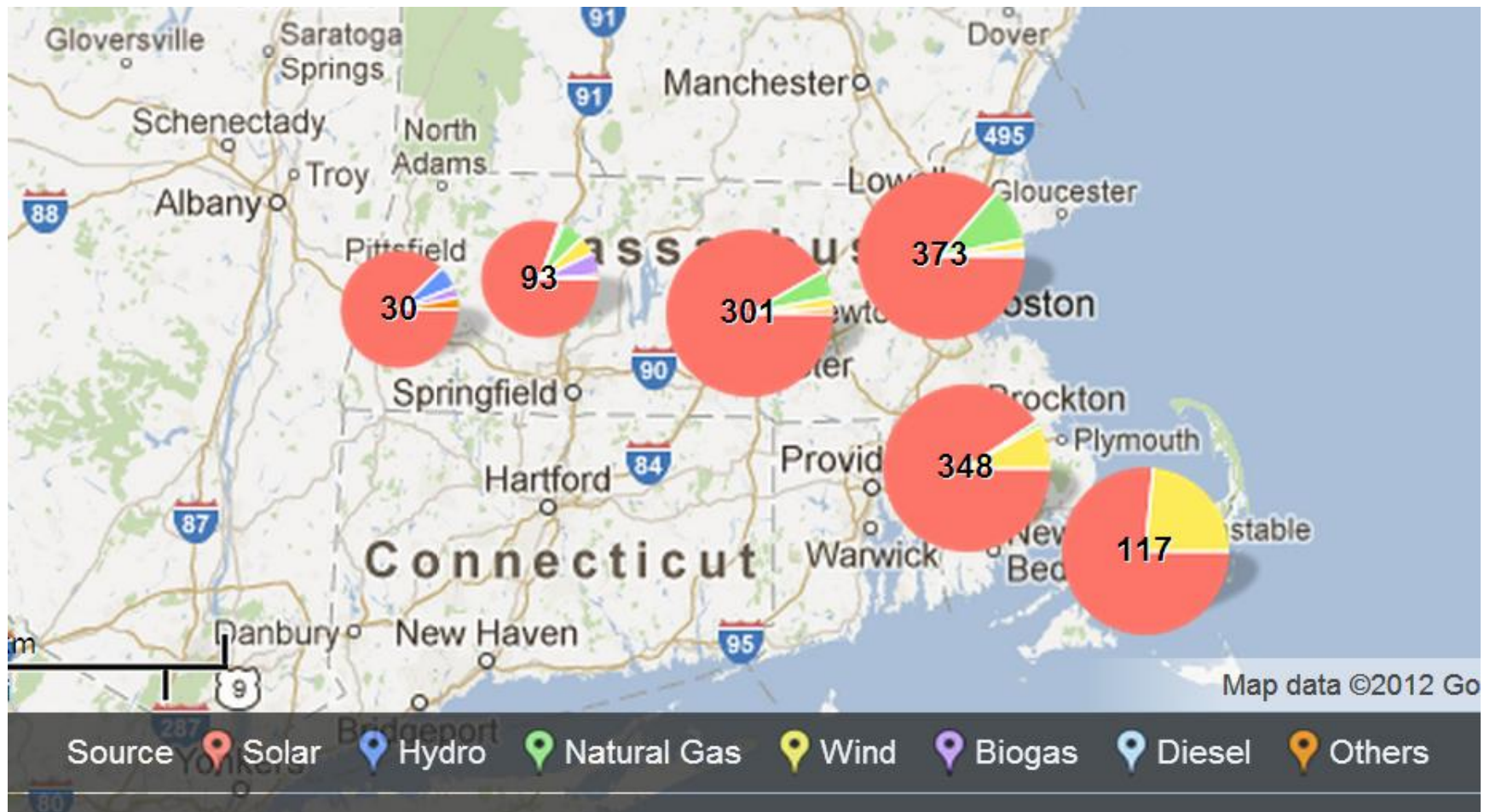
Application Process by Company (kW)



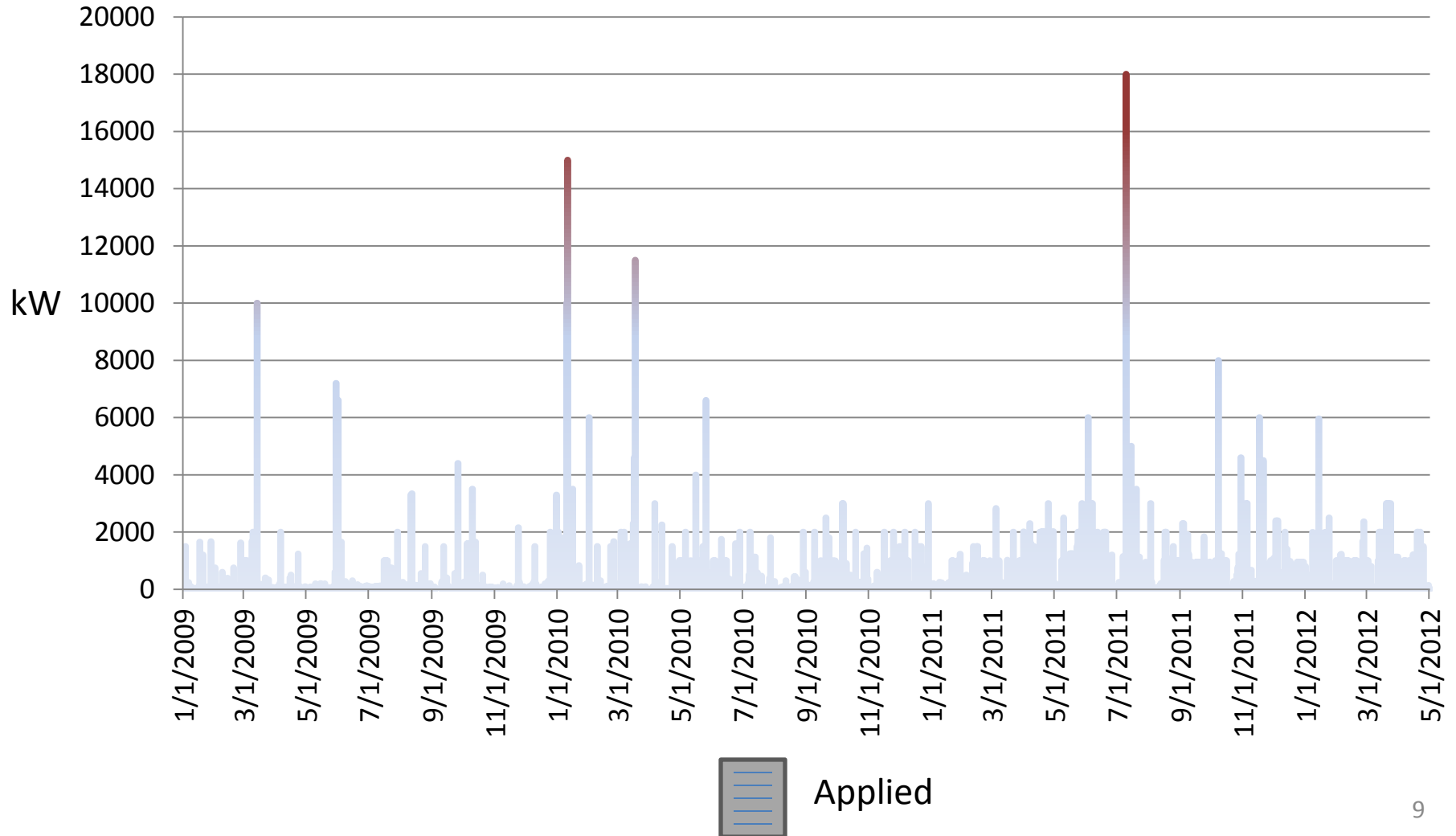
Application Process by Technology (kW)



Application Process by Region and Technology (# Apps)



A Historical Timeline of the Applications (each bar is an application)

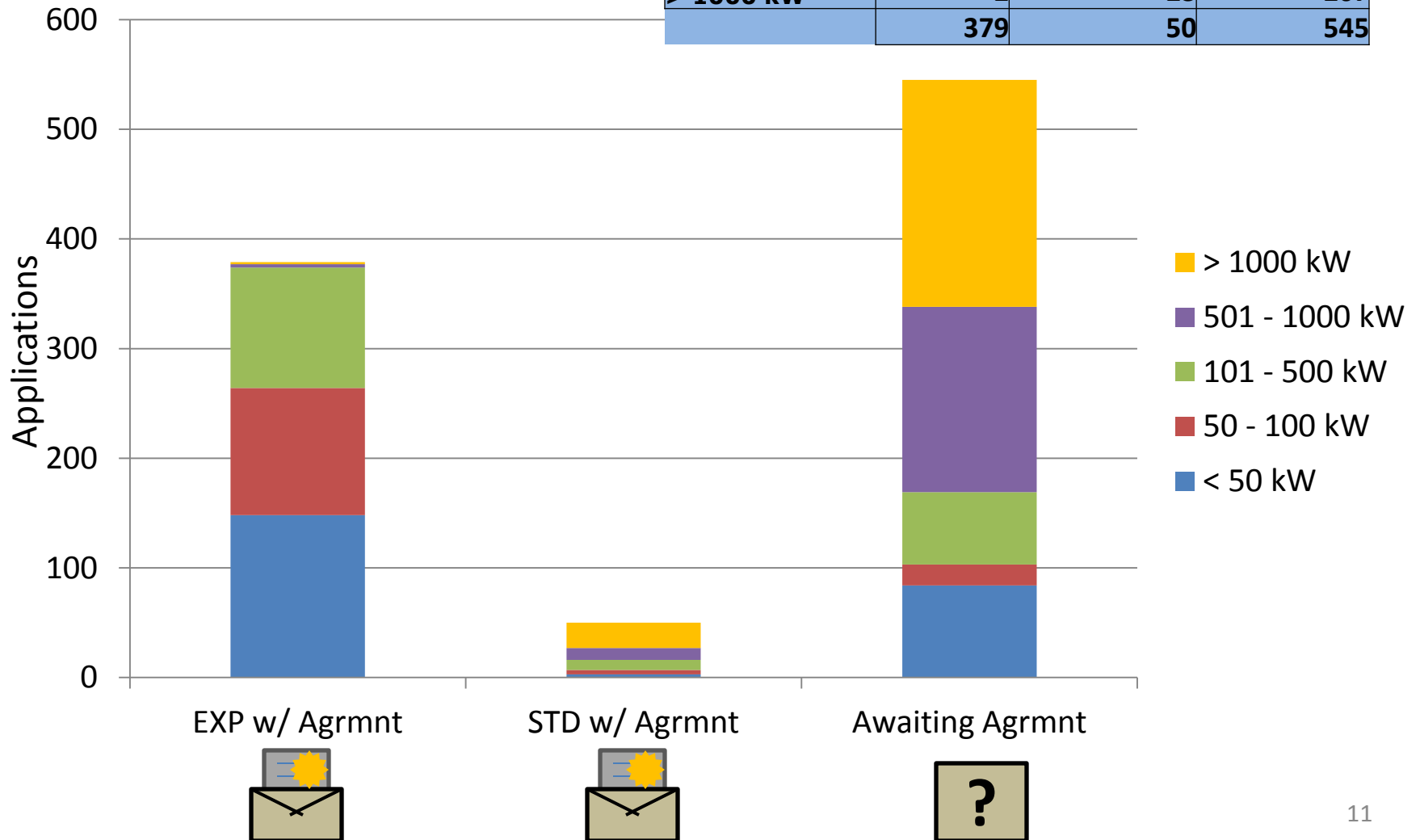


What is the distribution of projects by size?



Projects by Size

	EXP w/ Agrmnt	STD w/ Agrmnt	Awaiting Agrmnt
< 50 kW	148	3	84
50 - 100 kW	116	4	19
101 - 500 kW	110	9	66
501 - 1000 kW	3	11	169
> 1000 kW	2	23	207
	379	50	545

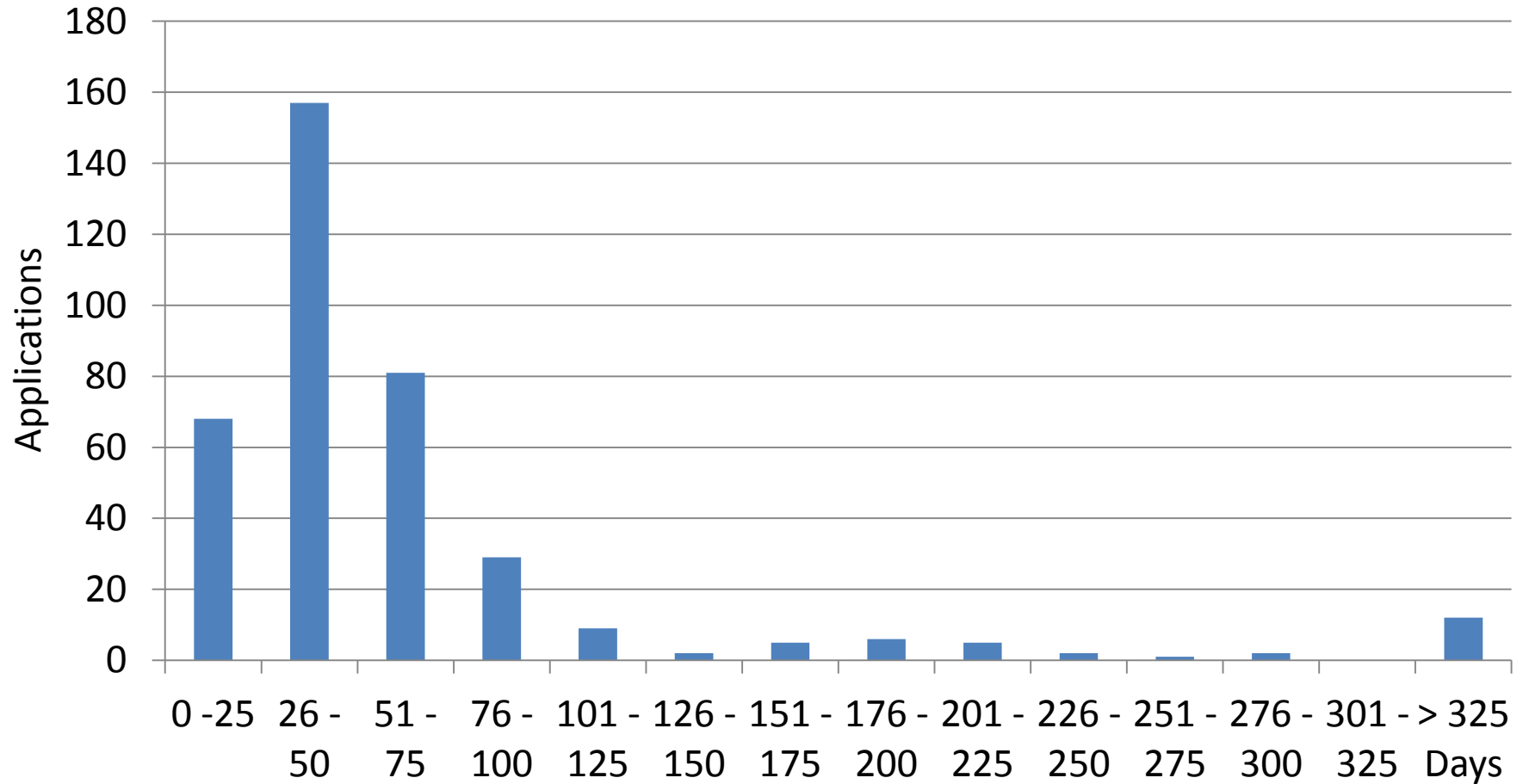


How long did it take Expedited Projects to get to an Agreement?



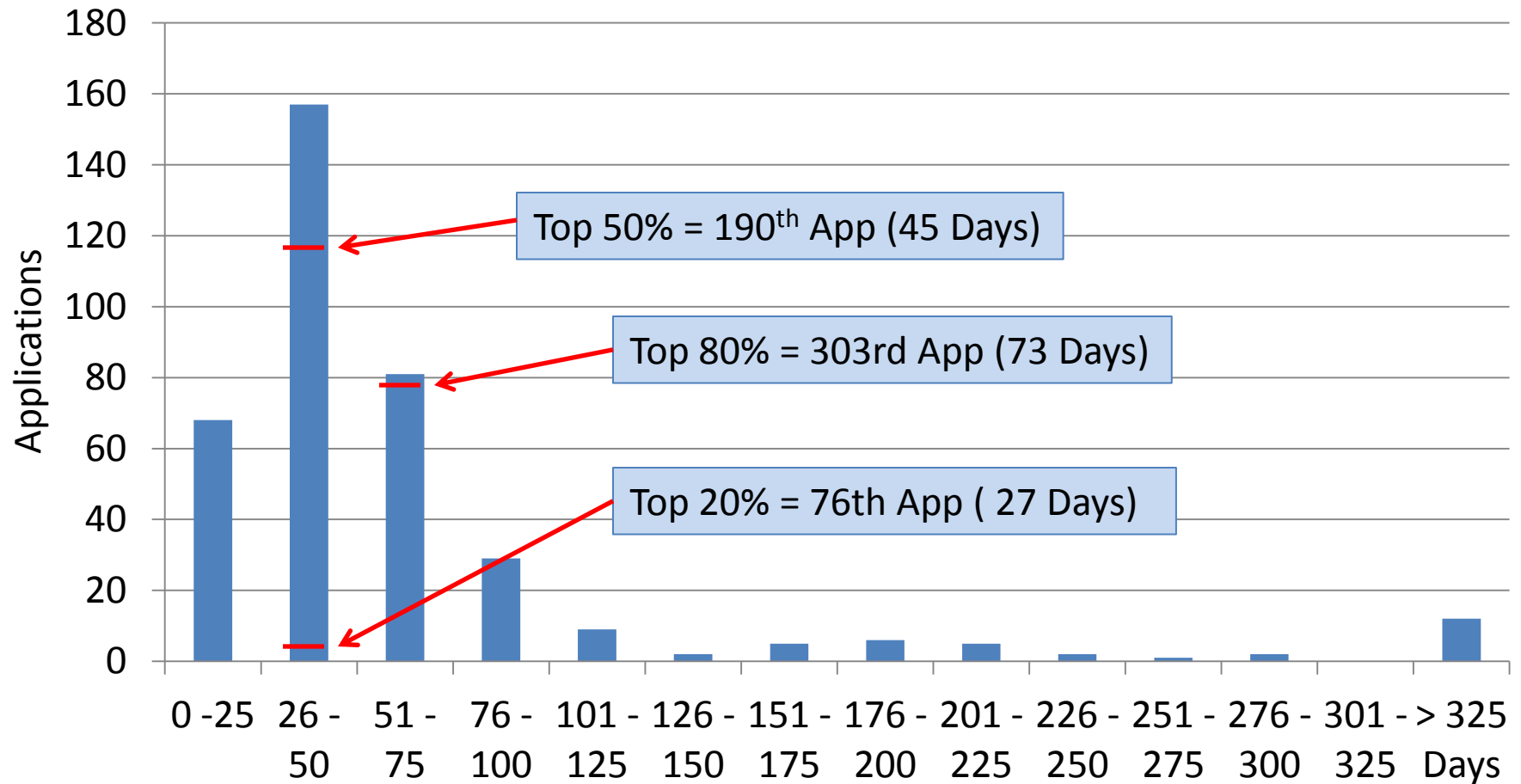
Expedited Projects w/ Agreement Sent

Number of applications by time frame



Expedited Projects w/ Agreement Sent

Number of applications by time frame

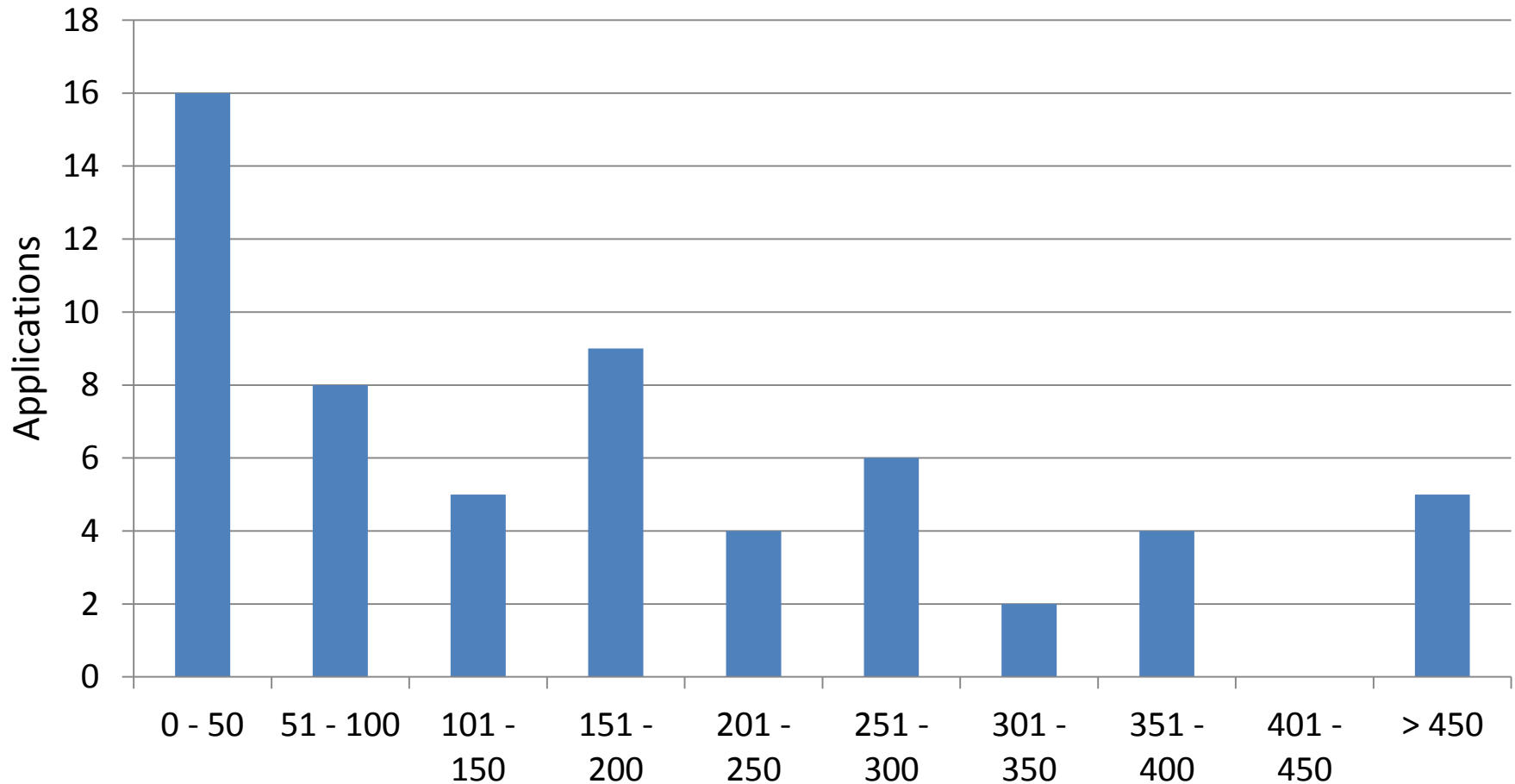


How long did it take Standard Review Projects to get to an Agreement?



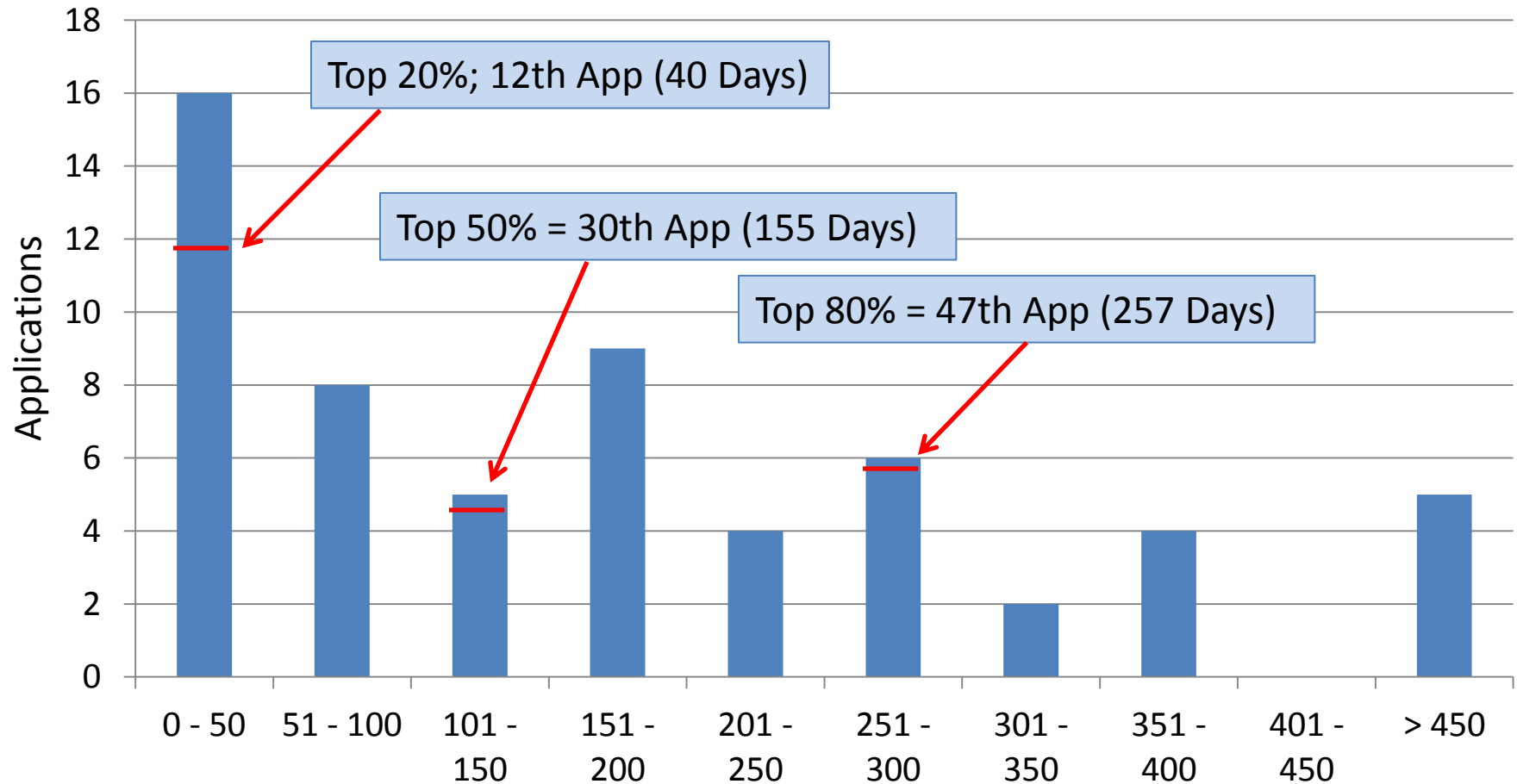
Standard Projects w/ Agreement Sent

Duration of process from App. Complete to Agreement Sent

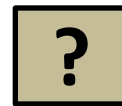


Standard Projects w/ Agreement Sent

Duration of process from App. Complete to Agreement Sent

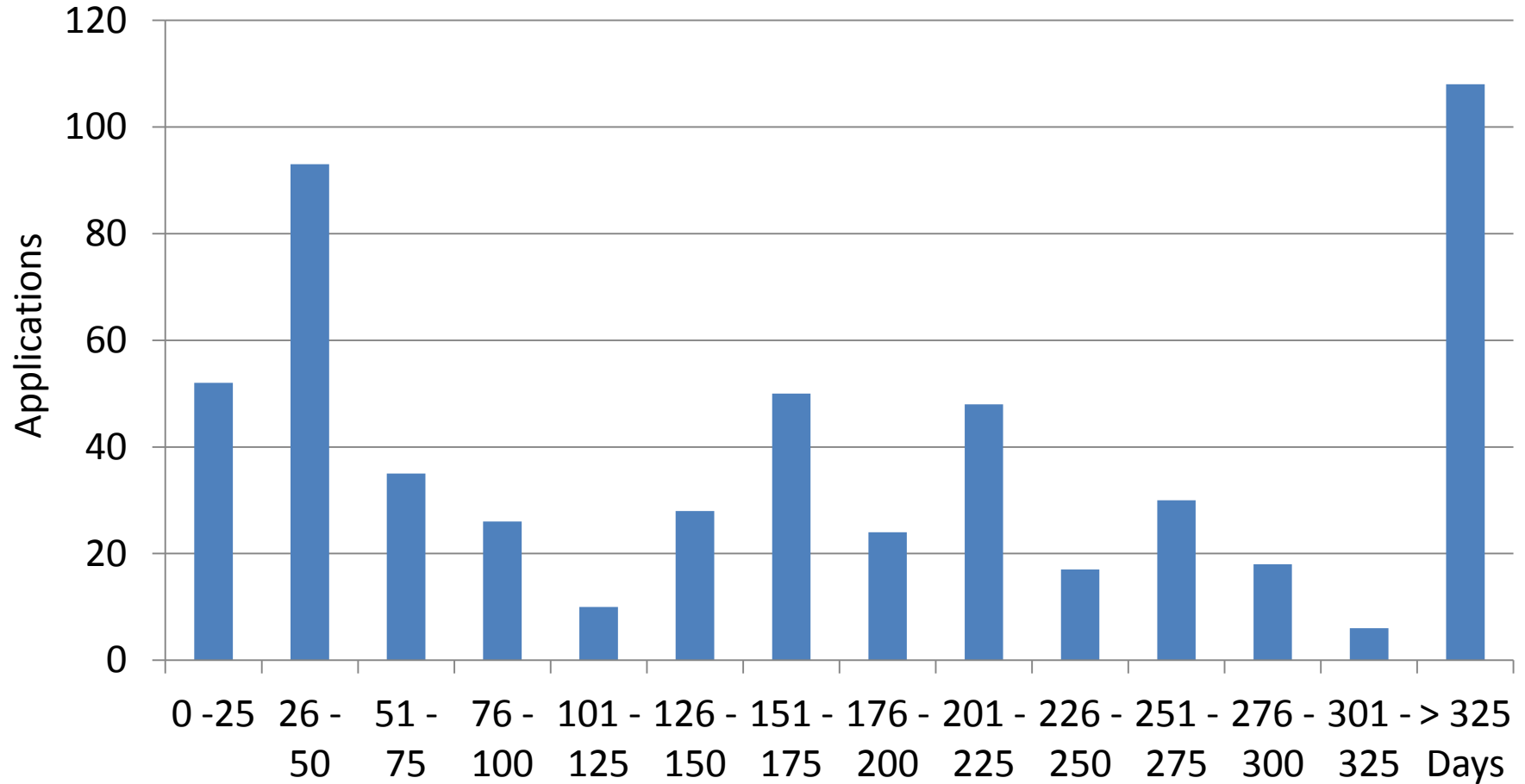


How long have pending projects been waiting to get to an Agreement?



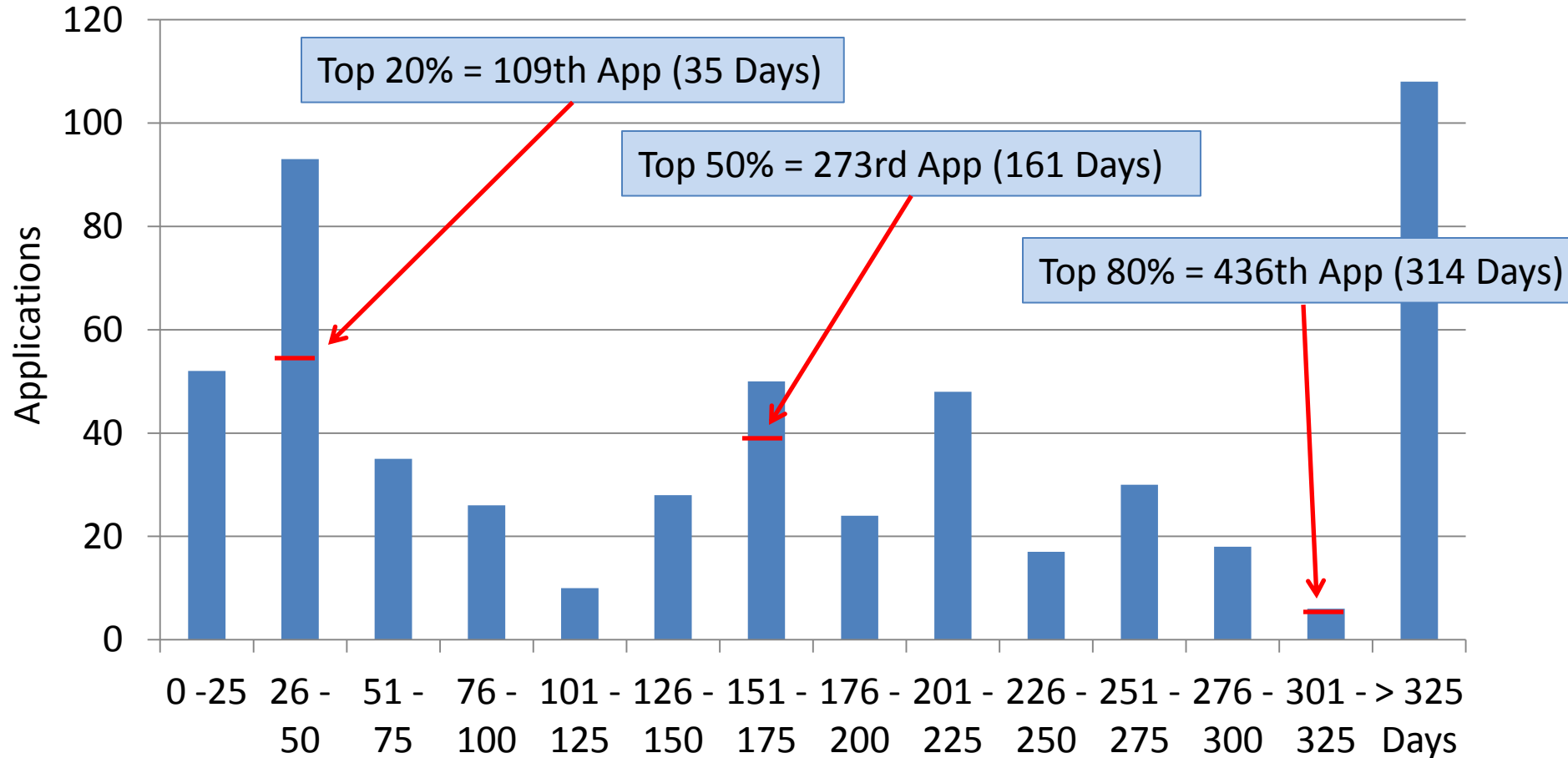
All Projects Awaiting Agreement

Applications “in study”; waiting time up to 5/1/12



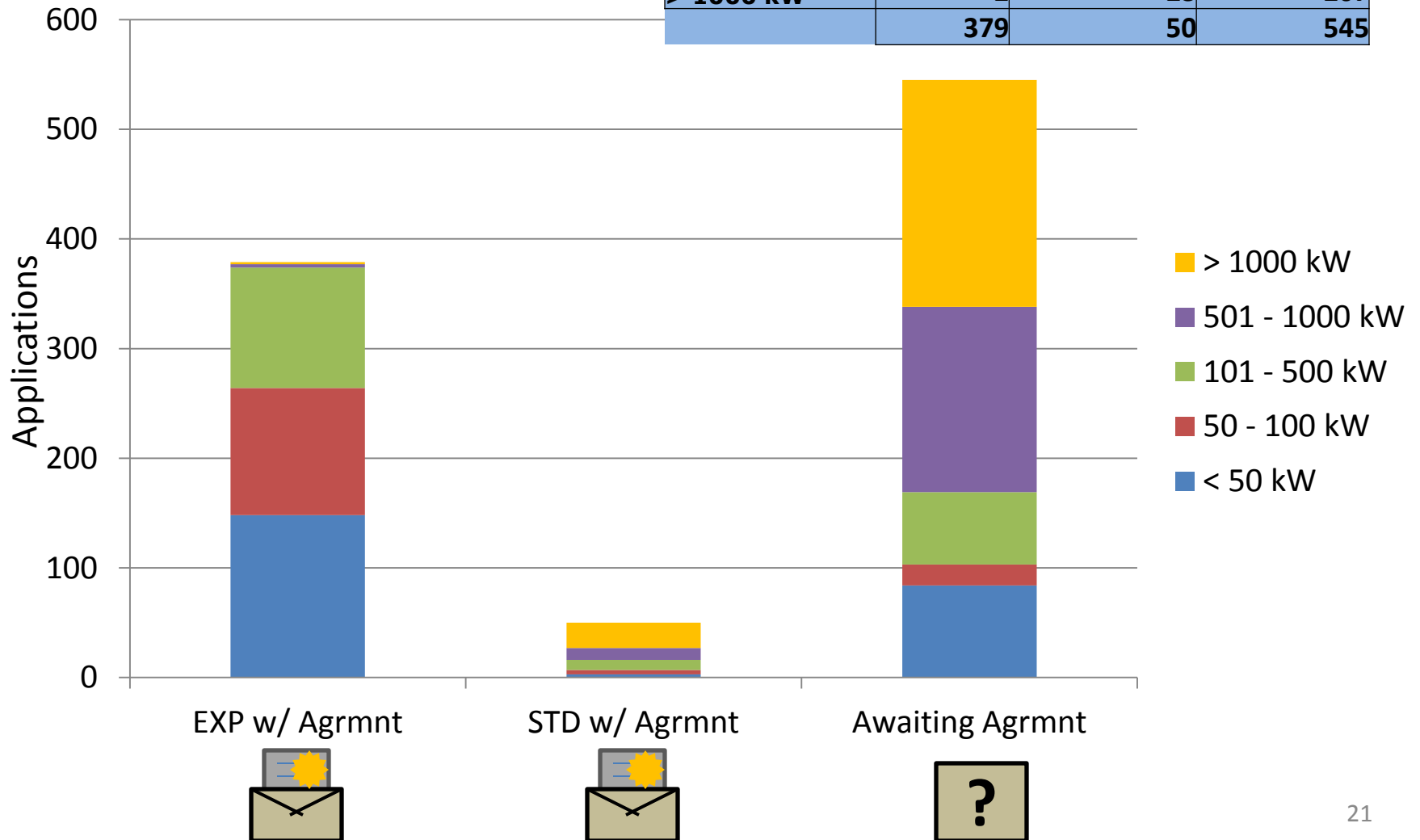
All Projects Awaiting Agreement

Applications “in study”; waiting time up to 5/1/12

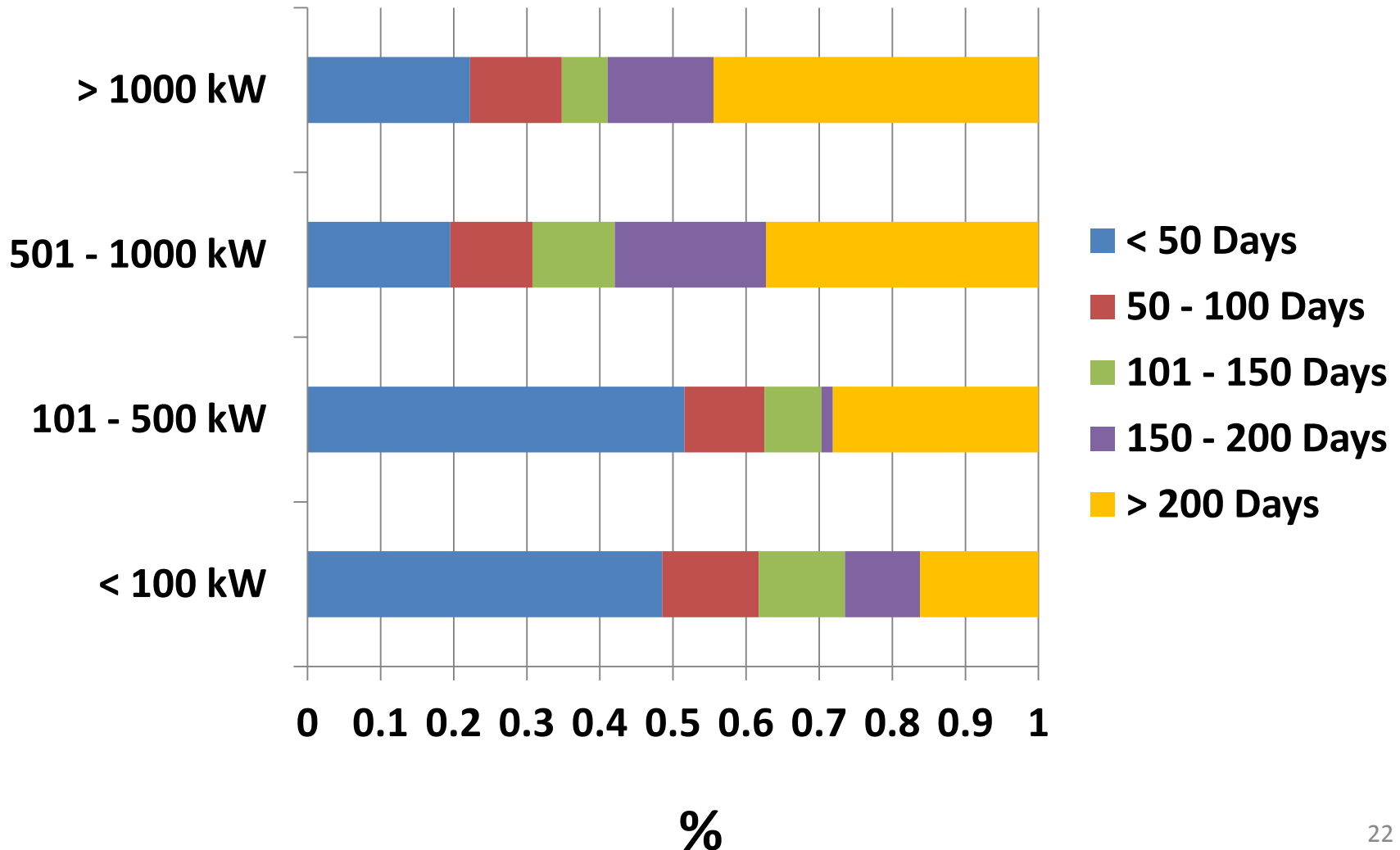


Projects by Size

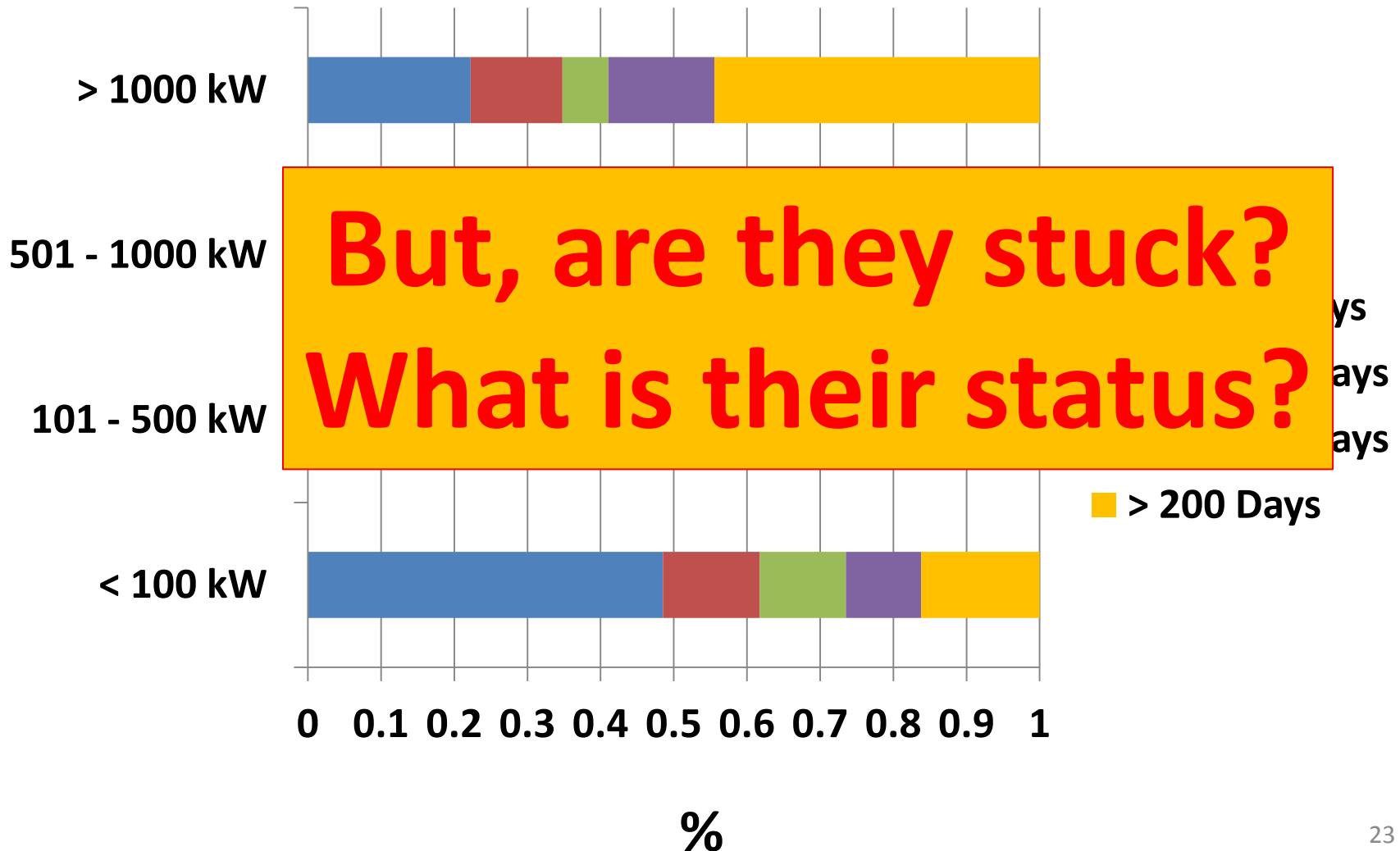
	EXP w/ Agrmnt	STD w/ Agrmnt	Awaiting Agrmnt
< 50 kW	148	3	84
50 - 100 kW	116	4	19
101 - 500 kW	110	9	66
501 - 1000 kW	3	11	169
> 1000 kW	2	23	207
	379	50	545



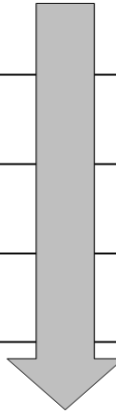
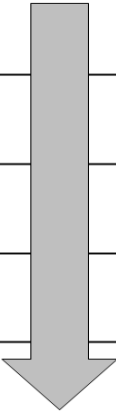
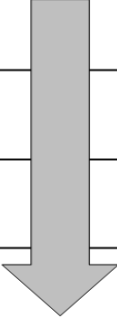
Wait Times of Projects Awaiting Agreement by Size Distribution



Wait Times of Projects Awaiting Agreement by Size Distribution



Review Paths Side-by-Side

Review Process	Simplified	Expedited	Standard	Simplified Spot Network
Eligible Facilities	Listed Small Inverter	Listed DG	Any DG	Listed Inverter ≤ 15 kW single-phase line
Acknowledge receipt of application	(3 days)	(3 days)	(3 days)	(3 days)
Review Application for Completeness	10 days	10 days	10 days	10 days
Complete Review of all Screens	10 days	25 days		Site review 30/90 days
Complete supplemental Review if needed		20 days		
Complete Standard Process initial review			20 days	
Send Follow-on Studies Cost/Agreement			5 days	
Complete Impact Study (if needed)			55 days	
Complete Detailed Study (if needed)			30 days	
Send Executable Agreement	Done	10 days	15 days	Done (comparable to Simplified for radial)
Total Maximum Days	15 days	40/60 days	125/150 days	40/100 days
Notice / Witness Test	< 1 day with 10 day notice or by mutual agreement	1-2 days with 10 day notice or by mutual agreement	By mutual agreement	1 day with 10 day notice or by mutual agreement

Steps Leading to “Agreement Sent” in Standard Review

Days	Utility	Customer
25	Complete review of all screens	
20	Complete supplemental review	
5	Send Follow-on Studies/Cost Agreement	Customer “go ahead” / writes check
55	Complete Impact Study	
30	Complete Detailed Study	Customer “go ahead” / writes check
15	Send Executable Agreement	
150	TOTAL MAX TIME (without clock stoppage)	

Steps Leading to “Agreement Sent” in Standard Review

Days	Utility	Customer
25	Complete review of all screens	
20	Complete supplemental review	
5	Send Follow-on Studies/Cost Agreement	Customer “go ahead” / writes check
55	Complete Impact Study	
30	Complete Detailed Study	Customer “go ahead” / writes check
15	Send Executable Agreement	
150	TOTAL MAX TIME (without clock stoppage)	

123 Projects are labeled “TBD” (or not yet assigned to EXP or STD Process)

Steps Leading to “Agreement Sent” in Standard Review

Days	Utility	Customer
25	Complete review of all screens	
20	Complete supplemental review	
5	Send Follow-on Studies/Cost Agreement	Customer “go ahead” / writes check
55	Complete Impact Study	Customer “go ahead” / writes check
30	Complete Detailed Study	
15	Send Executable Agreement	
150	TOTAL MAX TIME (without clock stoppage)	

Number of projects in each stage: UNKNOWN

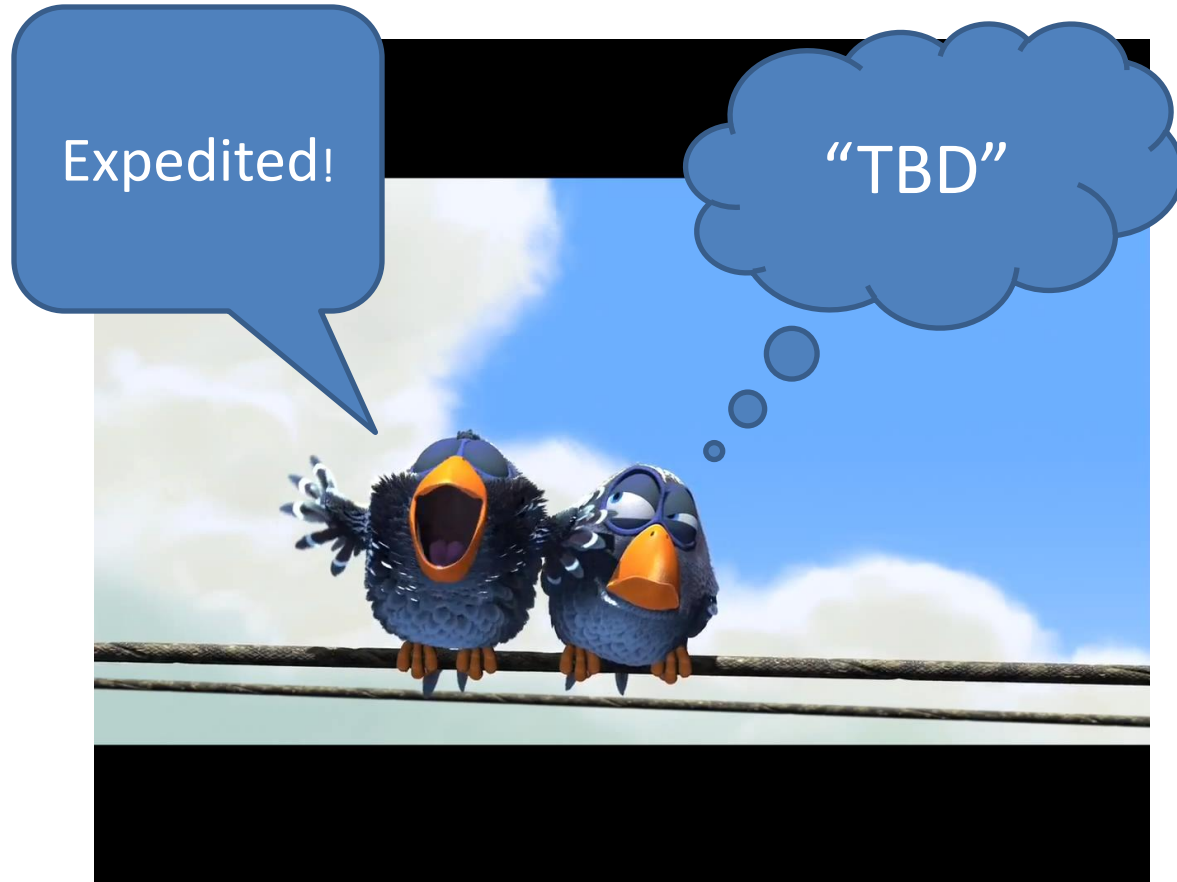
135	<BLANK>
132	Impact Study Requested/Required
73	<INFO REQUESTED>
67	<CANCELLED>
38	Impact Study Stage
33	Awaiting Completion Doc
26	Engineering Review Stage
6	Awaiting results of meeting
8	Awaiting impact study completion of other applicant on same ckt
4	Awaiting impact study agreement and check
3	Draft study and scope sent to customer.
2	Awaiting completion of upgrades
2	Awaiting impact study hours from Frank
2	Construction required
1	Awaiting completion of service and docs
1	Awaiting completion of service work
1	Awaiting Impact Study aggr & fee & relay drawings
1	Awaiting installation of TF and stamped single line
1	Awaiting TT cost estimate from Engineering
1	Awaiting word from C&P re: meeting with customer
1	Awaiting word from trans re Tx crossing
1	Draft IA out for review.
1	ISO Interconnection Process
1	On site meeting complete and Study underway
1	preliminary scope and cost sent to customer. Customer requested change in application
1	Study Complete. Waitng for action plan from applicant

I have no idea
what stage
I'm in.



135	<BLANK>	The utilities have over 20 different ways for noting the clock has stopped -- awaiting customer info.
132	Impact Study Requested/Required	
73	<INFO REQUESTED>	
67	<CANCELLED>	
38	Impact Study Stage	
33	Awaiting Completion Doc	
26	Engineering Review Stage	
6	Awaiting results of meeting	
8	Awaiting impact study completion of other applicant on same ckt	
4	Awaiting impact study agreement and check	
3	Draft study and scope sent to customer.	
2	Awaiting completion of upgrades	
2	Awaiting impact study hours from Frank	
2	Construction required	
1	Awaiting completion of service and docs	
1	Awaiting completion of service work	
1	Awaiting Impact Study aggr & fee & relay drawings	
1	Awaiting installation of TF and stamped single line	
1	Awaiting TT cost estimate from Engineering	
1	Awaiting word from C&P re: meeting with customer	
1	Awaiting word from trans re Tx crossing	
1	Draft IA out for review.	
1	ISO Interconnection Process	
1	On site meeting complete and Study underway	
1	preliminary scope and cost sent to customer. Customer requested change in application	
1	Study Complete. Waitng for action plan from applicant	

How long have all other projects been waiting for “review of screen”?



Are they waiting for other projects on the line?

Project #1:
I got here first
but I'm not
ready to pay for
a study.

Project #2:
I got here 2nd
and I suspect
Project #1 isn't
"real."



Are they waiting for other
projects on the line?



135	<BLANK>
132	Impact Study Requested/Required
73	<INFO REQUESTED>
67	<CANCELLED>
38	Impact Study Stage
33	Awaiting Completion Doc
26	Engineering Review Stage
6	Awaiting results of meeting
8	Awaiting impact study completion of other applicant on same ckt
4	Awaiting impact study agreement and check
3	Draft study and scope sent to customer.
2	Awaiting completion of upgrades
2	Awaiting impact study hours from Frank
2	Construction required
1	Awaiting completion of service and docs
1	Awaiting completion of service work
1	Awaiting Impact Study aggr & fee & relay drawings
1	Awaiting installation of TF and stamped single line
1	Awaiting TT cost estimate from Engineering
1	Awaiting word from C&P re: meeting with customer
1	Awaiting word from trans re Tx crossing
1	Draft IA out for review.
1	ISO Interconnection Process
1	On site meeting complete and Study underway
1	preliminary scope and cost sent to customer. Customer requested change in application
1	Study Complete. Waiting for action plan from applicant

The utilities have over 6 different ways for noting the project has gone away – rejected, withdrawn, etc.

135	<BLANK>
132	Impact Study Requested/Required
73	<INFO REQUESTED>
67	<CANCELLED>
38	Impact Study Stage
33	Awaiting Completion Doc
26	Engineering Review Stage
6	Awaiting results of meeting
8	Awaiting impact study completion of other applicant on same ckt
4	Awaiting impact study agreement and check
3	Draft study and scope sent to customer.
2	Awaiting completion of upgrades
2	Awaiting impact study hours from Frank
2	Construction required
1	Awaiting completion of service and docs
1	Awaiting completion of service work
1	Awaiting Impact Study aggr & fee & relay drawings
1	Awaiting installation of TF and stamped single line
1	Awaiting TT cost estimate from Engineering
1	Awaiting word from C&P re: meeting with customer
1	Awaiting word from trans re Tx crossing
1	Draft IA out for review.
1	ISO Interconnection Process
1	On site meeting complete and Study underway
1	preliminary scope and cost sent to customer. Customer requested change in application
1	Study Complete. Waiting for action plan from applicant

Some report what study stage the project is in. Most don't.

What Trends Do We See?

- Expedited projects appear to be on track
- Standard Review results vary (only 60 apps)
 - Cause of common delays not clear from data provided
- Difficulty analyzing pending projects “in study”
 - Where is it in the process? *Utility “Notes” need attention.*
 - Is it still a real project? Has it been screened? Which Study?
 - How many have a stopped clock?
 - Where are the predominant delays that need attention?
 - Can utilities report the status and % completion?

Unitil (corrected)

